Faculty of Business and Law

Title:

Reconciling views of project success:

A multiple stakeholder model

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Abstract

Organisations use projects to manage customised, one-off events across a wide range of functions. Project management is an essential operational tool and process that is utilised to effectively and efficiently manage resources, tasks and activities, and associated timelines. Since each project is considered unique, it is essential to control the project's outcome parameters to minimise the chances of failure and the likely major financial and managerial ramifications for the organisation. As a consequence, project management literature has been dominated by discussions on the various critical success factors that are used to maximise the probability of a project's success. However, there is no single formula for success. In a recent report, it was found that 19% of completed projects fail and 52% were challenged in terms of meeting the time, cost, and quality constraints. The purpose of this study was to investigate the possibility that failure is a result of different interpretations of the criteria and factors used for success (termed 'success dimensions' within this study) by multiple stakeholder groups.

Currently, there is no recorded theory to determine project success within the project management literature, which includes both the perspective of multiple stakeholder groups and shared use of success dimensions for a given project. This omission is the basis of the current work, which explores the impact of using all stakeholder views as opposed to a selected few to define project success. The research outcomes are important for informed managerial decision making that enables the minimisation of major financial losses.

This study drew on previous research undertaken on project success and combined technological solutions (in the form of software packages, such as the Web of Science database, Bibexcel, NVivo, and Excel) to facilitate the identification, selection, and analysis of data sources relating to the success dimensions for project management. The results of the systematic literature review identified the 'diagnostic behavioural instrument' as the most frequently recognised measure of project success. This broadly argues that there are ten success factors that must be considered for successful project implementation. The literature also highlights the limitations of the 'diagnostic behavioural instrument', which forms part of the current gap in the literature regarding project success. These limitations were used to design a qualitative study to identify the

additional attributes regarding project success as perceived across different stakeholder groups (i.e., senior management, project core team, and project recipients), as well as identifying which stakeholder perspectives are considered important in judging project success and which ones are being ignored. The findings of the qualitative study were extended to a quantitative study to confirm whether the initial findings were similar across a larger sample of stakeholders. The results from both studies were used to create an idealised, multiple stakeholder model, considering all the critical attributes to measure project success. This model was tested with a focus group to identify the extent of ease and the barriers that adopting this new perspective would present in practice.

The results of the qualitative and quantitative studies showed clear differences between the project performance attributes that were considered important across the different stakeholder groups. The focus group results demonstrated a clear difference in opinion within and among the stakeholder groups, indicating their potential use for project managers to align stakeholders' views to increase project success. There is some indication that the model could be applied to projects from any field, but testing this assumption is beyond the scope of the current work. However, the preliminary results would support its use to increase the shared, multiple stakeholder perception of project success. Through use of the model, organisations can be more precise in their choice of success dimensions used to judge project success, leading to more informed decision making and subsequent motivation of employees and hence a more productive organisational culture.

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1 Introduction

It is a commonly held view among those who practise project management that project failure might be a result of consulting different stakeholder groups who have conflicting views at specific stages of the project lifecycle (Turner and Zolin, 2012). This study attempts to provide evidence that the perception of project success by stakeholders is different and that this, in turn, adversely affects the expected success rate of projects noted by industry surveys (KPMG, 2013; The Standish Group, 2015).

1.1 Problem Definition

1.1.1 Definition and Historical Development of Project Management

Project management was informally recognised in Ancient Egypt; however, the theory and practice of modern project management originated from WW2 when the gender balance of the workforce changed significantly. The number of unskilled women entering the workforce increased from 19.75 to 27% from 1938-1945 (Gazeley, 2008). To overcome the loss of skilled labour, organisations began to introduce systems that controlled projects and standardised management practices to maximise their effectiveness (Labrosse, 2007). Azzopardi (2015) mapped the development of projects from this time to the present day (Table 1), noting the impact of different contingencies but emphasising technology in their evolution.

Table 1: Development of Projects

Time Period	Project Development	Description (direct quotes from Azzopardi, 2015, p. 1)	Example of Project(s)
Prior to 1958	Craft system to human relations	*"The evolution of technology, such as automobiles and telecommunications shortened the project schedule".*	1850s: Pacific Railroad 1931 to 1936: construction of the Hoover Dam 1942 to 1945: the Manhattan Project
1958-1979	Application of management science	*"Significant technology advancement took place between 1958 and 1979, such as the first automatic plain-paper copier by Xerox in 1959".*	1956: Polaris missile project 1958: E.I. du Pont de Nemours chemical plant 1960: Apollo project

Table 1: Development of Projects Continued

Time Period	Project Development	Description (direct quotes from Azzopardi, 2015, p. 1)	Example of Project(s)
1980-1994	Production centre human resources	*"Revolutionary development in the information management sector with the introduction of the personal computer (PC) and associated computer communications networking facilities".*	1983 to 1986: Space Shuttle Challenger 1989 to 1991: England–France Channel 1988: Calgary Winter Olympics
1995-present	Creating a new environment	*"This period is dominated by the developments related to the Internet that changed dramatically business practices in the mid-1990s".*	Year 2000 (Y2K) project

However, it was not until the 1970s that project management was recognised as a discipline where practitioner perspective was the dominant influence (Kerzner, 2013). The 1980s saw the professional associations directing research through qualifications and the development of bodies of knowledge (Jugdev and Müller, 2005). The current research project was undertaken in response to the criticisms that project management is more practitioner oriented, focusing mainly on technical tools, such as critical path analysis, lacking a rigorous academic literature base, as well as a consequent development of theory and inadequate scope of coverage (Turner, 2010). Furthermore, this is seen as an important area for investigation through research, as organisations today face increasing competition in a turbulent environment, and project management has been suggested as a process to help execute projects successfully (Azzopardi, 2015; Cicmil *et al.*, 2006; Roberts and Furlonger, 2000).

Projects are increasingly recognised as critical to an organisation's success (Jonas *et al.*, 2013) but are fraught with the risk of failure. For example, high-profile project failures are regularly reported in the public domain, raising the question of the adequacy of prevailing project management concepts, practices, and tools for organisations to predict and achieve consistent successful delivery of projects (Ojiako *et al.*, 2012; Stanleigh, 2006; Zack, 2004). A Standish Group (2015) survey found that 19% of projects fail and 52% were challenged in terms of time, cost, and quality constraints. In KPMG's (2013, p.11) survey, which focussed on three success parameters, it was noted that "*project activity is on the increase and so are failure rates*", with only 33% of respondents

agreeing that their project was completed on budget, 29% on time, and 35% to scope; this was compared to the 2010 survey whereby 48% were on budget, 36% on time, and 59% to scope. However, despite these statistics, project activity is increasing across all sectors of the economy, as evidenced by the following quotation:

"54 percent of organisations surveyed completed more than 21 projects. This is a significant change from 2010, where in response to the same question, 98 percent of those surveyed reported completing only five projects or fewer" (KPMG, 2013, p.17).

Growth in the number of projects has been matched by a strong focus on the management of projects to counter failure and is defined by an expanding body of professional associations, standards, methodologies, and tools. This is reflected in continual upgrades of definitions of tools and methodologies, e.g., PMBoK (PMI, 2013) and PRINCE2 (Office of Government and Commerce, 2009a), but the upgrading of tools is not shown to be increasing project success. There are many examples of project failure in industry that resulted in loss of money, as well as associated time, loss of reputation, and decreased workforce morale. Table 2 highlights project failure across a range of project types and industry sectors to evidence that project failure is not restricted to one area. A key observation taken from all the projects is that poor communication played a major role in project failure with inadequate risk management and insufficient budget in the majority of projects.

Table 2: Examples of Project Failure

Organisation/ Project (Country)	Year	Reason for Failure (direct quotes from IPLA, 2015, p.1)	Loss
Volkswagen Group – Vehicle emissions system (Global)	2015	*"Prioritizing cost and profit margin over quality and government regulations, Failure to disclose information openly, withholding relevant information, Lack of quality controls (testing the diesel vehicles on actual roads), Failure to live up to customer expectations. False advertising".*	$18B
Los Angeles Unified School District – e-Enabled learning tools/Instructional Technology Initiative (USA)	Apr 2015	*"Failure to gain stakeholder support, missing requirements, quality related issues, failure to fully recognise the transformational shift in learning that e-enabled learning represents".*	$1.3B

Table 2: Examples of Project Failure Continued

Organisation – Project (Country)	Year	Reason for Failure (direct quotes from IPLA, 2015)	Loss
Retail store opening (Canada)	2015	*"Failure to live up to customer expectations (Canadian pricing did not match lower US pricing). Lack of situational awareness/lack of stakeholder analysis (failure to fully understand Canadian retail sector). Quality related issues (failure to establish a reliable supply chain when first opening). Lack of risk management (the expansion was very rapid and appears to be based on the assumption that the openings would be successful)".*	$7B
Ontario Ministry of Community and Social Services – Welfare management system (Canada)	Mar 2015	*"Lack of quality control. Launching the product before it was ready. Challenges in defining the requirements fully. Ineffectual training".*	$214M
SNCF/RFF – New trains (France)	May 2014	*"Bad assumptions. Failure to address details. Communications breakdown between organizations".*	$15B
British Home Office – Immigration controls (UK)	Mar 2014	*"Lack of control over procurements. Failure to establish appropriate benchmarks against which to track project progress and vendor performance. Failure to engage appropriate Subject Matter Experts during procurements. Failure to define and stabilize requirements. Under-estimation of complexity. Politics".*	£224M
Berlin – Airport construction (Germany)	Ongoing	*"Conceptual design flaws. Lack of quality management".*	5B euros
Oregon Health Authority – e-Commerce marketplace (USA)	Apr 2014	*"Overly ambitious scope (Oregon had visions of using Cover Oregon as a 'one-stop-shop' not just for citizens to buy private health insurance, but also a central resource for registering for the government's own Medicaid insurance program and other public assistance programs). Failure to heed early warnings that the project was not running smoothly. Poor quality. Allegations of 'green shifting' when reporting progress to the federal government who were funding development work'".*	$248M

1.1.2   Introducing the Concept of Success Dimensions

Many literature reviews have comprehensively discussed project success (Jugdev and Müller, 2005; Turner and Zolin, 2012), but the terms used to describe success and its measurement lack clarity and are inconsistent. 'Success criteria' and 'success factors' are indistinct, so comparison of different papers is a complex process. In the current

study, 'success criteria' describe how the achievement of success is measured, whereas 'success factors' are the essential elements of a project that can be influenced by participants to increase the chance of success. For example, using a time schedule with milestones could influence the likelihood of success, but a criterion is the total time for the project that can be easily measured. However, in the current study, the term 'success dimensions' is used to refer to both factors and criteria to aid in the comparison of different studies. Table 3 illustrates that project success has shifted from risk recognition and management (2002) to a greater emphasis on leadership style and teamwork (2014), providing justification for this approach.

Table 3: Project Success Dimensions

Authors	Project Success Dimensions
Cooke-Davies (2002)	Risk management, responsibility matrix, feedback, learning from the project, scope change control procedure in place
White and Fortune (2002)	Completion within realistic deadline, budget, and client requirements, management support, resources, defined objectives, risk management, communication
Fristedt and Ryd (2003)	Reliable decision-making in initial planning phases
Westerveld (2003)	Policy and strategy, resources, risks, stakeholder management, leadership, and team
Crawford *et al.* (2005)	Risk, relationship, resource, and cost management
Fortune and White (2006)	Adequate resources, planning, communication, monitoring procedures, organisation support, and defined objectives
Yang *et al.* (2011)	*"Project manager's leadership style, teamwork, and … schedule performance, cost performance, quality performance, and stakeholder satisfaction"* (Yang *et al.*, 2011, p.258)
Nixon *et al.* (2012)	Project leadership performance
Ahmed and Younis (2014)	*"Soundness of business and workforce, planning and control, quality performance and past performance"* (Ahmed and Younis, 2014, p.24)
Ihuah *et al.* (2014)	*"Competent project team, project understanding, project mission/common goal, project information/communication, project team composition, top management support, adequate project planning, adequate project fund and resources, adequate project monitoring and feedback, project risk management, end users involvement/inclusion, cultural difference, project manager/leader authority, adequate project control, realistic project cost and time estimates, project problem solving abilities"* (Ihuah *et al.*, 2014, p.69)

1.1.3 The Measurement of Project Success Dimensions

There are multiple models, methods, and theories to assess project success (presented in section 4.1.2), such as the micro and macro views, balanced scorecard, KPIs, square method, four universal dimensions of success, seven influencing forces, four conditions of success, and maturity models. Pinto and Slevin (1987, 1988a, 1989; Slevin and Pinto, 1987) are the most widely recognised authors (Jugdev and Müller, 2005; Turner and Müller, 2005) for producing a diagnostic behavioural instrument to assess project success. Müller and Jugdev (2012, p.757) further noted that *"few scholars have been cited as frequently as Pinto and Slevin ... for their contributions to project success and related critical success factors in the 1980s"*. A common thread was identified in the literature; authors were building on Pinto and Slevin's (1987) success factors as opposed to creating original factors, which implies that the current literature views these factors as adequate without the need for further research. While each different method has its merits, there is no model that measures the impact of multiple different stakeholder views on project success. The current study identifies the limitations in the instrument, specifically that they have not taken into account different stakeholder views, investigates what they fail to address for success, builds theory, and extends the work of Pinto and Slevin (1987) by identifying additional dimensions that are important for project success.

1.1.4 The Importance of Stakeholders and Their Perceptions of Success Dimensions

The recorded literature presents individual stakeholder views that are recognised as contributing to project success, but limited studies have assimilated the views of different stakeholders. There is a widely held belief that a single stakeholder group, usually project managers, is sufficient to judge project success (Andersen *et al.*, 2004; Morris *et al.*, 2011), despite the work of Wateridge (1998). He noted that stakeholders should use shared success criteria to achieve the best outcomes. This view is supported by the work of McLeod *et al.* (2012, p.72), who stated that *"project outcomes are subjectively perceived by different stakeholders"* and further reported that failing to take into account one group's view may taint the project's overall outcome. Turner and Zolin

(2012) and Turner (2014a, 2014b) added to this, suggesting that the perceptions of multiple stakeholders are critical to the success of a project and that failure to evaluate the success criteria with each group could lead to poor decision making, demotivation of employees, and an unproductive organisational culture or failure.

Limited academic literature reflects multiple stakeholder views on project success. The current study compares the views of multiple stakeholders that evidence the common and conflicting success dimensions recognised by different stakeholders. This will enable organisations to identify stakeholder expectations and take steps to manage them. Using this approach, organisations would have the knowledge necessary to ensure that all stakeholder groups agree and thus aid in developing a shared perception of successful project delivery.

1.2 Relevance of Research

The research proposed is expected to support practising project managers' view that taking into account the perceptions of multiple stakeholder groups will improve project management. The original 'diagnostic behavioural instrument' (Pinto and Slevin, 1987) continues to be used to judge project success, but there is a body of literature that suggests that it is no longer fit for the purpose in modern project management. A systematic literature review, alongside testing through interviews, a survey, and a focus group, was used to identify limitations in the instrument.

This is relevant to the current project management theory, as a gap has been identified in terms of multiple stakeholders not being considered or included when project success is assessed. Nor has it been recognised that different stakeholders have different performance evaluation criteria for project success. Addressing this gap will potentially clarify why many projects fail across different managerial fields. The findings will be used to produce a new multiple stakeholder theoretical model that provides a method for the systematic collation of perceptions of different stakeholders, thus highlighting their different priorities in evaluating project success. The current research gives a sound academic basis to the idea that multiple stakeholder views affect judgements of project success; the study provides a new multiple stakeholder theoretical model that has little impact on organisations in terms of time and cost.

No model currently exists that incorporates multiple stakeholder perspectives in determining project success. Such a model would facilitate discussion between stakeholder groups regarding project success dimensions to ensure that all parties have a shared perception of the final project success. Agreement between stakeholders at an early stage in the project allows the project manager to monitor performance and identify changing priorities throughout the project lifecycle. These findings are important for managerial decision making, as failure to evaluate the success dimensions with each group can lead to poor decision making, employee demotivation, reallocation of resources through underestimated project prioritisation, and an unproductive organisational culture. Using such a model, organisations can be more precise in their choice of the success dimensions used to judge project success, leading to more informed and less risky decision making. This would increase employee motivation and therefore foster a more productive organisational culture. The theoretical model produced is tested with a small sample of project stakeholders – this provides a starting point for further controlled studies that will compare the new multiple stakeholder theoretical model to Pinto and Slevin's (1987) to judge project success.

1.3 Research Aims and Questions

The aims of the study are as follows:

Overall aim: To investigate the perception of project success among multiple stakeholder groups (senior management, project core team, and project recipient) so that recommendations can be made regarding improving success rates.

Aim 1: To investigate how project success has translated from theory to practice across three stakeholder groups (senior management, project core team, and project recipient).

Aim 2: Present recommendations and a model for organisational use to help identify and manage expectations and monitor possible changing priorities of the senior management, project core team, and project recipient stakeholder groups regarding project success throughout the project lifecycle.

Aim 3: To identify future research opportunities resulting from the discussion and conclusions to extend the results obtained in the research.

Unit of analysis: The organisation (public and private), stakeholder groups (senior management, project core team, and project recipient), and projects. The interviews and survey focus on the individual level.

The resulting research questions are as follows:

Research Question 1: What are the parameters and methods used to assess and analyse project success, and do they meet the needs of modern project management?

Research Question 2: Which stakeholders are influential in the determination of project success and do they recognise the same success dimensions for a project?

Research Question 3: If the stakeholders do not share the same success dimensions, how can their views be reconciled throughout the project lifecycle?

1.4 Research Contributions

The key contributions of the study are presented in detail in section 5.5. In summary, the study extends the work of Pinto and Slevin (1987), who are recognised as having devised the standard and most widely utilised theoretical framework to assess project success, by including performance measure dimensions of success based on all the stakeholders involved, not just the project manager. This is considered important, as it is becoming increasingly recognised that stakeholders other than the project manager affect whether a project is perceived as a success or a failure. Turner *et al.* (2009) claimed that success across multiple stakeholder groups is rarely evaluated (Turner and Zolin, 2012; Turner, 2014a, 2014b). They asserted that project success and its criteria must include *"the perceptions of multiple stakeholders"* (p.13), as *"inappropriate evaluation of the success criteria of an existing project could misdirect the project's decision making, de-motivate employees and establish an unproductive organizational culture"* (p.13). A new multiple stakeholder theoretical model is offered that provides a method for the systematic collation of perceptions that elucidate the unpredicted priorities of different stakeholder groups.

Currently, there is no stakeholder centred theoretical model for projects involving multiple stakeholders' perspectives regarding project success. A novel derived multiple

stakeholder theoretical model should facilitate discussions between stakeholder groups to achieve common success dimensions and shared perceptions of final project success. Agreement between stakeholders at an early stage in the project should allow the project manager to better monitor performance and identify rapidly changing priorities throughout the project lifecycle. The research outcomes are important for managerial decision making, as failure to appropriately evaluate the success dimensions with each group could potentially lead to poor decision making, resulting in major financial losses, employee demotivation, reallocation of resources to other projects, and an unproductive organisational culture. The research outcomes will add to the existing body of knowledge related to project success and should benefit all the project stakeholders involved in project management across different disciplines. The study makes three important contributions to the field:

1. It goes beyond previous research on evaluating project success by developing new specific dimensions based on the stakeholders involved in the assessment of a project. Preliminary findings have been published (Davis, 2014a).

2. It draws on previous research on project success and combines technological solutions (software – including the Web of Science database, Bibexcel, NVivo, and Excel) to facilitate the systematic identification, selection, and analysis of data sources, which were documented for future research to adopt the same process. The study adds a new facet to post-positivism, as the social world is studied using a scientific method (technological solution) to attain objectivity and develop theory. The results could be used to predict outcomes in a similar setting. This highlighted that the key method used to assess success was that of Pinto and Slevin (1987); limitations in their instrument were identified. Preliminary findings have been published (Davis, 2016).

3. It changes current practice through exploring the application of a new theoretical stakeholder centred multiple stakeholder model. The aim is to enable project professionals to focus on specific success dimensions on which their organisation needs to concentrate for each stakeholder group throughout the project. Through use of this model, it is hoped that stakeholder priorities can be identified and their expectations managed throughout the project. Organisations can then be more

precise in their choice of the success dimensions to judge the success of a project, leading to more informed decision making. This should subsequently improve employee motivation and therefore foster a more productive organisational culture.

1.5   Overview of the Research Methodology

The systematic literature review encompasses a chronological review of project management development, followed by the evaluation of the themes resulting from the analysis, with an assessment of the methods to measure success. The approach used to review the project management literature that is key to the aims of this research combines technological solutions. It relies on the Web of Science, Scopus, and Google Scholar bibliographic databases, recognised by Cobo *et al.* (2011, p.1382) as the most important, but excludes NLM's MEDLINE, as it focuses on the medical field. An initial search using the key word 'project success' returned 708 results in 368 sources in Web of Science. Further searches using the key words 'success criteria' and 'success factor' did not return any different information. Other keywords used relating to the measurement and analysis of project success did not return results relevant to evaluation methods. The sources included *"scholarly literature in the sciences, social sciences, arts, and humanities and examine proceedings of international conferences, symposia, seminars, colloquia, workshops, and conventions"* (Web of Science, 2011, p.1). Such a wide range of sources minimises the possible criticism that the search was restricted to a limited number of resources. Furthermore, the results reflected a range of disciplines, such as construction engineering and management, product innovation management, information management, and information and software technology. BibExcel was used to select the authors who were cited most frequently to identify key literature, followed by NVivo analysis (Appendices 1 and 2), which identified common themes (Gourlay, 2010). Analysis of the themes supported the gaps related to project success, and the review is restricted to those that impact considerably the definition of project success and the breadth of stakeholder group views used. Themes were identified in the reviewed literature for the creation of interview questions. The most widely utilised theoretical framework to assess project success has been Pinto and Slevin's (1987) quantitative 'diagnostic behavioural instrument'. An in-depth investigation of alternative instruments used was undertaken, followed by a comparison study between

these and the 'diagnostic behavioural instrument', to reveal any differences in the success dimensions used and in evaluating stakeholder groups. The stakeholders were categorised into three groups: 'senior management', 'project core team', and 'project recipient' for data collection and analysis. Analysis of the data sets revealed that the 'diagnostic behavioural instrument' failed to include the basic criteria of 'time, cost, and quality' and factors of 'benefit to the stakeholder group' and 'client/customer specific issues'. Hence, these dimensions were incorporated into the interview questions for the three stakeholder groups. A comparison of project success dimensions used by different stakeholder groups demonstrated some with no success dimensions in common. This highlighted the discontinuity between the groups, providing the case for empirical work, and raised the question of which success dimensions should be used to provide consistent/confirmable project success judgments. The results of the interviews were thematically analysed and refined the gaps for the creation of the survey into 'time, cost, and quality', 'accountability', and 'benefit to the stakeholder group'. The survey was then conducted in the same four organisations as the interviews. The results from the survey supported the notion that each stakeholder group uses different success dimensions to evaluate project success. Moreover, most projects used the views of only a single stakeholder group, usually project managers, to judge project success. The survey results were used to create a model that encompasses the perspective of multiple stakeholder groups (senior management, project core team, and project recipients) to ultimately aid in successful project delivery. Currently, there is no model for projects that includes the perspectives of multiple stakeholder groups to determine project success. The purpose of this is to facilitate discussion between stakeholder groups to achieve agreed-upon project success dimensions and hence a shared perception of final project success. Agreement between stakeholders at an early stage in the project allows the project manager to monitor performance and identify changing priorities throughout the project lifecycle.

Figure 1 provides an overview of the research methodology for the current study.

Figure 1: Methodology Overview

Research philosophy – Post-positivism
Research approach – Deductive/inductive
Research strategy – Survey
Time horizon – Cross sectional
Data collection methods – Mixed methods approach. Employs qualitative and quantitative techniques. Secondary data, interviews, survey, focus group.

Literature Review
A systematic integrative literature review, coding framework, thematic and statistical analysis. Pinto and Slevin's (1987) instrument was identified as the most frequently used to measure perceptions of project success. Identified limitations in the instrument were to measure 'benefit to the stakeholder group', 'client/customer specific issues', and 'time, cost, and quality'. Stakeholders who were identified as being interested and having an opinion on project success were identified and categorised into three stakeholder groups, senior management, project core team, and project recipient, for data collection and analysis.

Qualitative Data Collection
Interviews of three stakeholder groups (senior management, project core team, and project recipient) in four organisations to gather data to extend Pinto and Slevin's (1987) instrument.

Qualitative Data Analysis
Thematic analysis of interviews (three stakeholder groups – senior management, project core team, and project recipient) to identify themes and create additional survey questions to extend Pinto and Slevin's (1987) 'diagnostic behavioural instrument'. This identified the discontinuity in perception between the stakeholder groups and adapted the areas for investigation into 'benefit to the stakeholder group', 'time, cost, and quality', and 'accountability'.

Quantitative Data Collection
Extend Pinto and Slevin's (1987) 'diagnostic behavioural instrument' by measuring the 'benefit to the stakeholder group', 'time, cost, and quality', and 'accountability' dimensions. Survey sent to same four organisations as the interviews to the three stakeholder groups (senior management, project core team, and project recipient).

Quantitative Data Analysis
Statistical analysis to identify differences in perceptions of project success among the three stakeholder groups (senior management, project core team, and project recipient).

Multiple Stakeholder Model
Creation of model to facilitate discussion about project success to provide a better understanding of project success and to identify the differences in perceptions of what constitutes success among multiple stakeholder groups. Creates and tests a new multiple stakeholder model for measuring project success. Validated with industry experts and focus group and tested with small sample. Provides empirical research into multiple stakeholder groups. Adds to the project management body of knowledge.

Figure 2 provides the overall research design model for the study.
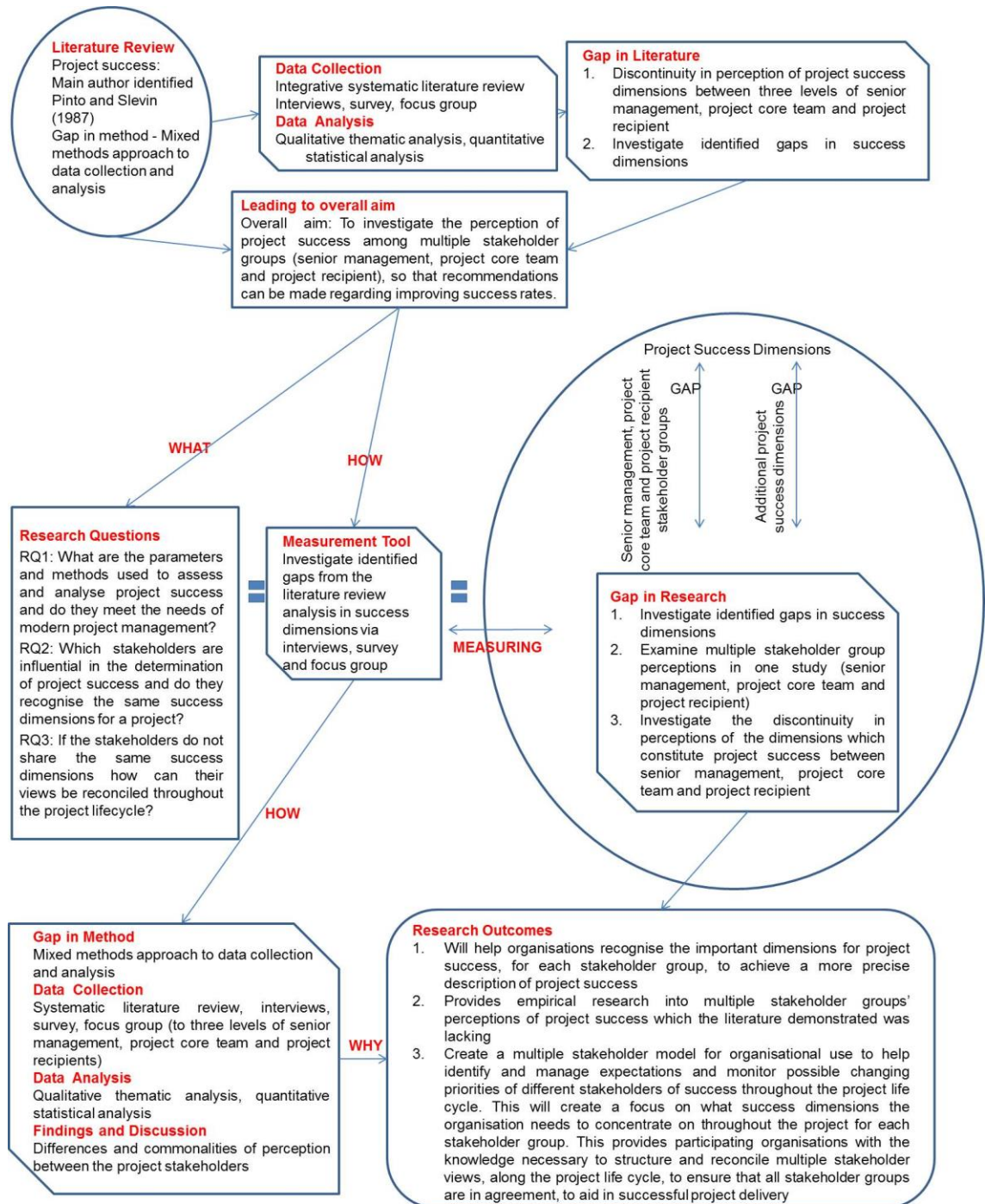
Figure 2: Research Design Model

1.6   Study Chapters

Figure 3 illustrates the major sections within each study chapter and the corresponding headings.
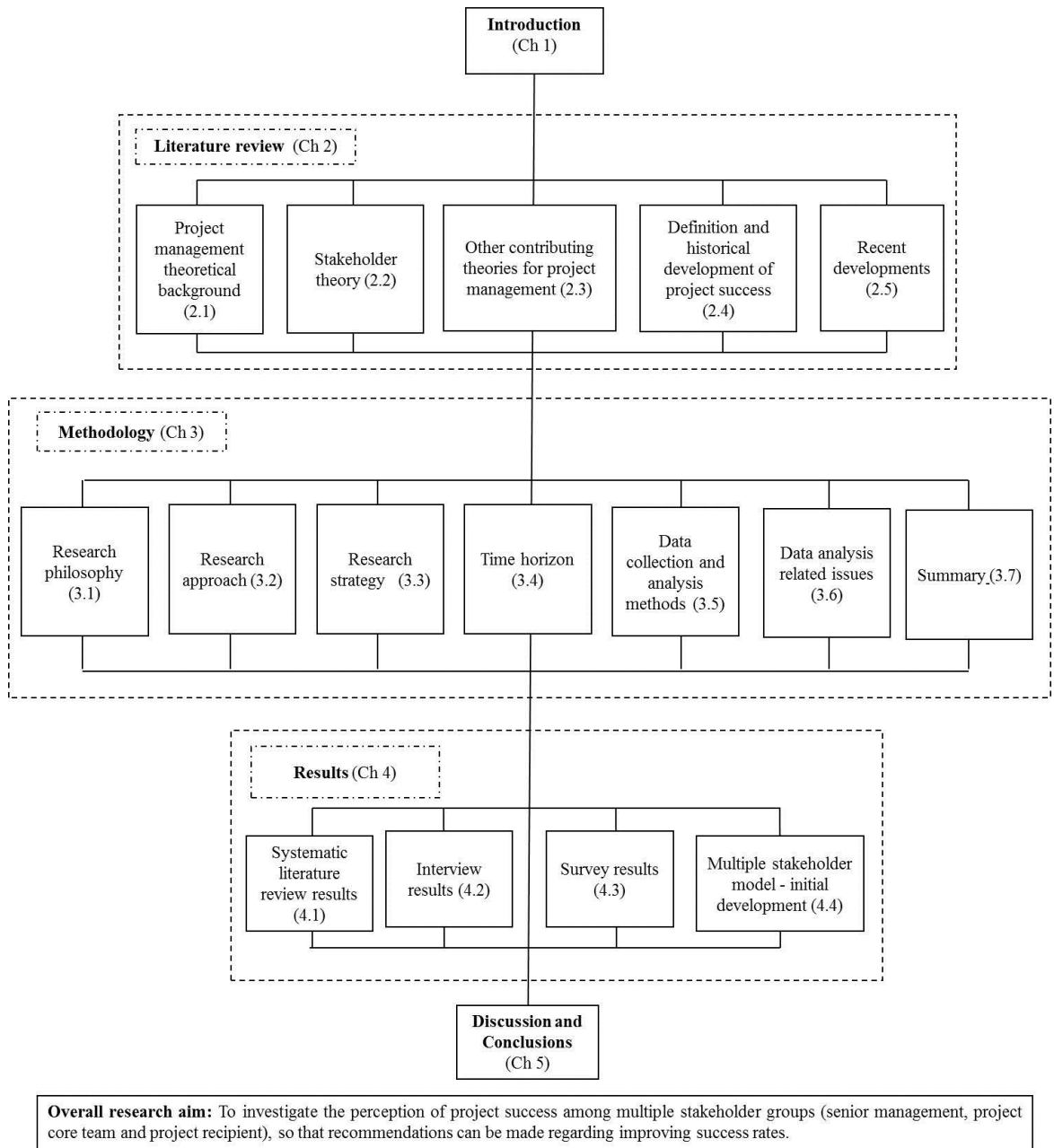
Figure 3: Study Chapters

1.7   Definitions of Terms

In the context of the current research, relevant terms are defined in Table 4:

Table 4: Definitions for the Study

Term	Definition
Perception	*"The way in which something is regarded, understood, or interpreted"* (Oxford Dictionary, 2015, p.1).
Project management	*"Project management is the process by which projects are defined, planned, monitored, controlled and delivered such that the agreed benefits are realised"* (APM, 2014, p.1). *"The application of knowledge, skills and techniques to execute projects effectively and efficiently. It's a strategic competency for organizations, enabling them to tie project results to business goals and thus, better compete in their markets"* (PMI, 2014, p.1).
Projects	Temporary and unique activities that expend resources with a specific objective, interrelated activities, and a defined start and end, with no prior history. The outcome is a new service, product, or result (Barclay and Osei-Bryson, 2009; Cooke-Davies, 1990; Gido and Clements, 2014; Kerzner, 1987; Munns and Bjeirmi, 1996; Pinto and Slevin, 1988b; Pinto *et al.*, 2009).
Project success	'Project success' is defined as meeting time, cost, and quality criteria, satisfying the sponsor, and meeting the main objectives (Aloini *et al.*, 2007; Dooley *et al.*, 2005; Orwig and Brennan, 2000; Schwalbe, 2009). The current research concentrates on project success, as it is concerned with the longer-term wider objectives and the perceptions of stakeholders throughout the project lifecycle (Cooke-Davies, 2002; De Witt, 1988).
Project management success	Is concerned with shorter-term objectives, such as time, cost, quality, and performance, which may be affected by influences not within the control of the project manager (Munns and Bjeirmi, 1996).
Project failure	A project is deemed a failure (Bronte-Stewart, 2005; Dooley and O'Sullivan, 2003; Turner, 2014a, 2014b) when it does not satisfy set criteria or objectives (Papke-Shields *et al.*, 2010). Bronte-Stewart (2005) cited views to support project failure criteria, such as time (McCue, 2002; Standish Group International, 2001), cost/budget (Dosani, 2001; Feld and Stoddard, 2004; Fielding, 2002; Fortune and Peters, 2005; Jaques, 2004; Liebowitz, 1999), quality (BBC, 2005; OASIG, 1996), and user requirements (Computing, 1997; Vickers, 1981).
Stakeholder	The people (individuals, groups, organisation, internal, and external), the action they perform (have an interest, expectations, role, involved in a project, vested interest in its outcome or contribution) or action done to them (impacted by the project, may affect or be affected by a decision, activity or outcome) (APM, 2014; Barclay and Osei-Bryson, 2009; PMI, 2014).

2 Literature Review

The literature review clarifies how project success has been defined historically and evaluates the emerging themes used to measure project success. This resulted in development of the three research questions for the current study.

2.1 Project Management Theoretical Background

The concept of project management continues to be a subject of conjecture. The initial question posed in the current study is 'Does the stakeholder group influence the perception of a successful project?' Various theories have been used to conceptualise project management, but all are based on the results of changes incurred from inputs made to achieve the reported outputs. Pre-set performance indicators are measured at the output; any variance between the indicator and the recorded output informs changes that are made, which can result in perceived project failure.

Contingency theory recognises that effective leadership relies on the ability to relate to stakeholders and to complete tasks. Recognition that leaders need both skills enables a response to any contingency, such as changes in technology, customers and competitors, suppliers and distributors, and unions. There is a common theme (Anbari, 1985; Bredillet, 2007; Söderlund, 2002) of using contingency theory within the project management field. Contingency theory was developed from systems theory (Galbraith, 1974, cited in Shenhar and Dvir, 1996; Lawrence and Lorsch, 1967, cited in Aragon-Correa and Sharma, 2003) and suggests that a structure for each project derives from current and situational needs. It takes into consideration the constantly evolving environment and need to adapt as circumstances change to increase performance (Hanisch and Wald, 2012; Rollinson, 2008).

Reviewing the literature on projects underpinned by contingency theory reveals that the theoretical models used to examine project success are similar in that a range of accepted contingencies (e.g., 'time', 'cost', 'quality', 'performance', 'safety', 'benefits', 'financial', 'internal business processes', 'learning and growth', and 'customer satisfaction') across the organisation are used, but the impact of these contingencies on

project success or failure is restricted to the project manager's perception (Morris *et al.,* 2011). This led to the 'contingency perspective' (Turner *et al.,* 2010). A very common contingency to manage is the changing profile of stakeholder groups for individual projects, implying a constant requirement to adapt practice (Anbari, 1985; Bredillet, 2007; Söderlund, 2002). Since project managers are designated for all projects, this might explain why they have often been the sole stakeholder group consulted to assess project success. There is little research on the use of multiple stakeholder perceptions of project success, perhaps because there is no model that measures this aspect.

2.2 Stakeholder Theory

The project management literature commonly identifies three stakeholder groups that are used to determine project success: project managers, those setting the project (senior managers), and those receiving and using the final output (end users). Müller *et al.* (2013) stressed the need to improve the rigour of project management research by *"open[ing] the minds of project management researchers to the necessity of transforming and translating knowledge from various sources including allied fields into organisational project management research to raise the level and variety of research approaches that they employed"* (p.472). Cameron *et al.* (2015) recognised the expansion of project management research into other fields, such as science and management (Kwak and Anbari, 2009; Müller *et al.,* 2013; Söderlund, 2004; Turner *et al.,* 2011). The current study is affiliated with stakeholder theory as it has been applied to numerous fields (e.g., law, management, and higher education) to stress the importance of meeting stakeholder needs (Harrison *et al.,* 2010; Leisyte and Westerheijden, 2014).

When reviewing the literature, the need to identify individual stakeholders was evidenced. This theme is present in the 'stakeholder theory' literature. Freeman (1984) developed 'stakeholder theory' from multiple areas of literature, including organisation and systems theory and strategic management (Laplume *et al.,* 2008). The theory addresses the management of interests and influence/strength attributed to them among stakeholder groups in an organisation. Conventionally, the shareholders are viewed as important, as the organisation is required to make a profit for them and therefore must

put their interests first. Stakeholder theory contends that anyone who can affect the organisation should be involved and value created for them, e.g., customers and suppliers (Freeman *et al.,* 2010). This links to project management, which has many roles when delivering projects to provide the benefits whilst striving to align interests continually.

Opponents to stakeholder theory question whether conflicting stakeholder interests can be negotiated and suggest 'conversations' to reach a consensus (Blattberg, 2004). Mansell (2013) argued that stakeholder theory conflicts directly with the concepts that a market economy operates under. He scrutinised the literature on 'social contracts' and stakeholders, whereby the stakeholders surrender their power, giving tacit consent, as they assume that the organisation has their best interests at heart. This descends into the area of corporate social responsibility, which is outside the scope of the current study.

Metcalfe and Sastrowardoyo (2013) stated that the ability to manage the contradictory claims of stakeholders is essential to manage complex projects and put forward the view that argument mapping, in conjunction with Toulmin's model of argumentation, is one method that could be used. McKenna and Baume (2015) also recognised the need for all stakeholder views to be listened to and grouped similar statements to give a consistent means of reflecting major stakeholder differences. Both of these papers are concerned with resolving conflict between stakeholders in complex projects, as opposed to sharing stakeholder views to inform the perception of project success.

Further arguments against stakeholder theory focus on the lack of specificity, which results in no instructions or decision making criteria to analyse it scientifically (Key, 1999). Another argument is that the organisation focuses on being profitable and that the purpose of stakeholders operating within this environment is to maximise profit. This leads to negotiations on who will receive resources to achieve the profit (Baron, 2004; Coff, 1999). The main issue with this is that organisations are more concerned with profit than with who the stakeholders are and how their perceptions can influence the project outcome. A new way of thinking is needed to address the interests of all the stakeholders, and the current study suggests a mechanism for mediation and negotiation for stakeholder needs through a multiple stakeholder model.

Turner and Zolin (2012) noted that stakeholder perception influences the perceived project outcome as a success. Others have demonstrated that stakeholder perception of success or failure can change with time (Dalcher and Drevin, 2003; Morris, 1997; Turner *et al.*, 2009). For example, the Thames Barrier, when initially completed, would be analysed as a failed project, as the project was complicated with industrial relations issues. The barrier was *"priced at £110.7 million in October 1973 (compared with initial estimates of £13-18 million) [and] was ultimately delivered at a cost of £440 million"* (Dalcher, 2012, p.648). Further, it took just under twice the estimated four years because of delays during the preconstruction phase. However, regardless of the delays, it is considered a great engineering achievement, and the value of preventing floods and saving lives in the long term has caused it to be perceived a success (Morris and Hough, 1987). Heathrow Terminal Five was completed successfully within time, cost, and quality constraints and met the objective of the British Airports Authority to create a main passenger terminal for British Airways flights. However, British Airways had minor commissioning issues relating to check-in procedures for oversized baggage, leading to the later public and customer perception that the project was a failure and consequent damage to the reputation of British Airways (Brady and Davies, 2009, 2010a, 2010b; Brady and Maylor, 2010; Savill and Millward, 2009). This raises the question of whether success or failure measurement should be delayed for a period of time, especially for complex projects, or whether the criteria to judge success could be categorised into those that are immediately obvious at completion and a defined period after completion.

This indicates that different perceptions of project success by individual stakeholder groups might be important when judging the success or failure of a project. There is no evidence to date or empirical studies that have examined the combined perspectives of senior management, project core team, and project recipients to investigate their different perceptions and to identify whether these contribute to failure. This is an important perspective, as research shows that the perception of failure derives from stakeholder expectations and requirements, which frequently differ from those of the project manager (Stasiowski and Burstein, 1994, cited in Cicmil, 1997; Turner, 2014a, 2014b).

2.3   Other Contributing Theories for Project Management

Turner *et al.* (2010) claimed that project management developed from the 1940s and operations research, whereas Kwak and Anbari (2009, p.440) argued that it came from three management schools in the 1980s: *"organizational management theory, operations research and management science applications, and real business practices and their applications"*. Bredillet (2010, p.4) *"notes an early interest (1914–1987) in the economic aspects of projects"* and later in information systems (IS) projects and information technology (IT) support. However, there remains some agreement that project management originated from operations research and optimisation theory (Kwak and Anbari, 2009; Shenhar and Dvir, 2007; Turner *et al.,* 2010). The optimisation school is based on the Taylorian model (Turner *et al.,* 2010) and Classical Management Theory. Classical theorists (Brech, 1953; Fayol, 1949; Gulick and Urwick, 1937; Mooney and Reiley, 1939; Taylor, 1911) focus on an organisation's purpose and formal structure. Consideration is directed at procedures, such as the hierarchy, formal roles and responsibilities, time, cost, and quality (known colloquially amongst practitioners as the 'iron triangle' – created by Barnes, 1969 and adapted by Atkinson, 1999), and tools used within a project.

This procedural perspective expects everything to work in a linear sequence using generic tools (such as Gantt charts and methodologies such as PRINCE2) for all project types (such as IT, engineering, and change management projects). However, Turner *et al.* (2010) observed the contradictory view that projects are defined as 'unique' and therefore need specific tools (e.g., PRINCE2, Project Management Body of Knowledge, Managing Successful Programmes, Information Technology Infrastructure Library) that are adapted for individual projects. The current trend is to adapt tools for each individual 'unique' project in alignment with contingency theory.

The chosen theoretical basis depends on the problem being studied. The current study is investigating the influence of stakeholder perception on project success. Therefore, operations research (Brech, 1953; Fayol, 1949; Gulick and Urwick, 1937; Mooney and Reiley, 1939; Taylor, 1911) that examines rigid linear systems to ensure that time, cost, and quality are met is inappropriate. In contrast, contingency theory takes into account

the multiple ways of managing a project and the need for a project manager to deal with conflicting stakeholder inputs, which might contribute to the ultimate perception of project failure. Anbari (1985), Anbari *et al.* (2008), Bredillet (2007), Söderlund (2002), and Turner *et al.* (2010) noted that contingency theory allows a focus on the individual 'unique' project differences and is therefore a better fit for the current study, which targets the stakeholder, 'people aspects', of projects (Shenhar and Dvir, 2007). According to Turner *et al.* (2010, p.4), *"the main criteria of success ... should be of value to the stakeholders"* which further highlights the need to identify the stakeholders when determining important success dimensions.

2.4 Definition and Historical Development of Project Success

The development of the concept of 'project success' can be considered chronologically. Jugdev and Müller's (2005) historical review influenced the decision to classify the development of project success into time periods, from the 1970s to the present. They depicted project management trends in four periods and found that *"Periods 1 and 2 focused primarily on the project lifecycle. The product lifecycle phases of utilization and closedown did not emerge as components of the project management success literature until Period 3, when more comprehensive critical success factor frameworks were developed"* (p.23). Period 4 addressed the need to take on board stakeholder input. The current study extends Period 4 data, providing information on the stakeholders involved, success dimensions, and the data collection and analysis methods used.

The early 1970s success literature focussed on the operational side, tools, and techniques (time, cost, and quality, Atkinson, 1999; Barnes, 1969; Cooke-Davies, 1990; also called requirements of performance, Pinto and Slevin, 1988b; Turner, 2014a, 2014b). Consequently, lists of uncategorised success factors (Turner and Müller, 2005) that lacked behavioural 'soft skills' (Munns and Bjeirmi, 1996) were used to assess success at the implementation stage (Lim and Mohamed, 1999) by an individual (the project manager or project team member; Andersen *et al.,* 2004). Assessment was subjective and objective (Freeman and Beale, 1992), using surveys or feedback via complaints (Pinto and Slevin, 1988b). However, this meant that project managers only considered the technical aspects of a project and lacked emphasis on examining

communication with customers (Jugdev and Müller, 2005). It was noted that this period judged success from a largely theoretical basis and that more empirical work was required (Belassi and Tukel, 1996).

The 1980s to 1990s signalled a move from examining the technical aspects of a project to how projects relate to the client organisation (Pinto and Slevin, 1988a) by examining the project manager or project team (Andersen *et al.,* 2004). Linking a project to strategic management and the organisation (Jugdev and Müller, 2005) was usually omitted. Additionally, the views of stakeholders or clients/end users indirectly involved in the project process were excluded. This period typically used critical success factor (CSF) lists (Kerzner, 1987), but these were not organised or grouped to identify common themes. CSFs were often devised intuitively; Pinto and Prescott (1990) used anecdotal studies to collect data rather than facts from previous literature. Success studies were cross sectional and assessed once in the project (Jugdev and Müller, 2005). Turner *et al.* (2009; Turner and Zolin, 2012) argued that this is insufficient and that success should be assessed longitudinally at multiple points in the project lifecycle. This would show how the perception of success developed throughout the project and after its completion. Turner (2014a, 2014b) added that there was a focus on success factors and that these had to be defined before the appropriate tool to measure success could be determined.

Kerzner (1987) widened the perspective of CSFs, relating them to the environment, senior management, and projects. The CSFs highlighted the importance of the perceptions of all involved stakeholders in the project process. This also included the need for executive commitment (i.e., those in senior management positions to be more actively engaged in the project) and the importance of selecting a project manager with appropriate experience and leadership skills for the role. This point has been further echoed by industry surveys (The Standish Group, 1995, 2009, 2012, 2015). A weakness with Kerzner's work is that CSFs were only listed, with no suggestions for application offered, leaving the researcher guessing how to apply them.

Pinto and Slevin (1987, 1988a, 1989; Slevin and Pinto, 1987) are the most widely recognised authors (Jugdev and Müller, 2005; Turner and Müller, 2005) for producing

the list of ten success factors shown in Table 5. Müller and Jugdev (2012, p.757) further noted that *"few scholars have been cited as frequently as Pinto and Slevin… for their contributions to project success and related critical success factors in the 1980s"*. A common thread was identified in the literature in that authors were building on Pinto and Slevin's (1987) success factors as opposed to creating original factors, which implies that the current literature views these factors as adequate without the need for further research.

Table 5: List of Success Factors by Pinto and Slevin (1987)

Success Factor	Description
1. Project mission	Clearly defined goals and direction
2. Top management support	Resources, authority, and power for implementation
3. Schedule and plans	Detailed specification of implementation process
4. Client consultation	Communication with and consultation of all stakeholders
5. Personnel	Recruitment, selection, and training of competent personnel
6. Technical tasks	Ability with the required technology and expertise
7. Client acceptance	Selling of the final product to the end users
8. Monitoring and feedback	Timely and comprehensive control
9. Communication	Provision of timely data to key players
10. Trouble-shooting	Ability to handle unexpected problems

Morris and Hough (1987) concluded that success depends upon the perceptions of multiple stakeholders (those involved in a project) and the time during the project when success is measured. Their framework is largely based on time, cost, and quality but encompasses a contractor perspective. This does not, however, indicate who made the decisions and whose perspective was sought. Turner (1999) noted that Morris and Hough's framework is based on objective and subjective criteria, so some measures are incompatible.

Wateridge (1995) noted that it is not possible to determine appropriate success factors until overall success is defined. This epitomised the development of CSF frameworks in the 1990s to 2000s and saw a move to viewing success as dependent on internal and external stakeholders (Lester, 1998). Belassi and Tukel (1996) created a framework through reviewing literature on CSFs, which is similar to Morris and Hough's (1987), but they claimed that it was a new framework. It categorised CSFs, allowing others to examine relationships between factors. The categories included factors associated with the project manager and project team, organisation, and external environment. Their

study also illustrated how CSFs differ between industries. Turner (1999) published a similar framework, raising the issue of whether success factors are static, as the literature evidences, or whether they change over time. This observation led to the suggestion of new success factors to judge project success with the acknowledgement that Pinto and Slevin's (1987) list of success factors was acceptable and required no further research.

Project success from the 2000s onwards gives greater emphasis to the stakeholder view and depends more on the project lifecycle (short-term goals) than on the wider organisation (long-term goals) (Turner, 2004; Turner *et al.,* 2009; Turner and Zolin, 2012). This raises the possibility that organisations might review their success factor framework to combine both short- and long-term goal angles. Jugdev and Müller (2005) highlighted a need to assess a project from multiple perspectives (of those involved in the operational and strategic level). The need to differentiate between project success and project management success was also recognised (Turner, 2014a, 2014b). There was growing recognition of the importance of owner and sponsor involvement in this period; however, a majority of studies have considered the terms interchangeable (Jugdev and Müller, 2005; Wateridge, 1998). Turner *et al.* (2009), Turner and Zolin (2012), and Turner (2014a, 2014b) defined the owner and sponsor as separate roles. The owner is the investor, whereby the main contact occurs at the start of the project, whereas the sponsor is a pre-, during, and post-project role. Müller (2003, cited in Turner *et al.,* 2009) claimed that successful projects had an owner who actively communicated with the project manager throughout the project. They also alleged that unsuccessful projects had owners with less involvement. Jugdev and Müller (2005) claimed that this opens up a need for investigation into owners' attitudes towards project success. The importance is that the owner is responsible for the project with respect to delivering the organisation's strategy. Therefore, the owner is focussed on the long-term view of a project within an organisation, which can influence individual stages and the overall success of a project.

Turner (2004, p.350) addressed the importance of owner involvement by adapting Wateridge (1998) and Müller's (2003, cited in Turner *et al.,* 2009) work to create four success conditions:

"1. Success criteria should be agreed on with the stakeholders before the start of the project, and repeatedly at configuration review points throughout the project

2. A collaborative working relationship should be maintained between the project owner (or sponsor) and project manager, with both viewing the project as a partnership

3. The project manager should be empowered with flexibility to deal with unforeseen circumstances as they see best, and with the owner giving guidance as to how they think the project should be best achieved

4. The owner should take an interest in the performance of the project"

Turner (2004) stressed that success criteria must be agreed among all stakeholders before the project starts and that these conditions all must be achieved to gain success, but it still does not guarantee success. His approach moves responsibility for project success away from the project manager to the project owner but relies on the sensitive communication skills of both. Turner *et al.* (2009) claimed that the evaluation of success across multiple stakeholder groups is rarely conducted (Turner and Zolin, 2012; Turner, 2014a, 2014b). They asserted that project success and its criteria must include *"the perceptions of multiple stakeholders"* as *"inappropriate evaluation of the success criteria of an existing project could misdirect the project's decision making, de-motivate employees and establish an unproductive organizational culture"* (Turner *et al.* 2009, p.13). The literature has suggested that those involved in the project and business must be questioned independently about different areas within an organisation (Chen, 2010; i.e., business people are asked questions only about the business and IT people are questioned only about IT). However, Turner *et al.* (2009, p.10) suggested that *"all the stakeholders may judge all the levels of results"*. They provided detailed descriptions of how each stakeholder can be defined, identified as *"the investor or owner, the consumers, the operators or users, the project sponsor or project executive, the senior supplier, the project manager and project team, other suppliers and the public"* (Turner *et al.* 2009, p.10-13). They cited empirical work from Xue (2009, cited in Turner *et al.,* 2009) confirming the importance of gaining differing perspectives from multiple stakeholder groups longitudinally across the project lifecycle (outputs, outcomes, and impact).

The 21st century sees projects being defined by more than just the project manager, as stakeholder expectations need to be managed. There is a focus on stakeholder satisfaction and a move towards examining the project owner's perception of success. The importance of senior management commitment throughout the project is reiterated as crucial to provide the link between the organisational mission and project objectives. However, a majority of studies concentrated on the project manager's view of success and not those of other internal/external stakeholders of an organisation (e.g., senior management, business departments such as finance and marketing, or the external environment) at one point in the project lifecycle (for example, the initiation stage). Figure 4 summarises the development and description of project success in chronological order from the above discussion.

	Technical era 1970-1979	Critical success factor list era 1980-1989	Framework era 1990-1999	Stakeholder era 2000+
View of Success	'Iron triangle' (time, cost, quality)	Project relationship with client organisation	CSF frameworks, categorising lists	Success linked to short term rather than long term organisational goals
	Initial identification of success factors	Success factor lists, not categorised		The need to include senior management commitment, the external environment
Project Stage	Implementation stage	Implementation stage	Implementation stage	Multiple stages
Stakeholder	Project manager perception	Stakeholder identified as important but not defined	Success linked to internal and external stakeholders	Multiple stakeholder view
Measurement	Surveys, subjective and objective measurement	Lists created intuitively, not based on research findings. Cross sectional	Formal quantitative and qualitative studies	Quantitative and qualitative studies, suggest longitudinal
Gap	Lacked empirical work and did not examine the post implementation stage	Omitted the planning stage	Omitted the planning stage	Does not mention the board, programme or portfolio director, plus other organisational stakeholders (e.g. Business departments)
	Lacked work on stakeholders other than project manager	Failure to link PM to strategic management	Reproducing CSF lists, not extending them	
Link to Research Question (RQ)	RQ1 – Identifies measurement methods RQ2 – Identifies project manager perception	RQ1 – Identifies measurement methods RQ2 – Identifies stakeholders, but not defined	RQ1 – Identifies measurement methods RQ2 – Links success to internal and external stakeholders	RQ1 – Identifies measurement methods RQ2 – Identifies the need for multiple stakeholder view

Figure 4: Timeline of Success Development

2.5 Recent Developments

It has been noted that similar studies have examined aspects of project success and the stakeholders involved. These will now be presented; however, none of them has examined the senior management, project core team, and project recipient stakeholder groups in one empirical study, supporting the point that empirical work focussing on multiple stakeholder groups is rare.

Thomson (2011) examined performance metrics in the construction industry based on client judgement. He highlighted that a client becomes more aware of their requirements the further into the project they get, but a project sponsor sets the initial requirements. This resulted in the client stating that practitioners did not take into account their needs, and a project can be deemed a failure as a result. He examined one 'refurbishment of office space' project containing three recipients, two senior management, and five project core team members in one organisation. He found that practitioner and client stakeholders had conflicting requirements, which required careful consideration. He offered a revised project sponsor role to address client perception of project success in the construction industry. Whilst this study could be considered to offer empirical research on multiple stakeholder groups, emergent issues were concerned with physical aspects, such as computer mounts and relocation logistics. Al-Tmeemy *et al.* (2011) added that success criteria and categorisation models are applicable in the short term to building projects, focussing on how contractors evaluate success, to create their own categories, including *"project management success, product success, along with market success"* (p.337). Nour and Mouakket (2011) presented a classification framework of critical success factors for enterprise resource planning (ERP) systems based on stakeholder perspectives. This was constructed from a literature review and categorised the factors into six stakeholders and three phases of the project lifecycle. The tool was proposed to help organisations identify CSFs and the stakeholders affecting them for better implementation of ERP systems. They emphasised the role of top management, IS managers, and ERP users but did not test the tool or provide empirical evidence. The framework also provides no guidance or differentiation for dealing with the distinct stakeholders, even though the authors stressed the importance of their individual perspectives.

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Shaul and Tauber (2012) created 15 categories of CSFs based on previous research for ERP implementation. They administered a questionnaire asking project core team members and recipients which project phase their identified factors should be applied to. They did not ask senior management. They concluded that factors affect different project phases and provide practical guidelines as to which factors are relevant and when they should be considered for ERP system implementation, e.g., *"monitor users' feedback during testing and training"* (p.375).

McLeod *et al.* (2012) investigated how project outcomes are subjectively perceived in one IS case study project by senior management and the project core team but did not consult the project recipients. They asserted that a project can be perceived as successful by one stakeholder and a failure by another, but the stakeholder who evaluates it provides the final judgement. This echoes the findings of Turner and Zolin (2012) in that the importance placed on criteria of project success changes over time depending on the stakeholder. All stakeholders, apart from one senior manager, evaluated success on time, budget, and meeting specifications. Whilst the paper stated that using time, budget, and specifications oversimplifies project success, the results support their importance. Other criteria included client satisfaction and business/user/strategic benefits, which are identified in the literature analysis for the current study. Zanjirchi (2012) surveyed owners and contractors involved in oil, gas, and petrochemical projects in Iran and failed to examine project recipients. He found that consultants 'play the most important role' when determining success and owners the least and concluded that consultants' performance should be concentrated on to achieve project success. Adinyira *et al.* (2012) noted that success criteria for building projects were clearly defined to measure success from start to finish, but not after. A survey was sent to experienced professionals containing 13 criteria identified in the literature specifically targeted to building projects, such as 'cost of individual houses' and 'extensive use of local materials'. Time, cost, quality, and satisfaction arose as important criteria, which are recurrent in other studies; however, they did not state who the 'professionals' were, and it was not possible to assess whether they were multiple stakeholders or solely project managers. Turner and Müller (2012) confirmed that the 'most famous' list of

success factors is Pinto and Slevin's (1987) whilst focussing on the necessary skills of a project manager to lead a project.

Turner and Zolin (2012) developed a model of forecasting performance indicators for managers to examine how stakeholders perceive success after project deployment. They recognised that projects have various stakeholders and that perception can change over time, so the project manager needs to address this. They took it outside the typical project lifecycle by examining success months and years after the end of the project to gain insight into how success can be viewed after project completion. They stated that evaluation of success across multiple stakeholder groups is rarely conducted (Turner, 2014a, 2014b). They asserted that project success and its criteria must encompass "*the perceptions of multiple stakeholders*" as "*inappropriate evaluation of the success criteria of an existing project could misdirect the project's decision making, de-motivate employees and establish an unproductive organizational culture*" (Turner and Zolin, 2012, p.13).

Turner and Zolin (2012) not only evaluated the views of multiple stakeholders during the project lifecycle but also interviewed project managers and programme directors, examining their perception of success months and years after the end of a project. They stated that, to gain insight into how success can be viewed after project completion, "*one needs to consider the views of multiple stakeholders over multiple time frames*" (p.10). However, their work did not refer to portfolio directors, nor did it collect empirical data from those at the board level. In addition, the author questioned whether the dimensions they created, such as 'impact on team' and 'impact on customer', can be judged from asking only two stakeholder groups as opposed to directly asking the team and customers. They showed, for the first time, that stakeholders can have different perceptions of success criteria because they will focus on factors related to the criteria they perceive as important. McLeod *et al.* (2012, p.72) agreed that "*project outcomes are subjectively perceived by different stakeholders*"; however, their study drew only on the viewpoints of one project sponsor and project team members.

There is growing recognition of the importance of owner and sponsor involvement. Turner and Zolin (2012) and Turner (2014a, 2014b) defined the owner and sponsor as

separate roles. The owner is the investor, whereby the main contact occurs at the start of the project, whereas the sponsor is a pre-, during, and post-project role. Turner (2014a, 2014b) stressed that success criteria must be agreed among stakeholders before the project starts and that these conditions all have to be achieved to gain success, but it still does not guarantee success. His approach moves responsibility for project success from the project manager to the project owner. Again, this reinforces the notion that the project manager should not be the only viewpoint sought; those of other stakeholders involved in a project, including the project owner, should also be involved.

A gap in Turner's earlier work in this period is that the identified stakeholder groups failed explicitly to mention the board, leading to the assumption that its view is absorbed into the investor or owner groups. In addition, the programme director and portfolio director were not differentiated, and they could be within either the project executive or project team group. Furthermore, other stakeholders within an organisation involved in the project (e.g., business departments such as finance and marketing) were not mentioned. Therefore, these four groups (board, programme director, portfolio director, and other organisational involvement) need to be defined as included in either another group or additional groups, as they are involved in the project process.

Bryde *et al.* (2013) created success criteria for construction projects using content analysis of the literature. Their findings aimed to help project managers report cost reduction. They noted control as important and a challenge when engaging stakeholders but neglected to ask both project managers and additional stakeholders their perceptions. Lech (2013) proposed success criteria from an organisation's perspective for ERPs. His mixed methods study, which surveyed sponsors, members of the steering committees, and project managers, found that the organisations acknowledged criteria but did not attribute them as 'determinants of success' for achieved goals; e.g., if a project's time, cost, and quality differed from the plan, this was considered a success in the organisation but would be deemed a failure in the literature. He determined that a project was successful if it met *"business/organizational goals (i.e., product success) and functionality/schedule/budget, or functionality/schedule/budget adjusted for uncertainty (e.g., business change and project planning)"* (p.274).

Basamh *et al.* (2013) applied Pinto and Slevin's 'diagnostic behavioural instrument' to examine project and change management practices in government linked companies in Malaysia. They found that there was a need for more consideration of human resources and resource allocation. At no point did they define success or present an explanation, critique, or basis of selection for six of the ten factors from Pinto and Slevin's instrument. They claimed to study CSF but discussed the results in the context of understanding different criteria. This suggested that, in 2013, the issue of using the terms 'factors' and 'criteria' interchangeably without understanding was still prevalent. Their study stated that they examined multiple stakeholder groups, including project managers, team members, change managers, and top managers, but this was contradicted, as they sent the survey to project managers and team members. Further, they did not provide a breakdown of the 30 respondents, meaning that the results could have been favoured by one group. As the study was based on a survey, there was no opportunity for the elaboration of answers or gap identification in the instrument, so the results are based on the instrument questions and present no new information.

Basu (2014) conducted a mixed methods approach to examine the role of quality in the 'iron triangle'. This examined key stakeholders, but only through project and programme managers. He found that project quality was defined by achieving customer requirements and the *"quality of the product (design specifications), the quality of management processes (conformance to specifications) and the quality of the organisation (leadership, skills and communication)"* (p.185). Locatelli *et al.* (2014) investigated complex projects in terms of time, cost, and quality/benefits. They suggested the application of a systems engineering approach to the governance of projects and stakeholder management to enhance performance. Further work was proposed on organisational structure and culture for complexity, but they do not consider project success dimensions. This raised the question of how they aim to improve governance without the need to understand stakeholders' perceptions of governance and success. Mazur *et al.* (2014) examined a project manager's personal attributes and project success. They found that emotional intelligence was related to the strength of relationships with other stakeholders, but again, they did not ask any other stakeholders. Missonier and Loufrani-Fedida (2014) examined stakeholder analysis and

engagement related to Actor-Network Theory in IS projects. This theory asserts that stakeholders should form alliances to achieve goals. Their empirical work examined 'actors' but they did not state who these actors are. They stated the importance of stakeholder involvement, engagement, and communication early in the project and the development of relationships in projects and attributed failure to 'inappropriate social interactions'. They offered an approach for project managers to assess stakeholder project networks, but not in the context of success. Johansen *et al.* (2014) examined how stakeholders should be managed when setting objectives to achieve project success. Uncertainty, risk, and opportunity are discussed in the context of involving stakeholders and senior management. They considered which internal and external stakeholders benefit if change in the project occurs; e.g., *"Who will benefit if the market conditions become more favorable in the execution period?"* (p.587). However, they noted that the management of opportunities is problematic, as it needs senior management involvement. They did not conduct empirical work.

Laursen and Svejvig (2015) conducted a literature review on project value creation using 111 contributions from the 1980s to the present, including literature from the fields of *"benefits management, strategic management, and value management, besides project management"* (p.10). In fact, they quoted the researcher's paper (Davis, 2014a) when referring to work on project success. They found that creating value is still prevalent for the practitioner and suggested future research to 'rejuvenate value management' through a holistic approach to benefits realisation and costs. This echoes the findings of the current study to focus on benefits.

Serrador and Turner (2015) examined the relationship between efficiency and overall success. They surveyed 1,386 projects and revealed that there was a 60% correlation efficiency between time, cost, and quality and stakeholder satisfaction. In a personal communication with one of the authors on 11 March 2015, Turner stated that data were gathered to demonstrate the lack of agreement between stakeholders about the success dimensions, but the data were not published. He confirmed that the data showed that there were strong differences of opinion between the stakeholders about what the success dimensions were and that the factors each stakeholder recognised as important were related to the criteria they thought were important.

3 Methodology

This chapter details the methodology used to select the research strategy. It is based on the 'research process onion' of Saunders *et al.* (2009), which has been noted in the literature as providing an adaptable research procedure for use in a variety of contexts and research types to support effective methodology development (Bryman, 2012). This methodological approach means that results will be supported by a sound theoretical and philosophical base.

3.1 Research Philosophy

3.1.1 Positivism

Positivism interprets observable realities using quantitative statistical analysis. This assumes that the researcher is detached from the research and places importance on structured and replicable research (Saunders *et al.*, 2009). The approach aspires to produce law-like generalisations like those generated by natural scientists. Comte (1988, p.1) developed classical positivism to create stages for knowledge to move through *"the theological or fictitious state, the metaphysical or abstract state and the scientific or positive state"*. This approach argues that knowledge that has passed through the fictitious and abstract states and is based on the third stage, a scientific state, is more acceptable. Hence, knowledge is meaningful only if it is based on reasoning and objective observation. Logical positivists in the 1920-1930s added that reasoning is linked to logical statements, which can be verified; *"a statement is held to be literally meaningful if and only if it is either analytic or empirically verifiable"* (Ayer, 1966, p.3). Phillips (1992, p.100) agreed that, *"if it can't be seen or measured, it is not meaningful to talk about"*, implying that any statement that is not supported by physical evidence is meaningless.

By the 1960s, new approaches and methods were required in addition to positivism because it was questionable whether statements could be metaphysical, analytical, and verifiable. This was revised, as statements should be empirically verifiable, and logical positivists saw issues in that observations were influenced by the observer and therefore the empirical verifiability was inconsequential. Logical positivists moved to be regarded

as detached from science, focussing on syntax and semantics as opposed to pragmatics. Feyerabend (1962), Kuhn (1962), Lakatos (1970), and Agassi (1975) began to concentrate on hypothesis testing and theory building. This was regarded as relevant, as it described what was being done. The current study does not fit with classical positivism in that knowledge must be observed and value free (meaning that the approach is not influenced by 'political, moral, racial or gender considerations' and that all viewpoints are considered and not just one viewpoint; Harvey, 2015) and investigation needs to be more subjective.

3.1.2 Interpretivism

Interpretivism originated in the 1960s from multiple sources (Malinowski, 1967 – anthropology, the *Chicago School of Sociology*, Blumer, 1984 – sociology, Schutz, 1962; Cicourel, 1964; Garfinkel, 1967 – phenomenology/sociology). It is related to social constructionism, meaning that people do not absorb the environment as pure truth but build it in a subjective manner via their own interpretations (Maylor and Blackmon, 2005). The interpretivist attempts to empathise with the viewpoint of those they study, looking for desires, motives, assumptions, interpretations, and beliefs in an attempt to analyse motivation and activity. Whilst the researcher will attempt to empathise with the stakeholders' viewpoints, this approach clashes with positivism, and it is debatable whether social occurrences cannot be categorised for interpretation (Bryman and Bell, 2003); hence, although stakeholder viewpoints will be regarded, it will not detract from the primary underpinning philosophy for this study.

3.1.3 Researcher's Viewpoint – Post-positivism

The researcher has adopted a post-positivist approach, which is a combination of positivism and interpretivism, as the current study aspires to understand human behaviour using an applied system. Phillips (1987, 1990a, 1992) created post-positivism, which assumes that participants' free will can be patterned and predictable. Post-positivism emerged with the exploration for 'warranted assertability' (Hempel, 1966; Kuhn, 1970; Lakatos, 1970; Laudan, 1977; Popper, 1968, cited in Letourneau and Allen, 1999). Phillips (1992) added that positivism no longer has a place in modern society, as, 'while the world is full of sound and fury, it signifies nothing'. This suggests

that human interactions cannot be fully comprehended (Cook and Campbell, 1979; Guba, 1990), but it contends that social processes are relatively predictable and patterned and can be studied objectively *"to facilitate apprehending reality as closely as possible"* (Guba and Lincoln, 1994, p.110). Post-positivists assume three connected points (Letourneau and Allen, 1999):

1. Knowledge about the social world can be attained through studying regularities and causal relationships.
2. Regularities and causal relationships are best studied when the researcher is objective.
3. Objectivity can be attained though applying a scientific method.

Post-positivists empirically test theories using a scientific method to develop theory. This requires clear definitions and documented empirical investigations (Cook, 1985; Greene, 1990; Phillips, 1990a). Dubin (1978, p.57) stated that, *"once these basic features of a theoretical model are set forth, the theorist is in a position to derive conclusions that represent logical and true deductions about the model in operation or the propositions of the model"*.

Table 6 applies Dubin's post-positivist concepts to the current study. The results will provide observations of incidents and add to general explanations, with logically organised connections to the social world (Forbes *et al.,* 1999; Schumacher and Gortner, 1992). It is noted that total objectivity may not be attained; however, post-positivists assume that the rigour in the system applied outweighs the issues with objectivity (Greene, 1990; Phillips, 1987, 1990a). Subjectivity is taken into account, as stakeholders are studied within their organisational contexts (Clark, 1998; Phillips, 1992).

Table 6: Applying Post-positivism to the Study

Concept from Post-positivism	Applied to Research	Comment
Concept/theory (perceptions of project success) Connected elements of explanation, prediction, and control	Explanation	Post-positivists believe that behaviour can be explained by cause-and-effect relationships. The resulting study will discuss the stakeholder perception of project success. This will collect empirical data to be analysed and aims to explain where the difference in perception occurs.
	Prediction	The explanation stage will aid in predicting what will happen in a similar setting.
	Control	Follows from explanation and prediction. Once one can do these, it may be possible to control what happens in the future.
Units	A number of success dimensions.	Fully defining success dimensions, thematic analysis to identify themes, comparison to Pinto and Slevin's factors to assess suitability for use in the survey.
Propositions	Different stakeholder perception of success contributes to overall perceived failure of a project.	The reviewed literature indicates that the perception of project success dimensions by different stakeholder groups can lead to project failure if the analysis of success dimensions suggests the project is off course.
Laws of interactions	How each stakeholder group perceives project success dimensions.	Three key stakeholder groups, senior management, project core team, and project recipient, showed discontinuity in the perception of success dimensions.
Conceptual boundaries	Stakeholder groups Organisations	Senior management, project core team, and project recipient. Public and private.
Empirical indicators	Analysing the qualitative interview data to either validate or disprove the use of Pinto and Slevin's success factors for the basis of the survey.	To connect the theory to the observable world. This will reveal the appropriate success dimensions for use in the survey.
Hypothesis	The findings of the reviewed literature and interview analysis are built on through the use of a survey.	To either validate or disprove whether stakeholders have different views.
Proposed outcome	A greater understanding of how project success dimensions can be identified to facilitate a shared stakeholder view.	Outcomes will help organisations recognise the important dimensions for project success for each stakeholder group to achieve a more precise description of project success dimensions.

Post-positivism eradicates *"the intractable problem of a forced choice between value-laden/qualitative and value-free/quantitative research methods"* (Howe, 1985 p.10; also Lather, 1992; Phillips, 1990b; Smith, 1983; Wildemuth, 1993). The researcher takes the view that qualitative research is essential to provide the rich context to the study (Clark, 1998) before any quantitative analytical methods can be employed. The mixed methods approach adopted in the study (discussed later) aligns with the post-positivist view as the methods selected are based on the research questions (Cook, 1985). By using a combination of methods, post-positivists assert that *"packages of imperfect methods and theories ... minimize constant biases"* (Shadish, 1993, p.18). Letourneau and Allen (1999) discussed the strategies that Houts *et al.* (1986) used in post-positivist research. The current study is consistent with this, as targeting multiple stakeholder groups probes multiple issues associated with project success dimensions using qualitative and quantitative methods. The meta-synthesis of qualitative work (Jensen and Allen, 1996), building on Pinto and Slevin's work aims to minimise bias issues. Finally, industry and academic experts will examine the data set. Houts *et al.* (1986) noted a disadvantage with the use of mixed methods from a post-positivist view in that it can lead the research to be overtly scrutinised from multiple perspectives, calling into question the credibility of the research (critical multiplism). However, this is dealt with by thorough justification and documentation of the methods selected.

Some literature aligns critical multiplism with relativism and thereby states that all results are seen as acceptable (Houts *et al,.* 1986; Lutz, 1988; Smith, 1990), reducing the usefulness of the research. Guba (1990) noted that this can be 'elaborated triangulation' and therefore minimise the originality of the research. However, as critical multiplism is derived from post-positivism, the concerns regarding usefulness and originality are reduced through the use of objectivity and open scrutiny. Therefore, the results are *"forced to face the demands of reason and evidence"* (Phillips, 1990b, p.30). Further, the researcher argues that the use of triangulation using multiple sources to criticise the data (academic and industry experts) minimises personal biases, adding credibility to the research (Denzin, 1970; Kimchi *et al.,* 1991). Critical multiplism is also criticised, as it is seen that there is a lack of procedure (Houts *et al.,* 1986, p.63), which is countered through a rigorously documented process.

The combination of post-positivism and critical multiplism allows the use of empirical results to test theories using a scientific method to aid in objectivity, meaning that the results can be used to predict outcomes in a similar setting. Moreover, it invites open scrutiny to increase objectivity, removes the choice of selecting either quantitative or qualitative research, and has the capacity to probe multiple issues and multiple stakeholders.

3.2   Research Approach

The current study can be seen as having elements in common with deduction, as theory is developed through qualitative thematic analysis of the literature, which draws on a previously developed assessment instrument and concepts in multiple environments to identify the current limitations for measuring project success. However, the study also has aspects in common with an inductive approach, as the themes are identified inductively in the literature and interview stages and are used to build theory. For example, research question one derives the methods used to assess and analyse project success from academic literature; therefore, the study is not entirely starting with an existing theory but is inducting theory from the literature. Evidence of the current situation was presented to generate an understanding of the nature of the problem to answer the research questions. This was analysed and interpreted, and the results identified themes in the literature.

3.3   Research Strategy

When evaluating the research questions, a survey strategy was deemed appropriate, as it aims to document the frequency of a phenomenon, event, or situation. Experimentation is not appropriate, as the research questions are not concerned with causal links. Case study research can be considered void, objective, imprecise, and invaluable (Yin, 2013) and lacking a rigorous system, which the current study offers for replication. It is generally agreed that there is a need for a systematic method to direct the research design (Cantamessa, 2003; Cross, 2006; Green *et al.,* 2002; Seepersad *et al.,* 2006) to ensure credible results (Teegavarapu and Summers, 2008). Moreover, the study employs inductive classification from the results (Yin, 2013) and not the analysis of results using set criteria into theories. Grounded theory is not appropriate, as the study

collects data to test current theory. Ethnography and action research are not appropriate, as it is not possible for the researcher to be part of the organisation.

A survey strategy is mainly used to assess frequencies and correlations, which are more concurrent with quantitative methods. Potential issues when quantitatively analysing data include a narrow and superficial dataset, numerical results not capturing the narrative of human perception, and the question bias, leading to results reflecting the researcher's view rather than the participant's (O'Neill, 2006; Suen and Ary, 2014). To counter this, a mixed methods approach combining both qualitative and quantitative methods is used. For example, inductive thematic analysis of the literature and interviews took place using NVivo computer software. The creation of themes depended on the number of times a theme was referred to in the literature and in the interviews. This identified the most prevalent themes for discussion and aided in the development of the interview questions, which were discussed with academic and industry experts. This ensured that the survey questions were developed from the literature and interview narrative instead of the researcher's bias (Myers, 2013).

3.4   Time Horizon

This study is cross sectional, as the empirical stages capture the situation at one point in time. This approach supports the variation in success dimensions used to define project success across four organisations from different sectors. The choice of organisations from different industry sectors (food service wholesale distribution, consulting, financial services, and insurance) meant that the results could be applied to project management in a wider context than if a single sector were chosen. The results from the literature analysis, interviews, survey, and focus group provide evidence to support the claim that the conclusions will be applicable to any project regardless of the type, size, and sector.

3.5 Data Collection and Analysis Methods

In light of the research questions, it was determined that appropriate data collection methods include literature reviews, interviews, a survey, and a focus group (Table 7).

Table 7: Research Question Method

Research Question	Method
1: What are the parameters and methods used to assess and analyse project success, and do they meet the needs of modern project management?	Investigate how project success is assessed and analysed in the literature through a systematic integrative literature review and analysis based on Web of Science, Bibexcel, and NVivo.
2: Which stakeholders are influential in the determination of project success, and do they recognise the same success dimensions for a project?	Investigate which dimensions different stakeholders have identified for project success in the literature through a systematic integrative literature review and analysis based on Web of Science, Bibexcel, and NVivo. Conduct interviews and a survey to defined stakeholder groups to demonstrate their common and differing views of success.
3: If the stakeholders do not share the same success dimensions, how can their views be reconciled throughout the project lifecycle?	Conduct a focus group to validate the model with an academic and industrial panel. Test the validated model with a sample of six stakeholders (two from each group).

3.5.1 Mixed Methods

As the current study uses both quantitative and qualitative data collection and analysis techniques, it is regarded as a mixed methods study. Cameron *et al.* (2015) recognised the 'adolescence' of mixed methods research in the project management literature. Müller *et al.* (2013) added that using a mixed methods approach *"nurtures the growth in knowledge and understanding in the field"* (p.24). Cameron *et al.* (2015) investigated the use of mixed methods in 214 papers from three journals (*International Journal of Project Management*, *Project Management Journal*, and *IEEE Transactions on Engineering Management*). They identified 25 mixed methods studies, and only two

were classified as 'good quality reporting of mixed methods'. The current study addresses this issue, as the reporting method is documented. Mixed methods use *"quantitative and qualitative data collection and analysis procedures either at the same time or one after the other, but not in combination"* (Saunders *et al.,* 2009, p.595). This allows for data triangulation (Berg, 2009; Saunders *et al.,* 2009) and therefore more detailed research from multiple angles, giving the data accuracy through complimentary methods to increase the consistency, neutrality, and integrity of the data (Noble and Smith, 2015; Ritchie and Lewis, 2010), e.g., qualitative rich interviews, formulation of themes, and development of the survey with subsequent statistical analysis (Saunders *et al.,* 2009). Driscoll *et al.* (2007) voiced concerns with mixed methods with respect to the loss of detail using both approaches; e.g., if the qualitative analysis is not iterative over time, it may lead to non-identification of central themes. In addition, the stakeholder primary data could be regarded as qualitative and therefore subjective. However, the methods that comprise the mixed methods approach are recognised and tested tools for measuring and analysing stakeholder perception of success using a combination of qualitative and quantitative techniques whilst inviting open scrutiny (critical multiplism), and this reduces the level of subjectivity and bias.

3.5.2 Systematic Integrative Literature Review

Research questions one and two employ a literature review to increase the originality of the research through gap identification (Berg, 2009), which facilitates question construction (Blumberg *et al.,* 2008). Literature reviews can be time consuming (planning and iterative writing; Neuman, 2011), and there are bias issues when subjectively selecting and summarising the literature and knowing what to include (Ghauri and Grønhaug, 2010). An example in the current study were the numerous research fields returned in the literature search (e.g., medicine, astronomy) that were reviewed but outside the scope of the study and therefore discarded. In addition, if a research area is in a rapidly advancing environment (e.g., technology), it will require continual updating. This is further complicated, as published literature may not be the most up to date since it is recognised that it takes approximately two years to publish an article. This has been overcome and justified through the application of a 'systematic search' identifying key authors using statistical analysis in the Bibexcel software.

Webster and Watson (2002, p.16) highlighted that *"a systematic search should ensure that you accumulate a relatively complete census of relevant literature"*. They presented three types of systematic literature review: traditional, extended, and integrative. Hemingway and Brereton (2009) noted that a systematic review differs from a traditional review in that it is peer-reviewed and the findings explicitly documented to permit replication. They noted the potential disadvantage of the reviewer being too focussed in the search, leading to selection bias to fit the research questions. Victor (2008, p.1) stated that a systematic review is used within social sciences as a method to *"identify and synthesise the available research evidence of sufficient quality concerning a specific subject"*. She added that this must be accompanied by a transparent method to increase the credibility of research. Hemingway and Brereton (2009, p.5) noted that a systematic review aids in the formulation of the research design when an identified problem has not been addressed, *"when a map of evidence in a topic area is required to determine whether there is any existing evidence and to direct future research"*. Whittemore and Knafl (2005, p.546) defined an integrative review as *"a specific review method that summarizes past empirical or theoretical literature to provide a more comprehensive understanding of a particular phenomenon"*.

Victor (2008) presented three systematic approaches using a staged process whereby the parameters and questions of the review are defined, a search is conducted, and the literature extracted, synthesised, and evaluated and finally distributed. This is consistent with the parameters set out for literature collection detailed below. The research questions requiring a literature review have more in common with an integrative approach, as they are concerned with building theory to produce an understanding of project success in the social context of the project management field (Victor, 2008; Whittemore and Knafl, 2005). However, as this approach is deemed less transparent, the researcher will combine it with that of the traditional systematic review, whereby the method used is transparent and documented to raise credibility and to reduce bias. Whittemore and Knafl (2005) noted that this method is credible to enhance an integrative literature review. Hemingway and Brereton (2009) agreed with the method presented by Victor (2008) and added that the protocol/method adopted for the selection of evidence should be peer reviewed to increase the consistency of the review. A

systematic approach will be applied to the integrative review to provide evidence of key identified literature selected for review, which will now be discussed.

According to Levy and Ellis (2006, p.181), applying the stages of data processing to conduct a systematic literature review results in a more *"effective literature review"*. They identified stages in the systematic approach as inputs (literature collection), processing (analysing the literature), and outputs (writing the literature review). This process identified key themes in the reviewed literature to provide a theoretical foundation to inform the empirical stages. The current study will collect secondary data in the form of literature to identify the current situation to answer the research questions. It will also amalgamate the literature and provide evidence that empirical research will contribute to the body of project management knowledge. The literature review for the study uses a combination of an integrative literature review (Levy and Ellis, 2006), a coding framework (Bryman and Bell, 2007, 2011), and thematic analysis (Ritchie and Lewis, 2010) to ensure a rigorous search process. These are credible methods documented in the literature to perform a systematic integrative literature review (Levy and Ellis, 2006). Note that, from here, the literature review will be referred to as a 'systematic literature review', but it is integrative.

Stage one – input (literature collection)

To justify the selection of appropriate literature for thematic analysis, the following method was employed. The Web of Science database was used to search for literature, as it has an *"index and abstract in total over 9,500 of the leading journals"* (Web of Science, 2011, p.1). Herther (2008) added that Web of Science is seen as a 'worthwhile, fast, and reliable' database and is used to rank researchers' work using citation data. This increases the value of citation analysis, as in-depth analysis can be performed using database search results (Gourlay, 2010). Cobo *et al.* (2011, p.1382) added that *"undoubtedly, the most important bibliographic databases are ISI Web of Science, Scopus, Google Scholar and NLM's MEDLINE"*. This means that the search results were compared with the same searches in Scopus and Google Scholar in 2015 to ensure that the results returned were credible, which will be presented later. NLM's MEDLINE was not considered, as it is focusses on the medical field.

There were also practical concerns regarding access to data, as some databases were restricted to certain years; for example, when the literature search took place in 2010, the *Project Management Journal* was restricted to from 01/06/1997 to 30/06/2010 (Kingston University e-Resources, 2011). However, inter-library loan permitted resources to be requested for literature prior to 1997, and this was used to obtain some of the literature.

Moher *et al.* (2009) presented the 'prisma' method for systematic searches and exclusion of data, which was the basis for the systematic selection of literature, shown in Figure 5. A search containing the keyword 'project success' returned 708 results in 368 sources in Web of Science. These included *"scholarly literature in the sciences, social sciences, arts, and humanities and ... proceedings of international conferences, symposia, seminars, colloquia, workshops, and conventions"* (Web of Science, 2011, p.1). This minimises the issue of access to limited resources. Furthermore, the 708 results were in areas of publication closely aligned to project management and linked disciplines, such as construction engineering and management, product innovation management, information management, information and software technology, systems and software, and research and development management. Other keyword searches of 'success factor' and 'success criteria' were also conducted, but the returned results were found in the first search. The keyword 'project success' was used instead of those referring specifically to assessment and analysis methods, as they did not return any relevant results for evaluation methods. This is consistent with the research questions, as they are looking at measuring and analysing project success. At the time of the search, Web of Science did not have the functionality to perform a citation analysis, so Bibexcel was used for bibliometric analysis. Bibliometric analysis uses citation data along with quantitative analysis to determine patterns within data. Bibliometrics was presented by Pritchard in 1969 as *"the application of mathematical and statistical methods to books and other means of communication"* (p.349). The output of this produces a quantified objective analysis of a body of literature (Narin and Olivastra, 1994). Cobo *et al.* (2011) noted that Bibexcel reads data from Web of Science and retains the 'strongest links' whilst deleting duplicate data.
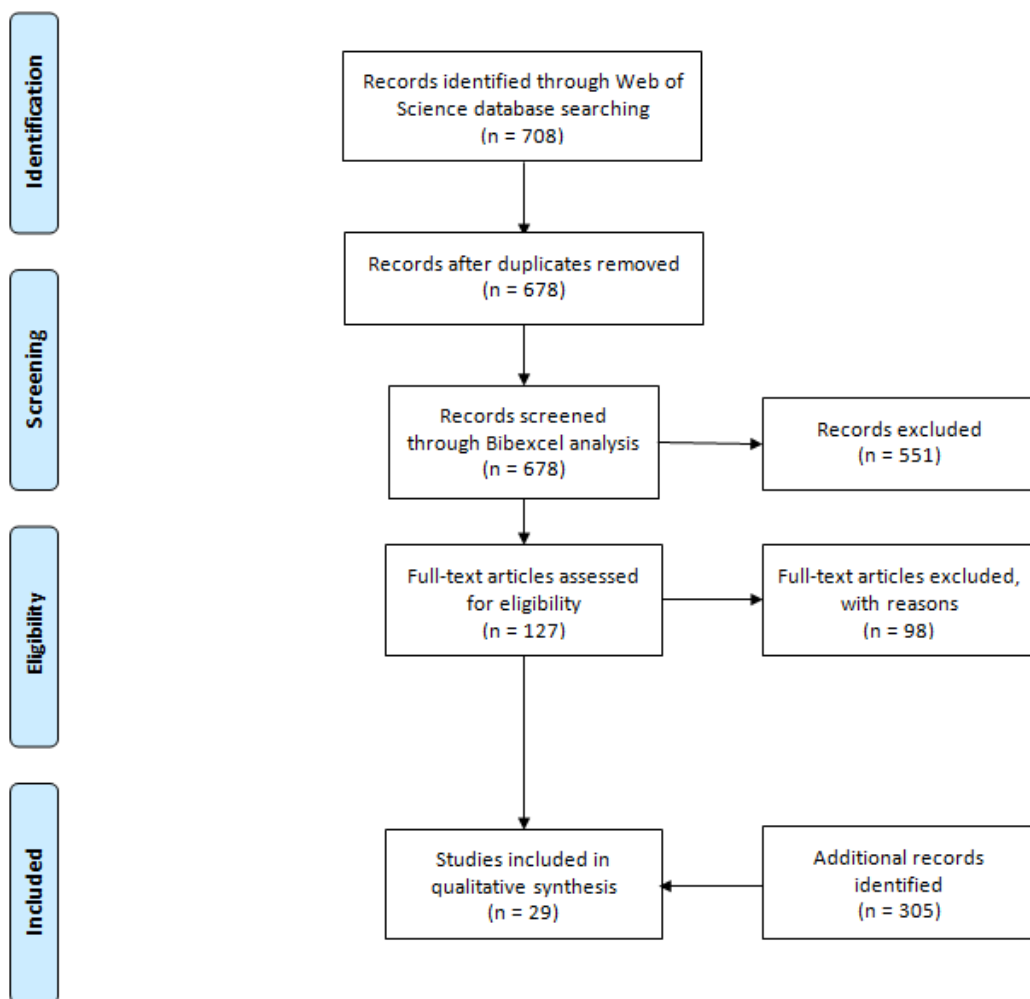
Figure 5: Systematic Literature Search

Screening took place through a citation analysis of the 708 articles using Bibexcel. This employed the built-in analysis functions to answer the questions 'Who are the key authors?' and 'Which authors are cited most frequently?' on the data output from Web of Science. This identified the key authors by their publication frequency in the output data (Gourlay, 2010). The purpose was to focus the direction of the systematic literature review by identifying the key authors for review and therefore minimise bias in the selection of literature. Full details of the search criteria will be provided.

After duplicates were removed, 678 records were screened through Bibexcel citation analysis (Figure 5). This resulted in 551 records being excluded as inappropriate, as there was only one reference to the record. These 551 records were screened through initial reading of titles to ensure that the exclusion was valid. One hundred twenty-seven

full texts were assessed for eligibility by reading the abstracts, introductions, conclusions and recommendations, and 98 were excluded as inappropriate as they were not related to the study focus. This resulted in 29 records being selected for the qualitative synthesis in September 2010. The 29 records were also checked against the Bibexcel results to ensure that the authors were recognised as being cited most frequently. An additional 305 articles/books/conference papers are referred to in the study to provide evidence of concepts, theories, and developments in the research.

As stated, the themes from the literature that informed the interview questions and subsequent survey that explored new parameters for success dimensions were based on 29 key articles published up to September 2010. As stated, these were selected from 708 results for thematic analysis through the use of Web of Science and Bibexcel. This could be seen as somewhat inhibiting a thorough analysis of the literature. However, additional searches conducted in further databases (Scopus and Google Scholar) in 2015 verified the selected literature as valid. In addition, more recent developments recorded in the literature have been referred to ensure that the themes are still relevant to current thinking. Results from the interviews were analysed in 2013 and used to design the survey. Although the survey was distributed and the results collected in the same year, the study was deferred in November 2013 for maternity leave and not resumed until September 2015. The link to the online survey was sent to the same four organisations where the interviews occurred to ensure consistency in the findings. The analysis of the results from the survey began in 2015; trends from the analysis are discussed in light of any new work in the literature that affects the results. Additionally, section 2.5 is provided to ensure that developments in the literature from 2010 to date are recognised.

Issues with Web of Science

Web of Science introduced citation measures after the search was conducted, two of which are the h-index and the impact factor. The h-index measures the cumulative number of citations that research has received. However, a major issue is that the h-index is calculated only for the depth of the subscription (Web of Science, 2012). For example, if the institution had a subscription going back only ten years, then the h-index would not calculate the h-index of the main work for Pinto and Slevin, as it was

published in 1987. The h-index is described as follows: *"a scientist has index h if h of his/her Np papers have at least h citations each, and the other (Np-h) papers have no more than h citations each"* (Harzing, 2008, p.25). Harzing stated that the h-index is considered an 'accepted measure of academic achievement', as Web of Science uses it in its citation report. Web of Science measures impact factors, calculating the *"average number of times articles from the journal have been cited in the past"* two or five years (Web of Science, 2011, p.1). However, this is mainly used to compare journals from multiple disciplines and is inappropriate, as the focus of the current study is to compare authors in the project management discipline.

Bibexcel results

The Bibexcel results revealed that 'Pinto' was the most cited author, with 87 citations linked to the assessment of project success (see Table 8). This was supported by other literature, as Pinto and Slevin (1987) are recognised as the authors of the most widely used success factor list (Jugdev and Müller, 2005; Turner and Müller, 2005). Table 8 shows the search results from Bibexcel, which identify the key authors for use in the systematic literature review (see Table 9 and Appendices 3 and 4 for details of the search). It was noted that the author publication frequency search in Bibexcel counted only the first author in each piece of work. This resulted in authors such as Slevin not being recognised, despite being a key author in joint publications with Pinto. The identified key authors' literature was collected, and extraction of project success dimensions, stakeholders, assessment, and analysis methods for project success was used to develop the interview questions. As noted, additional searches conducted in further databases (Scopus and Google Scholar) in 2015 verified the selected literature as credible (results presented later).

Table 8: Key Identified Authors Using Bibexcel Citation Analysis

Author	Number of times mentioned using Bibexcel citation analysis
Pinto	87
Shenhar	67
Kerzner	40
Dvir	33
Wateridge	29
Turner	28
Atkinson	23
Cooke-Davies	22
Cleland	21
Lim	20
Belassi	18
Munns	18
Jugdev	15
Freeman	14
Belout	12
Müller	2

Abstracts were reviewed based on Gash's (2000) criteria, listed in Table 9. Note that the * used is a special character to represent a wildcard character. For example, *'project success factor*'* would return results including 'project success factor' and 'project success factors' and *'project success criteri*'* would return results including 'project success criteria' and 'project success criterion'.

Table 9: Literature Search Profile

Criteria	Restrictions	Justification
Language	English.	Limitations of access to databases and the researcher speaking only English.
Date range of publications	The themes identified for the interview questions and subsequent survey that explored new parameters for success dimensions were based on the initial selected literature from 1970s (when project management research formally originated) up to September 2010. These were selected for thematic analysis through the use of Web of Science and Bibexcel.	Additional searches conducted in further databases (Scopus and Google Scholar) in 2015 verified the selected literature as valid. An additional section was provided to ensure that developments in the literature from 2010 to date were recognised.
Discipline	Project management.	Project success is within this field.

Table 9: Literature Search Profile Continued

Criteria	Restrictions	Justification
Format	Journals, conference articles, books.	To ensure a robust systematic literature review from quality sources and to introduce thinking that has not yet been published from key authors.
Keywords	*'Project success'* keywords were used in the first search to return a wider search. Additional searches were conducted using *'project success factor*'* and *'project success criteri*'* but only returned work that was within the first search. Appendix 4 contains details of both searches.	To identify project success dimensions in the literature. A second search revealed Müller and Turner as the most cited; therefore, they were included.
Databases	Web of Science.	Databases are ranked and considered quality sources of literature (Levy and Ellis, 2006). Web of Science allows for analysis of literature to identify key authors using Bibexcel. Additional searches conducted in further databases (Scopus and Google Scholar) in 2015 verified the selected work as valid.

The literature reviewed involved multiple countries (for example, the UK and the USA) raising the potential issue of cultural differences. For example, this could have implications if the study were concerned only with how the UK deals with construction projects, as it may be different in the USA. However, as the current study is looking to form a shared understanding of project success from the stakeholders involved, which may be used across countries, this issue is not of concern.

Scopus and Google Scholar database searches

The searches that identified the key authors were replicated in the Scopus and Google Scholar databases in 2015 to compare against the Bibexcel citation analysis results. The blue highlighting in the tables below indicates the author with the most returned results; pink is second and orange third. Appendix 5 provides full details of the comparison searches. A *'project success'* keyword search returned 2,523 document results in Scopus and 57,500 results in Google Scholar. The top cited article, with 569 citations in Google Scholar, was Pinto and Slevin (1988a), one of the same articles found in the Bibexcel analysis results. Additional searches were done within the *'project success'*

results for each of the key author names identified in the Bibexcel analysis. For example, Pinto was searched for in the *'project success'* Scopus results and returned 336 document results and 4,150 results in Google Scholar. Table 10 compares the results from the three sources. Both the Bibexcel and Scopus results show that Pinto and Shenhar had the most results. Turner had the most results in Google Scholar, and Pinto was second in Google Scholar. This confirms that Pinto is regarded as a key author in all three databases and is therefore credible for use in the current study.

Table 10: Comparison of Bibexcel Citation Analysis Results to Scopus and Google Scholar for *'Project Success'*

Author	Bibexcel citation analysis results	Percentage of citation analysis results in the 708 results	Number of returned results from Scopus search	Percentage of Scopus results in the 2523 document results	Number of returned results from Google Scholar search	Percentage of Google Scholar results in the 57500 document results
Pinto	87	12%	336	13%	4150	7%
Shenhar	67	9%	268	11%	2840	5%
Kerzner	40	6%	148	6%	2570	4%
Dvir	33	5%	248	10%	2590	5%
Wateridge	29	4%	95	4%	595	1%
Turner	28	4%	258	10%	6200	11%
Atkinson	23	3%	136	5%	2130	4%
Cooke-Davies	22	3%	150	6%	1350	2%
Cleland	21	3%	88	3%	2450	4%
Lim	20	3%	141	6%	3140	5%
Belassi	18	3%	87	3%	772	1%
Munns	18	3%	53	2%	627	1%
Jugdev	15	2%	86	3%	731	1%
Freeman	14	2%	118	5%	3310	6%
Belout	12	2%	54	2%	446	1%
Müller	2	0.3%	174	7%	1610	3%

A *'project success factor'* keyword search returned 111 document results in Scopus and 392 results in Google Scholar (Table 11). Additional searches were done within the *'project success factor'* results for each of the key author names identified in the Bibexcel analysis. For example, Pinto was searched for in the *'project success factor'* and returned 36 document results in Scopus and 131 results in Google Scholar. All three database searches returned Pinto first, and Scopus returned Shenhar as the second, while Google Scholar returned Turner as the second. This again supports Pinto as a highly cited author to examine in this topic area.

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Table 11: Comparison of Bibexcel Citation Analysis Results to Scopus and Google Scholar for *'Project Success Factor'*

Author	Bibexcel citation analysis results	Percentage of citation analysis results in the 708 results	Number of returned results from Scopus search	Percentage of Scopus results in the 111 document results	Number of returned results from Google Scholar search	Percentage of Google Scholar results in the 392 document results
Pinto	87	12%	36	32%	131	33%
Shenhar	67	9%	21	19%	90	23%
Kerzner	40	6%	15	14%	66	17%
Dvir	33	5%	18	16%	75	19%
Wateridge	29	4%	11	10%	29	7%
Turner	28	4%	18	16%	113	29%
Atkinson	23	3%	7	6%	50	13%
Cooke-Davies	22	3%	18	16%	59	15%
Cleland	21	3%	9	8%	65	17%
Lim	20	3%	12	11%	54	14%
Belassi	18	3%	19	17%	49	13%
Munns	18	3%	8	7%	40	10%
Jugdev	15	2%	9	8%	34	9%
Freeman	14	2%	11	10%	45	11%
Belout	12	2%	13	12%	29	7%
Müller	2	0.3%	11	10%	48	12%

A *'project success criteri*'* keyword search returned 50 document results in Scopus (Table 12). However, this search only yielded three results in Google Scholar with the option to select *'did you mean: "project success criteria"'*. Once this was selected, it yielded 1,630 results.

Additional searches were done within the results for each of the key author names identified in the Bibexcel analysis. For example, Pinto was searched for in the *'project success criteri*'* Scopus results and returned 22 document results, and *'project success criteria'* in Google Scholar returned 468 results. This revealed that the top two results in Bibexcel were recognised in the top three returned results in Scopus and Google Scholar. For example, Pinto was third in Scopus and second in the Google Scholar results. This again supports Pinto as a highly cited author to examine in this topic area.

**Table 12: Comparison of Bibexcel Citation Analysis Results to Scopus and Google Scholar for *'Project Success Criteri*'* and *'Criteria'*

Author	Bibexcel citation analysis results	Percentage of citation analysis results in the 708 results	Number of returned results from Scopus search	Percentage of Scopus results in the 50 document results	Number of returned results from Google Scholar search	Percentage of Google Scholar results in the 1630 document results
Pinto	87	12%	22	44%	468	29%
Shenhar	67	9%	24	48%	406	25%
Kerzner	40	6%	9	18%	292	18%
Dvir	33	5%	22	44%	369	23%
Wateridge	29	4%	20	40%	206	13%
Turner	28	4%	23	46%	534	33%
Atkinson	23	3%	23	46%	285	17%
Cooke-Davies	22	3%	11	22%	291	18%
Cleland	21	3%	5	10%	277	17%
Lim	20	3%	18	36%	252	15%
Belassi	18	3%	8	16%	190	12%
Munns	18	3%	5	10%	128	8%
Jugdev	15	2%	6	12%	168	10%
Freeman	14	2%	3	6%	167	10%
Belout	12	2%	4	8%	83	5%
Müller	2	0.3%	15	30%	253	16%

Development of the coding scheme

When conducting the thematic analysis (Ritchie and Lewis, 2010), the reviewed literature was imported into a qualitative data analysis software package (NVivo) to identify themes. The current study initially adopted Bryman and Bell's (2007, 2011) coding framework to identify themes using initial codes from the 'research process onion' (Saunders *et al.*, 2009) as identified in Table 13. However, when the coding commenced, it was discovered that further codes were identified inductively; for example, in Table 13, 'Issues in Methods' was added, as this was not among the initial codes from the 'research process onion'. NVivo's cluster analysis was employed to visualise patterns in the data set and group themes that shared similar words or were coded similarly by nodes.

Table 13: Initial Literature Coding Framework

1. Research Philosophies		**6. Data Analysis**	
	a. Positivism		a. Textual Analysis
	b. Realism		b. Thematic Analysis
	c. Interpretivism		c. Qualitative Analysis
2. Research Approaches			d. Quantitative Analysis
	a. Deductive	**7. Issues in Methods**	
	b. Inductive		a. Limitations
3. Research Strategies			b. Reliability
	a. Experiment		c. Validity
	b. Survey	**8. Models Used**	
	c. Case Study	**9. Stakeholder Group Impact**	
	d. Grounded theory		a. Project manager
	e. Ethnography		b. Project team
	f. Action research		c. Users, client, customer
4. Time horizon			d. Contractor
	a. Cross sectional		e. Project sponsor, owner, investor, project executive
	b. Longitudinal		f. Senior management, executive management, top management
5. Data Collection Methods			g. External environment
	a. Sampling		h. Other interested parties
	b. Secondary Data		i. Line manager
	c. Observation		j. Public
	d. Interviews		k. Senior supplier
	e. Questionnaires		l. Supporters

Stage two – processing (analysing data)

In the processing stage, literature was textually analysed and categorised to identify themes. This transforms collected literature into applicable knowledge using thematic analysis to identify recurring themes, with specific reference to project success, the stakeholders involved, and measuring and analysing project success. The aim of theme identification was to create an understanding of the situation at present, provide a review of the current literature, and ensure that the gaps identified in the study were valid.

Index/codebook development

The index/codebook development created relevant categories to answer the research questions. Codebook development took an inductive iterative approach following Ritchie and Lewis' (2010) method. The first stage was the identification of codes/themes through familiarisation with the data. Importing the literature into NVivo

allowed for the codes/themes to be created as they were read. This resulted in the creation of over 300 initial codes/themes. Flowcharts were then produced to determine the relationships between categories and the codes/themes for qualitative data analysis. The codes/themes were then sorted and further categorised to create the following main themes:

- Approaches
- Choices
- Contribution
- Data Analysis
- Data Collection
- Definitions
- Limitation
- Project Type
- Research Questions
- Sampling
- Stakeholder
- Strategy/Design
- Theoretical Area
- Theoretical Framework
- Time Horizon
- Time Success Measured in Project Lifecycle
- Variables

The main themes and their subsequent categories were then entered into Microsoft Excel, and codes were created in preparation for the charting stage (Figure 6 is an example from the index/codebook). The purpose of the index was to identify the *"links between categories, grouping them thematically and then sorting them according to different levels of generality"* (Ritchie and Lewis, 2010, p.222). The full index/codebook can be found in Appendix 6.

Codebook category	Codebook subcategory 1	Codebook subcategory 2	Codebook subcategory 3	Codebook subcategory 4	Index/ Conceptual Framework	Reference Count for each category	References Coded to Theme
Data collection					1		
Data collection	Refers to pinto & slevin's 10 success factors				1.1	21	Atkinson (1999), Belassi and Tukel (1996), Bryde and Robinson (2005), Cooke Davies (2002), Smith-Doerr and Manev and Rizova (2004), Jugdev and Müller (2005), Lim and Mohammed (1999), Müller and Turner (2007a), Müller and Turner (2007b), Pinto and Prescott (1990), Pinto and Slevin (1987), Pinto and Slevin (1988a), Pinto and Slevin (1988b), Pinto and Slevin (1989), Pinto Slevin English (2009), Slevin and Pinto (1986), Tishler Dvir Shenhar Lipovetsky (1996), Toor and Ogunlana (2010), Tukel and Rom (2001), Turner and Müller (2005), Turner, Zolin, Remington (2009),
Data collection	Methods				1.2		
Data collection	Methods	Literature review			1.2.1	25	Atkinson (1999), Barclay and Osei-Bryson (2009), Belassi and Tukel (1996), Bryde and Robinson (2005), Cooke Davies (2002), Smith-Doerr and Manev and Rizova (2004), Freeman and Beale (1992), Jugdev and Müller (2005), Kerzner (1987), Lim and Mohammed (1999), Müller and Turner (2007a), Müller and Turner (2007b), Munns and Bjeirmi (1996), Pinto and Prescott (1990), Pinto and Slevin (1987), Pinto and Slevin (1988a), Pinto and Slevin (1988b), Pinto Slevin English (2009), Toor and Ogunlana (2010), Tukel and Rom (2001), Turner (2004), Turner and Müller (2005), Turner, Zolin, Remington (2009), Wang and Huang (2006), Wateridge (1998)

Figure 6: Index/Codebook Screenshot Example

Creating the thematic charts

After textual analysis, Ritchie and Lewis' (2010) method moves on to consolidate the coded data using 'thematic charts'. This uses a matrix/table method to pull together the data into a chart to answer the research questions. Table 14 contains the research questions mapped to the thematic charts to ensure that each chart answers a research question. Figure 7 is a screenshot of one sample thematic chart. This chart has had the data removed for layout reasons, but further evidence can be found in Appendix 7.

Table 14: Thematic Chart Headings Linked to the Research Question

Research Question	Thematic Chart Heading
RQ1	1. Measures/Methods
	2. Data Collection
	3. Data Analysis
RQ2	4. Stakeholder/People Specific:
	a) Personnel Skills/Issues
	b) Benefit to Stakeholder Group
	c) Client/Customer Specific
	d) Communication
	e) Satisfaction
	f) Delivery
	5. Project Structure:
	a) Systems
	b) Time, Cost, and Quality
	c) Technical aspects
	6. Organisation Structure
	7. What Stakeholders Found Important
	8. Stakeholder Perception of Success:
	a) Impact
	b) Project Manager
	c) Client
	d) User/End User/Consumer/Customer
	e) The Project Team
	f) Senior Management

Name	Mentions Pinto & Slevin's 10 success factors	Literature review	Survey/ Questionnaire
Atkinson 1999	Pinto, JK and Slevin, DP, Critical success factors across the project lifecycle. Project Management Journal	This paper provides some thoughts about success criteria for IS&IT project management.	
Barclay and Osei-Bryson 2009		A critical analysis of current research shows that several key challenges being faced in information systems (IS) projects include the lack of clearly defined objectives, mismatched stakeholders' expectations and lack of sufficient or formal methods to aid practitioners in developing relevant performance criteria.	...... an exploratory survey and interviews with the stakeholders/ participants. An initial questionnaire was distributed to the project owners to obtain background information on the organizations and the relevant projects, including establishing the rationale for each of the selected project.
Belassi and Tukel 1996	First, as mentioned in a paper by Pinto and Slevin, 7 it is still not clear how to measure project success.. ... In their follow-up work, Pinto and Slevin 7 identified success factors.	Only a few studies in the project management literature concentrate on the critical factors that affect project success or failure.	A questionnaire consisting of two sections and a total of 10 questions was prepared.

Figure 7: Partial Data Collection Thematic Chart Screenshot

The charts were then summarised using an 'X' to replace the text (Table 15). This allowed for a frequency count to analyse, for example, the most highly used methods for data collection. The summary analysis can be found in Appendix 8.

Table 15: Partial Data Collection Methods Summary

Article Name	Survey/ Questionnaire	Bias	Missing values	Pilot test	Questions Used	Response rate	Scale	Unit of analysis
Atkinson 1999								
Barclay and Osei-Bryson 2009	X							
Belassi and Tukel 1996	X				X			
Bryde and Robinson 2005	X	X		X	X			
Cooke Davies 1990								
Cooke Davies 2002								
Smith-Doerr and Manev and Rizova 2004								
Freeman and Beale 1992								
Jugdev and Müller 2005								
Kerzner 1987	X							
Lim and Mohammed 1999								
Müller and Turner 2007a	X			X		X		X
Müller and Turner 2007b	X			X	X	X	X	
Munns and Bjeirmi 1996								
Pinto and Prescott 1990	X	X			X	X	X	X
Pinto and Slevin 1987aa								
Pinto and Slevin 1988a	X					X	X	
Pinto and Slevin 1988b							X	
Pinto and Slevin 1989	X							
Pinto Slevin English 2009	X				X	X	X	
Slevin and Pinto 1986	X				X	X		
Tishler Dvir Shenhar Lipovetsky 1996	X				X			
Toor and Ogunlana 2010	X					X	X	
Tukel and Rom 2001	X		X	X	X	X	X	
Turner 2004								
Turner and Müller 2005								
Turner, Zolin, Remington, 2009	X							
Wang and Huang 2006	X			X		X	X	
Wateridge 1998	X							

Issues with qualitative data analysis techniques

Textual/thematic analysis aids the organisation and categorisation (Ghauri and Grønhaug, 2010) of qualitative data (Neuman, 2011) and allows the identification of themes for discussion and subsequent quantitative analysis (Caldicott *et al.,* 2005; Frith and Gleeson, 2004). It is used to summarise the data via content analysis or index the data via coding. Advantages include limited training involved to learn methods (when computer methods are not involved), emergent themes that may not have been considered (Ritchie and Lewis, 2010), and high consistency, as the documented method can be replicated (Blumberg *et al.,* 2011). Issues include reduced consistency/confirmability (when not combined with quantitative methods) and information interpretation bias. In addition, the development of numerous themes increases the difficulty of selecting themes to carry out further analysis (Blumberg *et al.,* 2011). These issues have been minimised by documenting the processes for interpretation (Ghauri and Grønhaug, 2010) and triangulation with an expert panel for open scrutiny.

Stage three – outputs (writing the literature review)

Upon completion of stage two, the literature review was written. Hart (1998, cited in Levy and Ellis, 2006, p.172) stated that a *"literature review as a piece of academic writing must be clear, have a logical structure and show that you have acquired a sufficient range of skills and capabilities at the appropriate level"*. Within the review, the dimensions used to describe project success indicated a potential issue with the methods used to measure and analyse success. This led to research question one to investigate deficiencies in the current methods used to assess and analyse project success. The stakeholders' having an opinion about project success is discussed (research question two) to identify recurring themes in the reviewed literature. These themes are further analysed to ascertain the perception of project success between different stakeholders (research question two). It has been assumed that the bias in the literature selection was minimised by employing a systematic literature review, coding framework, and thematic analysis of project success dimensions. The thematic charts created from the reviewed literature were then used to design the interview question areas.

3.5.3 Interviews

Research question two is concerned with investigating the common and differing views of success for the stakeholder groups. The extracted literature creating the thematic charts was summarised and used to design the interview question areas for the semi-structured interviews. An example of a thematic chart has been taken from the 'benefits to stakeholder group' theme (Table 16). The thematic chart data were used to create the area for discussion to guide the interviews; an example is given in Table 17. Sample thematic charts and interview question development can be found in Appendix 9.

Table 16: Benefits to Stakeholder Group Thematic Chart

Thematic Area	Author Extracted Quote
Benefit to customer	*"In addition, many studies have expanded project success criteria… customers benefit"* (Wang and Huang, 2006, p.254)
Benefit to end user	*"This study measures success according to four different dimensions… benefits to the end-user"* (Tishler *et al.*, 1996, p.152)
Effectiveness – project will directly benefit the users	*When project success is measured in terms of external effectiveness, (i.e. in relation to the value of the project and concern for the client) project planning remains of paramount importance for project success throughout the life of the project. The planning and tactical factors are rarely of relatively equal importance. Tactics are significantly (/J<0.05) related to client satisfaction only during the execution stage and at no time are they important for success as measured by the perceived value of the project"* (Pinto and Prescott, 1990, p.319)
Benefit to owner	*"Turner argues that a successful project should… b) provide satisfactory benefits to the owner, c) satisfy the needs of owners, users, and stakeholders"* (Jugdev and Müller, 2005, p.27)
Benefits management	*"Benefits are not delivered or realised by the project manager and project team, they require the actions of operations management. This calls for a close co-operation between the project team on the one hand and the "sponsor" or "customer" on the other... Delivering project success is necessarily more difficult than delivering project management success, because it inevitably involves "second order control" (both goals and methods liable to change) whereas the latter involves only first order control (hold goals constant, and change practices to meet pre-determined goals). Thus, in addition to the eight factors that are critical to project management success, a ninth is critical to project success: the existence of an effective benefits delivery and management process that involves the mutual co-operation of project management and line management functions"* (Cooke-Davies, 2002, p.187-188)
Benefits to organisation	*"Improved efficiency; improved effectiveness; increased profits; strategic goals; organisational-learning; reduced waste"* (Atkinson, 1999, p.340)

Thematic Area	Question Area Developed
Benefit to customer	**Question:** What is considered a benefit to the customer? (Wang and Huang, 2006)
Benefit to end user/effectiveness – project will directly benefit the users	**Question:** What is considered a benefit to the end-users? **Area for discussion:** *"Meeting acquisition goals; meeting the operational need; product entered service; reached the end user on time; product had a substantial time for use; product yields substantial improvement in user's operational level; user is satisfied with product"* (Tishler *et al.,* 1996, p.154) *"When project success is measured in terms of external effectiveness (i.e. in relation to the value of the project and concern for the client), project planning remains of paramount importance for project success throughout the life of the project"* (Pinto and Prescott, 1990, p.319) *"Effectiveness – This project will directly benefit the intended users: either through increasing efficiency or employee effectiveness. Use of this project has/will directly lead to improved or more effective decision making or performance for the clients. This project will have a positive impact on those who make use of it"* (Pinto and Slevin, 1988b, p.72)
Benefit to owner	**Question:** What is considered a benefit to the owner? **Area for discussion:** *'Provide satisfactory benefits to the owner'* (Jugdev and Müller, 2005; Toor and Ogunlana, 2010; Wateridge, 1998)
Benefits management	**Question:** How are benefits managed and delivered? Who is responsible for benefits management? **Area for discussion:** *"The existence of an effective benefits delivery and management process that involves the mutual co-operation of project management and line management functions"* (Cooke-Davies, 2002, p.188)
Benefits to organisation	**Question:** What is considered a benefit to the organisation? **Area for discussion:** *"Improved efficiency; improved effectiveness; increased profits; strategic goals; organisational-learning; reduced waste"* (Atkinson, 1999, p.340) *"Benefits to the organization and preparing for the future (e.g., innovating, and developing core competencies)"* (Jugdev and Müller, 2005, p.28) *"Project yielded relatively high profit; project opened new markets; project created a new product line; project developed a new technological capability; project improved reputation"* (Tishler *et al.,* 1996, p.154)
Benefits to stakeholders	**Question:** What is considered a benefit to the stakeholders? **Area for discussion:** *"The benefits to the many stakeholders involved with the project such as the users, customers or the project staff… Benefits (stakeholder community). Satisfied users; Social and Environmental impact; Personal development; Professional learning, contractors profits; Capital suppliers, content project team, economic impact to surrounding community"* (Atkinson, 1999, p.339-40)

Semi-structured interviews were employed to *"learn the respondent's viewpoint regarding situations relevant to the broader research problem"* (Blumberg *et al.,* 2008, p.386). They provide rich data collection, allowing for clarification and expansion of

questions and answers (in interviewees' own words, increasing credibility) during the interview (Blumberg *et al.,* 2008, 2011). Face-to-face interviews have a high response rate (Blumberg *et al.,* 2011), as the interviews are planned. The data collected can be analysed qualitatively and then quantified. Any ambiguous answers or possible errors in the data collected can be clarified with the interviewee, as the data are not collected anonymously.

Disadvantages include the large amount of time needed when collecting (recording) and analysing (transcribing) data, bias (Neuman, 2011), lack of anonymity (Saunders *et al.,* 2009), interview environment (noise, Neuman, 2011), interviewer skill, and small sample size (Blumberg *et al.,* 2011). Saunders *et al.* (2009) and Ghauri and Grønhaug (2010) suggested interviewer training, prior clarification of questions, and pilot testing the questions. This ensures that the appropriate information is collected to answer the research problem. Berg (2009) added that the interviewer must have the appropriate attitude and persuasion skills to tease out information when conducting an interview. Ritchie and Lewis (2010) agreed that a rapport is essential with prior knowledge of the interviewee's background. This stresses the importance of appropriate question selection and method; e.g., open-ended questions allow discussion to develop theme creation not considered by the researcher. Closed questions increase the speed of collection and quantitative analysis but curb the opportunity for answer elaboration. The current study addressed this by using semi-structured questions, which guided the topic but allowed interviewees the opportunity to elaborate, which led to the identification of additional themes. The main practical concern when conducting the empirical research was access to data and confidentiality issues. The issue of confidentiality was raised; however, the researcher agreed to prior access before commencing the research. Initial talks with the organisations confirmed access to the three groups of stakeholders required for both qualitative and quantitative data collection. In addition, the interviewees were informed that responses were anonymous, and they could sign off on the transcript before the data were used to promote honesty and trust.

The interviewees were selected on a convenience basis to allow for faster and cheaper data collection (Christensen *et al.,* 2011). Potential bias of the sample was noted; however, it was minimised through quota sampling (Lucas, 2014). This resulted in the

selection of two representative individuals from each group (senior management, project core team, and project recipient) from the four organisations and a total of 24 interviews.

Pilot interviews

Three pilot interviews took place between 29 August and 17 September 2012. The interviewees were industry experts in the field of project management, as detailed in Table 18.

Table 18: Pilot Interview Profiles

Job Title	Job Description
Independent Consultant	40 years industry experience. Advises major organisations, normally at a senior level, on how they should or could improve their organisations to better deliver projects. Advice given on organisational design, governance, standards, and development of people's capability for projects and programmes.
Project Consultant	30 years industry experience. The coordinating and overseeing the delivery of events and/or delivering benchmarking projects.
Director of Consultancy Services	30 years industry experience. An advisor, coach, or mentor to teams and individuals. Advises on practical organisational issues relevant to project management but largely operates with teams or individual leaders to develop their personal capacity to create success inside projects.

The first interview was conducted via telephone using a recording device. However, the quality of the recording for transcription was poor, and the two subsequent interviews were conducted via Skype using the MP3 Skype Recorder software to record the interviews. The pilot interviews took between 50 and 93 minutes. Feedback was provided during the interview by each of the three participants on the content and format of questions. They commented that the number of generic questions (all derived from the systematic literature review themes, such as the size of the organisation) took too much time. As a result, ten questions that were not directly related to success but provided background information were deleted from the main interview script. However, the ten questions could highlight commonalities and any differences, which might affect the results, e.g., whether the four organisations were comparable in terms of size (number of employees), and were therefore sent after interview completion. The ten questions were sent to the pilot interviewees (Table 18) separately but were simplified to a tick box format as opposed to a free comment box. See Appendix 10 for the questions. The pilot interview scripts were transcribed and sent to the pilot interviewees for feedback. The questions were amended and sent for further feedback,

which was used to refine the questions. It was agreed that the majority of questions for the three stakeholders groups could be identical, but some questions were adapted for each stakeholder group to reflect the extent of their interaction with projects. For example, the project team is directly involved with writing the project purpose, senior management do not write it but may see it, while the project recipient may not see it. An example is shown in Table 19. See Appendix 11 for the comparison of questions.

Table 19: Adapted Questions for Each Stakeholder Group

Questions for Project Core Team	Questions for Senior Management	Questions for Project Recipients
When you are starting a project, how do you capture the purpose of the project?	When you are starting a project, how do you expect the purpose of the project to be captured?	When a project is started, how do you expect the purpose of the project to be captured?

The final questions were sent to the same three industry experts (Table 18) and four academics (Table 20) for feedback, which further validated their use in this study.

Table 20: Academic Profiles

Job Title	Experience
Professor of Project Management	45 years teaching and industry experience. Professor of Project Management and Scientific Director for the PhD in Project and Programme Management at SKEMA Business School in Lille, France. Adjunct Professor at the University of Technology Sydney and the Kemmy Business School, Limerick. Visiting Professor at the Technical University of Berlin.
Visiting Professor/Managing Partner of Consultancy Services	50 years teaching and industry experience. Varied career as an international businessman, research scientist, and university professor. 35 years experience as an executive and non-executive director. Served on numerous national and international boards, including start-ups, SMEs, and academic in a wide range of sectors (e.g., IT, media, HR, search and selection, PR, conferences).
Visiting Fellow/Principal Lecturer	40 years teaching and industry experience including operational research, project management, and systems development on major projects.
Professor/Deputy Vice-Chancellor	30 years teaching and industry experience. Responsible for strategic planning with a research background in engineering, processes, systems, and technology management.

Reserve questions were created in the interview script in case the main questions were not fully answered and were marked with either 'Reserve question if the above is not answered' or 'Follow-on question depending on response from previous question'. A sample interview script can be found in Appendix 12.

The 24 participants in four organisations were interviewed between 10 January and 24 May 24 2013. It was desired to interview two public and two private organisations; however, it was only possible to interview three public organisations and one private organisation. On comparison of the results, the answers from those in private and public organisations showed close correlation. This justifies the conclusions drawn from the research; however, it would be desirable to collect more data from private organisations for further comparison. The job role and experience of each interviewee was recorded for replication of the research. The interviews took between 25 and 72 minutes. The interview scripts were transcribed and sent to the interviewees for approval and comment and were then imported into NVivo. The transcripts were inductively coded, not referring to the systematic literature review thematic analysis results. This was done to minimise bias and develop themes from the interviews as opposed to using the themes identified from the literature. The themes from the interviews were then matched to the literature themes and those of Pinto and Slevin's (1987) 'diagnostic behavioural instrument' for comparison and survey development.

Background information

Details of the four organisations are as follows:

Organisation One – A UK national food service wholesale distributor.

Organisation Two – A global supplier of consulting, technology, and outsourcing services to solve business and technology problems.

Organisation Three – A UK financial services group with an emphasis on retail and commercial customers.

Organisation Four – A multinational insurance group.

There were possible issues with the comparability of organisations when analysing the data. Table 21 shows that the organisations surveyed were broadly comparable in terms of employee number and turnover and the number of projects run per year (over 100 employees, turnover more than £100 million, over 100 projects per year). This indicates that project management is an integral part of their business model and validates their inclusion in this study. The table shows that 72% of the projects involved were internal

in a project intensive environment, with 67% running more than 100 projects in the current year and 84% with a project turnover of more than £100 million. These similarities increase the credibility of the data but could exclude the impact of external stakeholders on the perception of project success.

Table 21: Comparable Organisation Information

Interviewee responses	% of interviewee responses	Other interviewee responses
All the organisations have more than 100 employees	100%	N/A
Majority of organisations have a turnover of more than £100 million	84%	4% – £1 to 50 million 8% – £51 to 100 million 4% – Unknown
Majority of projects were internal	72%	24% – External for clients 4% – Unknown
Majority of organisations run more than 100 projects in the current year	67%	21% – 51 to 100 8% – Fewer than 10 4% – 11 to 50
Majority of organisations ran more than 100 projects last year	63%	17% – Unknown 8% – 11 to 50 8% – 51 to 100 4% – Fewer than 10
Most of the projects are part of a functional division of the organisation	50%	23% – Pure project organisation overlaid on the functional division of the parent organisation (matrix form) 15% – The project is separated from the rest of the parent organisation 12% – Unknown
The majority of projects were initiated internally to the company	43% – Senior management	25% – Internal project team 9% – Project management office 9% – Project users 7% – Other (external client, responding to sales bids, approval of business case) 5% – External project consultancy 2% – Unknown
All projects have their governance defined internally	41% – Project Management Office	25% – Senior management 22% – Internal project team 12% – Unknown
The majority of interviewees have a project budget of £1 to 50 million	38%	25% – Less than £1 million 21% – Unknown 8% – £51 to 100 million 8% – More than £100 million
The majority of project scope is defined internally	35% – Internal project team 30% – Senior management 19% – Project users 3% – Project management office	5% – Stated sponsor 5% – External project consultancy 3% – Unknown

Possible conflicts in organisational information and comments can be found in Table 22. The complexity of a project will clearly have the potential to affect its perceived

success, which is probably more meaningful if the project extends over a long period or involves multiple teams where communication barriers might be increased. An idea of the variation between the projects surveyed was obtained by looking at the number of activities in a project, its duration, and the number of people involved. The results show no clear pattern/trend between these dimensions and therefore can be ignored for the purpose of this study. However, exploring this aspect in detail might be interesting to pursue in future surveys. In this study, the chosen research approach was to focus on looking at the perception of project success by different stakeholders.

Table 22: Conflicting Organisation Information

% of interviewee responses	Other interviewee responses	Comment
Number of activities per project: 50% – Fewer than 100 project activities per project 42% – More than 100 activities	8% – Unknown	The number of project activities could be conflicting.
Project duration: 33% – 7 to 12 months 33% – More than 12 months	13% – 3 to 6 months 13% – Less than three months 8% – Unknown	Project duration spanned between seven to 12 and more than 12 months. As the survey was not concerned with project duration affecting project outcome, this is not an issue.
Number of people working on a project: 33% – Fewer than 20 people 33% – More than 100	13% – 21 to 50 people 17% – 51 to 100 people 4% – Unknown	The variation in the number of people involved in a project raises comparability issues.

Interview project type

The interviewees answered the questions using both their current and previous experience; therefore, their comments did not relate to a single project type or sector. However, Table 23 shows the range of projects revealed when the interviewees categorised the project sectors within which they had most experience. This indicated a possible bias to service and finance projects; however, section 4.4 presents the comparability of project and organisation type and industry sector.

Table 23: Interviewee Project Type

Project Type	% of interviewee responses
Service and or finance	38
Organisation and business	25
ICT or high tech	21
Delivery projects as services	8
Manufacturing	4
Business performance improvement	4

Interviewee background

Table 24 contains the interviewee backgrounds from the four organisations. This includes two senior management members, two project core team members, and two project recipients from each organisation, resulting in a total of 24 interviews. Using an equal sampling frame size in each of the groups permits comparison of results.

Table 24: Interviewee Background

Organisation Number	Interviewee Number for Analysis	Job Title	Stakeholder Group	Description
One	One	Head of Operational Change	Senior Management	Manages business changes that impact their national account business.
One	Two	People and Sustainability Director	Senior Management	Similar to an HR director. Responsible for HR operations, people management, people engagement, which concerns how they communicate, training, and development packages. Also looks after the business improvement team, which involves process and total quality management and their safety and sustainability team. Manages business change to keep a competitive edge. Is a project sponsor.
One	Three	Central Support Manager	Project Core Team	Has experience of deployed projects and runs a team in the support centre for national customers. Manages a team maintaining all customer master data for their live systems. The team is responsible for maintaining that data in Reflex and AX systems. Sets up and runs the management and delivery of any projects as required by line management.
One	Four	Business Improvement Manager	Project Core Team	Delivers business improvement to business processes and across the business from central support processes to operational processes.
One	Five	Transport Manager	Project Recipient	The user of delivered projects and has experience in deploying change as a result of organisation projects.
One	Six	HR Supervisor	Project Recipient	Head of HR administrative team, day-to-day team management.

Table 24: Interviewee Background Continued

Organisation Number	Interviewee Number for Analysis	Job Title	Stakeholder Group	Description
Two	Seven	Global Chief Technology Officer	Senior Management	Oversees any aspects of technology within the organisation.
Two	Eight	Senior Vice President HR	Senior Management	HR director for the UK business.
Two	Nine	Programme Director	Project Core Team	Delivers projects to clients to meet business needs.
Two	Ten	UK Business Applications Manager	Project Core Team	Organisational change manager lead. This is a combination of documenting change, outlining a new process, creating deliverables, training materials for the new process, and training of anyone involved in the new system or process.
Two	Eleven	Personal Assistant	Project Recipient	Is responsible for four vice presidents, e.g., diary management, expenses, and processing.
Two	Twelve	Service Delivery Manager	Project Recipient	The face of the organisation to one of their customers. Deals with the delivery once the project is completed.
Three	Thirteen	Director of Group Change Management	Senior Management	Manages business changes. A key role is managing the investment spend; therefore, anyone requiring investment has to bid to them with their business case.
Three	Fourteen	Products Change Director	Senior Management	Works within a customer products business unit where they manufacture all the financial products within banking, savings, credit cards, loans, mortgages, investments, and protection. Looks after the retail components of the strategic growth agenda.
Three	Fifteen	Programme Manager	Project Core Team	Responsible for large-scale transformation programmes including financial deliverables (costs, budgets, and financial benefits), the quality of the delivery, and the associated governance that underpins the control framework.
Three	Sixteen	Programme/ Portfolio Manager	Project Core Team	Responsible for transformational change programmes within the products team in the retail business, specifically loans change, e.g., investment and change initiatives, new initiatives, improving services, customer experience, and system enhancements.
Three	Seventeen	Sales Manager	Project Recipient	Responsible for a team of monthly advisers across a broad geographical area to deliver the bank's mortgage sales target.
Three	Eighteen	Senior Testing Manager	Project Recipient	Responsible for user acceptance testing from an end user's perspective, e.g., software changes.
Four	Nineteen	Managing Director, Personal Insurance	Senior Management	Managing director of personal lines insurance in the UK.
Four	Twenty	Information Systems Director	Senior Management	Responsible for all technology and change delivery across UK, Ireland, and Italy.

Table 24: Interviewee Background Continued

Organisation Number	Interviewee Number for Analysis	Job Title	Stakeholder Group	Description
Four	Twenty-one	Commercial Insurance Lead	Project Core Team	Responsible for business performance improvement projects examining organisational design, underwriting, how people make insurance decisions, what they pay the brokers, and who distributes their products.
Four	Twenty-two	Head of Commercial Change Delivery	Project Core Team	Responsible for commercial strategic change with a significant IT requirement, e.g., new capability, old systems, and infrastructure.
Four	Twenty-three	Business Manager	Project Recipient	Responsible for the business areas studying and implementing end user requirements and ensuring that delivery happens.
Four	Twenty-four	Senior Compliance Manager	Project Recipient	Responsible for implementing and educating financial service authority regulations within the business.

3.5.4 Survey

The themes from the interviews were matched to the systematic literature review themes and those of Pinto and Slevin's (1987) quantitative 'diagnostic behavioural instrument' for comparison and survey development. This would validate the findings from the interviews to further answer research question two.

As the systematic literature review and results sections will show, Pinto and Slevin's (1987) 'diagnostic behavioural instrument' was the most cited when measuring project success. Limitations in the instrument are identified to further investigate the 'benefit to the stakeholder group', 'client/customer specific issues', and 'time, cost, and quality'. The results of the interviews are qualitatively and thematically analysed to extend Pinto and Slevin's (1987) instrument.

A copy of the 'diagnostic behavioural instrument' in paper booklet form was obtained directly from Dr Jeffrey Pinto (Pinto and Slevin, 1997 – Appendix 13). The introduction takes the view that it is to be applied to the *"key factors concerning your project throughout the implementation process"* (Pinto and Slevin, 1997, p.2). It is aimed at the project manager and team members and attempts to encourage them to take a 'step back' to obtain an overview of the project. It was developed from in-depth interviews and studies with project managers. The first page to be completed asks for a project

name and a project description, including the project goals. A criticism would be that this may put the participant into a mind-set that the factors must only be applied to this project (and the predetermined goals) and not to their overall perception of success.

The survey comprises ten main areas, each consisting of five questions. The areas are as follows:

1. Project mission
2. Top management support
3. Schedule and plans
4. Client consultation
5. Personnel
6. Technical tasks
7. Client acceptance
8. Monitoring and feedback
9. Communication
10. Trouble-shooting

After the ten areas, there is an overall performance category made up of 12 questions. A seven-point Likert scale uses rankings based on 'strongly disagree', 'neutral', and 'strongly agree'. After completion, each of the five questions' score (for each area) is totalled and a score is obtained for each area. Once the scores are totalled, they are plotted on a percentile score grid against a database of 409 projects, which gives the participants an idea of how their scores compare with 409 other projects. The percentile score is then transferred to a scale, ranking whether the project is deemed as 'critical', 'fair', or 'good'. The three rankings are then transferred to a diagram to help diagnose the current stage of the project and the steps required to move towards project success. The last section asks further questions to help participants if their score is low in each area; for example, in the Project Mission section, it asks, *"Are project team members aware of these goals?"* (Pinto and Slevin, 1997, p.21). As this was targeted at project managers and team members, some questions in this section seem meaningless and imply that the project manager is assuming other stakeholder viewpoints, e.g.:

- *"Does upper management truly support the development of this project?"* (p.22)
- *"Are the clients clear on the strengths and weaknesses of the project?"* (p.24)
- *"Are the project team members committed to the project"* (p.25)

- *"Do the people charged with implementing the project understand its technical characteristics and capabilities?"* (p.26)

This suggests that the survey should seek the views of top management, clients, the implementation team, and team members to ensure a full perspective. Authorisation was obtained from Dr Jeffrey Pinto on 15 July 2011 via email to use the instrument in the study (Appendix 14).

Using the interviews to refine the survey

After the interview transcripts were initially coded, similar codes concerning, for example, 'vision' and 'mission' were collated. These interview codes (also called nodes in NVivo) were then compared with the themes created in the literature coding stage. This revealed new areas for investigation and also highlighted that some of the literature themes were not apparent in the interviews. which resulted in the addition, adaptation or removal of themes. The themes from NVivo were exported into Microsoft Excel (Appendix 15) and then put into tables in Microsoft Word (Appendix 16). This allowed for easier reading of the themes and sub-themes. The codes were analysed and the 'review comment' Microsoft Word function was used to add comments (Figure 8).

Figure 8: Example Themes in Microsoft Word with Review Comment Function

Tables were created to collate theme headings and the review comments from the interviews with suggestions to extend Pinto and Slevin's instrument, as shown in Table 25:

- Column one contains the themes from the interviews – 'Personnel skills/issues' is the main theme, 'Project' is sub-theme one, and 'How project is linked to people' is sub-theme two.

- Column two contains the review comment that summarises the main interviewee themes.
- Column three adapts the interviewee themes into possible statements that could be added to Pinto and Slevin's instrument to extend it.

Table 25: Sample Theme with Comments and Suggested Statements

Theme from interviews	Review comment	Suggestions for statements to be added to Pinto and Slevin's instrument
Personnel skills/issues – Project – How project is linked to people	The interviews highlighted that projects are linked to the people involved in terms of their understanding their roles and achieving a balance of the people working together. They also emphasised that their role should challenge the project manager and provide a positive experience for the people involved.	I understand the impact that the project will directly have on me. I understand the impact that the project will directly have on those in my department. The project manager should be open to ideas and comments from the team or from other stakeholders. I clearly understand the role I play in the project process. Being involved in a project (this could be working on the project directly or using the final end product, e.g., a new IT system) provides a positive experience. I feel that I have the knowledge appropriate to fulfil my role on the project.

On completion of the suggested statements in Table 25, each of Pinto and Slevin's factor statements was added next to the most closely matching suggested survey statement (an example is shown in Table 26; see Appendix 17 for further details). This aimed to highlight limitations in Pinto and Slevin's statements and provide credibility that their statements were current in the industry. Examples include the following:

- Column one contains the themes from the interviews – 'Project planning, documentation' is the main theme; 'Project initiation' is sub-theme one.
- Column two contains the possible interviewee theme statements that could extend Pinto and Slevin's instrument.
- Column three contains Pinto and Slevin's factor that matches most closely the suggested statements.
- Column four contains Pinto and Slevin's statements. This shows that the 'project planning' proposed statement is within Pinto and Slevin's 'project schedule/plan' factor. It also highlights that Pinto and Slevin did not consider the accountability of those outside of the project team.

The suggested survey statements were re-read to assess whether each statement could be asked of all three stakeholder groups (senior management, project core team, and project recipient) or whether individual surveys needed to be designed for each group. It was determined that one survey could be designed for all stakeholder groups as long as the wording of the statements did not refer to one particular stakeholder. Any differences in stakeholder groups would become apparent in the analysis of survey results. Feedback from the pilot interviews about the question area ordering indicated that the areas should be designed to be in a similar order to that of Pinto and Slevin's instrument. The proposed survey statements were also worded to use similar wording as Pinto and Slevin's instrument to ensure consistency. For example, 'I feel' was changed to 'I am aware'.

Table 26: Matching Pinto and Slevin's Factor Statements to the Proposed Survey Statements

Survey Heading Title from the Interview Analysis	Proposed Matching Survey Statement from the Interview Analysis	Taken from Pinto and Slevin (1987) Factor List. Direct Quotes.	Taken from Pinto and Slevin (1987). Statement from the Factor. Direct Quotes.
Project planning, documentation: Project documentation	A project plan should contain the following (select all that apply): Aims/objectives/specifications of the project Contingency plans Communication plan Constraints Critical success factors (e.g., a detailed time schedule to meet the criteria of a time deadline) Deliverables/outcomes/targets Description of tasks to achieve outcomes Stakeholder expectations (what the stakeholder expects to be created) Measures of success (e.g., key performance indicators) Requirements (e.g., resource needs – physical and people) Success criteria (e.g., meeting time, cost, quality) Vision/mission/purpose	Project schedule/plan	1 – We know which activities contain slack time or slack resources that can be utilised in other areas during emergencies. 2 – There is a detailed plan (including time schedules, milestones, labour requirements, etc.) for the completion of the project. 3 – There is a detailed budget for the project. 4 – Key personnel needs (who, when) are specified in the project plan. 5 – There are contingency plans in case the project is off schedule or off budget.

Table 26: Matching Pinto and Slevin's Factor Statements to the Proposed Survey Statements Continued

Survey Heading Title from the Interview Analysis	Proposed Matching Survey Statement from the Interview Analysis	Taken from Pinto and Slevin (1987) Factor List. Direct Quotes.	Taken from Pinto and Slevin (1987). Statement from the Factor. Direct Quotes.
Accountability	Accountability, roles, and responsibilities are clearly defined, acknowledged, traceable, and transparent (so everyone knows what they have to do and who is responsible for tasks). I clearly understand what I am responsible/accountable for and my role when working on a project.	Personnel	1 – Project team personnel understand their role on the project team. 4 – Job descriptions from team members have been written and distributed and are understood.

Matching the systematic literature review themes to interview/survey themes

The systematic literature review themes were matched to the themes from the interviews (called Survey Area Title in Table 27). This revealed that the majority of Pinto and Slevin's statements could be matched to the proposed survey items; for example, the proposed 'Communication – Method' survey question asks the following:

- When project updates are available (e.g., reports, emails), I read them before the specified deadline for changes.
- I will read an update if it is over a page if the content is relevant to me.
- I would prefer updates to be kept to a one-page summary.

This was matched to Pinto and Slevin's (1987, p.25) communication factor, statement one – *"The results (decisions made, information received and needed, etc.) of planning meetings are published and distributed to applicable personnel"*. As the proposed statements were more specific, they would remain as opposed to being replaced them directly with Pinto and Slevin's. The new areas found in Table 27, such as 'Accountability', will be discussed in the interview results section.

Table 27: Systematic Literature Review Themes Compared to Survey Themes

Thematic Analysis Category from Systematic Literature Review	Survey Area Title (Interview Theme/Sub-theme)	Pinto and Slevin (1987) Statement Matched Closest to Survey Area	To Be Added from Pinto and Slevin's Factors with Statement Numbers
Personnel skills/issues	Resources: skills	Personnel – 1, 2, 4	Personnel – 3, 5
Benefit to stakeholder group	Benefit to stakeholder group	Project performance – 5, 11. This is not a factor, it is an additional area. Therefore, this is still an area to be added to the survey in line with the systematic literature review.	
Client/Customer specific	Area no longer exists. It was more appropriate for the statements to be put into other areas. These are Communication, Monitoring and Feedback, Unexpected Problems, Systems, Post-Project.		
Communication	Communication	Communication – 1, 2 Client consultation – 1, 5 Top management support – 2, 4 Project mission – 4	Top management support – 1, 3, 5 Communication – 3, 4
	Monitoring and feedback	Monitoring and feedback – 1, 2, 4, 5 Client consultation – 2	Monitoring and feedback – 3
Satisfaction	Area no longer exists. This did not occur in the interviews, as satisfaction was specifically measured by, for example, people being involved or meeting their expectations.		
Delivery	Outcome/delivery Expectations Post-project	Project performance – 3, 4, 7 Client acceptance – 2, 3, 5 Client acceptance – 1 Project performance – 9	
Systems	Project planning, documentation Unexpected problems: Resources Expectations	Project performance – 6, 8,10 Project schedule/plan – 1, 2, 3, 4, 5 Client acceptance – 4 Communication – 5 Trouble-shooting – 3, 5 Technical tasks – 2 Project mission – 2	Trouble-shooting – 1, 2, 4 Technical tasks – 1, 3, 4, 5 Client consultation – 3,4
Time, cost, and quality	Time, cost, and quality	Project performance – 2 This is not a factor; it is an additional area. Therefore, this is still an area to be added to the survey in line with the systematic literature review.	Project performance – 1
Technical aspects	Area no longer exists. It was more appropriate for the statements to be put into the Systems (Resources) area.		
Organisation issues (renamed to organisation issues from organisation structure)	Organisation issues	Project mission – 1, 3, 5	
Accountability	Accountability. New area that emerged from the interviews to be added to the survey.	None.	

Survey practice

The pilot survey was sent to three industry experts and four academics, selected on a convenience basis, for feedback on 18 December 2013 (Tables 18 and 20). It was paramount that the feedback from the survey reflected what the respondent thought might contribute to success rather than how they defined success. Additionally, it was important to ensure that all respondents interpreted each question in the same way and understood how a project was defined. A definition of the term 'project' was included in the survey introduction to minimise margins of error.

"For the purpose of this survey, a project is defined as having temporary and unique activities, which expend resources with a specific objective, interrelated activities and a defined start and end, with no prior history. The outcome is a new service, product or result" (Davis, 2014b).

The pilot survey comprised 13 question headings; however, some questions had multiple parts, resulting in 24 questions covering a total of eight pages. It incorporated questions that were part of Pinto and Slevin's (1987) diagnostic tool as well as questions to find out more about the identified gaps discovered in the systematic literature review (Table 27).

The final survey included only items that covered the three identified gaps from the systematic literature review and interview analysis, 'time, cost, and quality', 'accountability', and 'benefit to the stakeholder group', with eight questions. A total of 80 selection items and an additional two background questions resulted in a more focused, manageable survey for completion. To compare the new model to the current instrument, the survey used the same seven-point Likert scale as Pinto and Slevin (1987) to offer a good balance for selection.

Background questions one and two asked the respondents about their role in the project they were using to answer the survey and a brief description of previous experience before the current role. Questions three to six concerned elements of 'time, cost, and quality'. An additional question arose out of the interviews as to how to balance these elements. Questions seven to nine examined elements of 'accountability' for a stakeholder and senior manager. Question ten explored the 'benefits to a stakeholder

group'. Questions three to ten have been categorised in Table 28 into the three gap areas from the systematic literature review and interview stages.

Table 28: Survey Questions Mapped to Identified Gaps

Identified Gaps from Literature and Interviews	Survey Question
Time, cost, and quality	Q3 – Cost
	Q4 – Time
	Q5 – Quality and scope
	Q6 – Balancing time, cost, and quality
Accountability	Q7 – Accountability
	Q8 – Involvement (stakeholder)
	Q9 – Senior management involvement
Benefit to stakeholder group	Q10 – Benefits to stakeholder group

A copy of the full survey can be found in Appendix 18. Table 29 provides the survey questions.

Table 29: Survey Items

Survey Question	Question Answer	Answer Type
Q1 – For the project you are considering, what was your role?	• Project Core Team • Project Recipient • Senior Management	3 items
Q2 – Please provide a brief description of your previous experience before your current role and the sector in which you worked in the text box below. For example, you might have been working as an administrator, project worker, marketing and sales position, or an IT role in the health sector (100 words max.).	Text Box	Written statement
Q3 – Cost Please indicate how much you agree with the following: Strongly Disagree, Disagree, Somewhat Disagree, Neutral, Somewhat Agree, Agree, Strongly Agree	• A case must be made to gain investment for a project. • I am aware how investment is decided for projects. • Costs are clearly documented. • The clients understand the costs of each stage of the project and invoices are clearly broken down. • The financial benefits and impact of projects have been communicated to me. • There are procedures in place to monitor the budget. • Overall, projects I have been involved in came in on or below budget. • Overall, projects I have been involved in made a profit post-implementation. • Overspends are common on a project. • There are clear consequences/penalties when the budget is exceeded. • Meeting cost/budget is the most important factor for success.	11 items

Table 29: Survey Items Continued

Survey Question	Question Answer	Answer Type
Q4 – Time Please indicate how much you agree with the following: Strongly Disagree, Disagree, Somewhat Disagree, Neutral, Somewhat Agree, Agree, Strongly Agree	• Milestones are clearly defined for delivering the project. • Deadlines set are realistic and can be met. • Projects tend to finish before set deadlines. • Projects often overrun on time. • Overall, projects I have been involved in come in on schedule. • There is a lack of commitment to meet deadlines by those involved. • It is acceptable to delay a project. • Delaying a project does not incur consequences. • Deadlines can be shortened to make resources available for other projects. • Delivering the project on time is the most important dimension for success.	10 items
Q5 – Quality and scope Please indicate how much you agree with the following: Strongly Disagree, Disagree, Somewhat Disagree, Neutral, Somewhat Agree, Agree, Strongly Agree	• Quality is clearly defined. (For example, the project accomplished the set requirements/standards). • Quality is the most important dimension for success on a project. • Project scope is clearly defined. • Project scope is the most important dimension on a project.	4 items
Q6 – Balancing time, cost, and quality Please indicate from 1 to 12 (by clicking and dragging your responses) of how common the following has happened in your overall experience on projects. 1 is the most common; 12 is the least common:	1 – When timescale may not be met, quality is lessened. 2 – When timescale may not be met, more money is allocated. 3 – When timescale may not be met, more people are allocated. 4 – When timescale may not be met, the project is delayed. 5 – When cost may not be met, quality is lessened. 6 – When cost may not be met, extra time is allocated. 7 – When cost may not be met, more money is allocated. 8 – When quality may not be met, more money is allocated. 9 – When quality may not be met, extra time is allocated. 10 – When quality may not be met, quality is lessened. 11 – Time, cost, quality, and scope must be balanced on a project; none can be sacrificed. 12 – The balance of time, cost, quality, and scope is often changed.	12 items
Q7 – Accountability: taking responsibility for the role/duties assigned. Please indicate how much you agree with the following: Strongly Disagree, Disagree, Somewhat Disagree, Neutral, Somewhat Agree, Agree, Strongly Agree	• There is a clear person responsible for setting accountability on a project. • Accountability, roles, and responsibilities are clearly defined, acknowledged, traceable, and transparent (so everyone knows what they have to do and who is responsible for tasks). • I clearly understand what I am responsible/accountable for and my role when working on a project. • Clear procedures are in place when accountability is not recognised.	4 items

Survey Question	Question Answer	Answer Type
Q8 – Involvement: Stakeholders' involvement in a project. Please indicate how much you agree with the following: Strongly Disagree, Disagree, Somewhat Disagree, Neutral, Somewhat Agree, Agree, Strongly Agree	• The project manager should be open to ideas and comments from the team or from other stakeholders. • Stakeholder buy-in is clearly identifiable. • Stakeholders involved in the project should be clearly identified. • I would prefer not to be involved with projects. • I would like to be more involved with projects. • I am always involved from the start of the project to the end. • When requested to attend, I am regularly present at scheduled project meetings. • I am involved in developing the project (for example, if it is a new computer system, I can provide input into what does and doesn't work for me). • If I recognise a lack of engagement, I know how to escalate this for action. • Being involved in a project (this could be working on the project directly or using the final end product, e.g., a new IT system) provides a positive experience. • I am aware that my input is valued and ensure that I use every opportunity to participate in all stages of the project. • I am aware that my involvement in a project plays an important role in the project succeeding. • Projects are additional to my day-to-day work. • It is acknowledged that working on a project will distract me from my main job. • Extra time allowance is given to me from my day-to-day work so that I can engage in projects. • I am prepared to put in extra effort when working on a project and be engaged as much as necessary regardless of whether I am paid more or not. • I am committed to making the project successful.	17 items
Q9 – Senior management involvement Please indicate how much you agree with the following: Strongly Disagree, Disagree, Somewhat Disagree, Neutral, Somewhat Agree, Agree, Strongly Agree	• Senior management are engaged and committed to the project. • Senior management are detached from the project. • Senior management are always accountable when they initiate the project. • Senior management provide support for the project. • Senior management support me by leaving me to deal with problems unless consulted. • Senior management will be responsive to our requests for additional resources if the need arises. • I agree with senior management on the degree of my authority and responsibility for the project. • Senior management has granted us the necessary authority and will support our independent decisions concerning the project.	8 items
Q10 – Benefits to stakeholder group: examples of benefits include reducing cost of overhead, increasing sales, improving customer service, increasing market share, improving organisation image. Please indicate how much you agree with the following: Strongly Disagree, Disagree, Somewhat Disagree, Neutral, Somewhat Agree, Agree, Strongly Agree	• I am aware who predicts the benefits of a project. • The project owner/sponsor is responsible for delivering the benefits. • The project manager is accountable for delivering the benefits. • Benefits of the project are clearly defined. • The benefits of the project are agreed at the start of the project in the planning phase. • The benefits need to be measurable. • The benefits are tracked throughout the project. • The most important benefits are financial. • Financial benefits of the project are clearly identified. • The project delivers the set benefits. • I am aware of the benefits to the owner/sponsor of the project. • I am aware of the benefits to the organisation. • I am aware of the benefits to the people receiving the final project. • The project will help me to do a better job (either as a user or in future projects).	14 items

Sample size and response rate

The final on-line survey was sent out to the same four organisations where the interviewees worked. The same organisations were used for the interviews and survey to ensure consistency in the findings. Because of confidentiality issues, it was not possible to send the link directly to employees; instead, one main contact per organisation informed employees that the survey was available. Three hundred surveys were sent out in total. It was active from 24 March 2014 to 1 June 2014. A reminder email was sent out on 7 April and 10 May 2014 to increase response.

Statistical tests were selected that do not depend on a large sample size; for example, the Shapiro-Wilk test assessed the normality of data, as it is more appropriate for small sample sizes (<50 samples) and suits the senior management and project recipient group responses. However, the test can also be used for sample sizes up to 2,000 (Field, 2013, 2009). Multipliers can be used to scale up the data to elicit representative data (Chang, 2015); however, this means that disproportionate weight is given to the limited data and raises questions about the credibility of the conclusions. To counter this, the survey was pilot tested to ensure the clarity of terms and results were discussed with academic and industry experts. Further consistency/confirmability issues of respondent bias were minimised through the anonymity of responses. Future work is proposed to test the survey with a similar, larger sample size so that meaningful statistical analysis may be performed.

Trial model development

The survey statements led to the development of the trial multiple stakeholder models. These were designed for anonymous independent completion or as a group to facilitate appropriate stakeholder discussion. Thirty-one dimension statements from the survey were extracted that will be presented later in Table 150 on the following basis:

- All three groups had different views (different scores on the rating scales).
- The individual groups strongly agreed with the statement and therefore considered them important (rated 7 on the scale).
- The individual groups disagreed with the statement and therefore had a strong opinion against them (rated 1 to 3 on the scale).

This would allow each stakeholder to write whether they agree or disagree with the statement and provide an opportunity to discuss where there are different responses. This will represent both current and future interests of the stakeholders.

3.5.5 Focus Group

The survey results were used to create a new multiple stakeholder model to answer research question three. The model facilitates discussion for finalising success dimensions that can be used electronically or in face-to-face meetings to help focus and reconcile the stakeholder groups' (senior management, project core team, and project recipient) differing needs to attain project success.

The dimension statements from the survey detailed later in Table 150 were extracted to form the basis of the trial multiple stakeholder model. The trial models were sent to eight industry experts (detailed later in Table 154) on 10 December 2015 for feedback that is consistent with this study's critical multiplist approach. They were asked to consider the models in the context of how they would be used in the experts' respective organisations and offer suggestions for improvement. After the initial feedback was collated, a focus group was employed with the eight industry experts on 21 December 2015 (Table 154) to ascertain potential barriers to implementation for the models and resulted in an adapted model based on the feedback. In this focus group session, the experts were asked to examine both models and create one that they believed would be beneficial in their organisations to facilitate discussion. The main discussion point on the day was to take stakeholders' feelings into account. It was agreed that a project could be meeting all the major milestones, such as being on time or to cost, but if the stakeholder was unhappy or disillusioned, then the project would fail at some point.

3.6 Data Analysis Related Issues

Validity and reliability are often viewed as quantitative measures, causing contention in the literature regarding their applicability to qualitative studies (Long and Johnson, 2000; Rolfe, 2006; Sandelowski, 1993). It is noted that the analysis in the current study is primarily qualitative, so these terms may not seem appropriate. Noble and Smith (2015) proposed a solution to look at the 'credibility' of qualitative research and replace

'validity' with 'truth value' (*"Recognises that multiple realities exist; the researchers'*
outline personal experiences and viewpoints that may have resulted in methodological
bias; clearly and accurately presents participants' perspectives", p.34), 'reliability'
with 'consistency/confirmability' (*"Relates to the 'trustworthiness' by which the*
methods have been undertaken and is dependent on the researcher maintaining a
'decision-trail'; that is, the researcher's decisions are clear and transparent. Ultimately
an independent researcher should be able to arrive at similar or comparable findings",
p.34), 'neutrality' (*"Achieved when truth value, consistency and applicability have been*
addressed. Centres on acknowledging the complexity of prolonged engagement with
participants and that the methods undertaken and findings are intrinsically linked to the
researchers' philosophical position, experiences and perspectives. These should be
accounted for and differentiated from participants' accounts", p.34), and
'generalisability' with 'applicability' (*"Consideration is given to whether findings can*
be applied to other contexts, settings or groups", p.34). Therefore, these qualitative
terms will be applied to the current study.

To ensure that credibility was achieved, a rigorous, transparent, and detailed account of
the data collection and analysis procedures has been provided. Furthermore, academics
and industry experts (detailed in Tables 18, 20 and 154) were consulted to discuss the
literature findings and to corroborate empirical findings. The current study is concerned
with whether a new multiple stakeholder theoretical model is appropriate to answer the
research questions and will implement the solutions listed in Table 30 to increase
credibility.

Table 30: Credibility Solutions

Area for Concern	Research Stage	Solution
Systematic literature review findings	Qualitative	Conclusions drawn from the findings of the systematic literature review developed the qualitative interviews.
Interview questions	Qualitative	Pilot testing questions as, according to Saunders *et al.* (2009), this allows questionnaire refinement and assessment of the questions' credibility. The questions were reviewed by academic and industry experts and pilot tested to ensure clarity of terms.

Table 30: Credibility Solutions Continued

Area for Concern	Research Stage	Solution
Interview findings	Qualitative Quantitative	A quantitative survey was used to further test the qualitative interview findings to increase the credibility of the study.
Survey questions	Quantitative	Pilot testing with academic and industry experts.
Findings from empirical work	Qualitative Quantitative	Cross comparison of qualitative and quantitative results provides multiple perspectives and reduces the limitations whilst increasing credibility.
Multiple stakeholder model	Qualitative	Validation from an academic and industry expert panel aids in the credibility of applying the academic theories. Industry findings were validated by specialists in the field they were tested in. A focus group discussed limitations and produced an amended model to increase credibility. Multiple stakeholder model was tested with a sample of six stakeholders.

The survey scale did undergo testing using Cronbach's alpha. According to Pallant (2010, 2013), the ideal Cronbach alpha coefficient is above 0.7. Pinto and Prescott (1990) tested the project success items from the 'diagnostic behavioural instrument' (Pinto and Slevin, 1987) and received above acceptable levels, with the overall project success scale achieving an alpha of 0.87. Pinto *et al.* (2009) further tested the instrument based on a study of 150 respondents using the same seven-point Likert scale (strongly agree to strongly disagree) as in this study, and the alpha score was 0.86. As the scale in the current study contained two scale types, two tests for reliability were conducted. When reliability was tested on the items based on the seven-point Likert scale, the alpha was 0.90 and therefore comparable with Pinto and Slevin's instrument. When the test included the seven-point Likert scale and 1-12 ranking scale, the alpha was 0.78, which is within an acceptable range.

3.6.1 Ethical Issues

The literature available for review did not pose any ethical or legal constraints, as it is in the public domain. However, any literature must be cited correctly to obviate potential plagiarism. Any unpublished documents necessary from the participating organisations had access terms for 'reasonable research use'. The current study was submitted to the ethics committee, and permission to conduct the interviews and survey was granted on 6 December 2012. The unpublished interview data collected were checked by the

interviewees to ensure accuracy and gain approval to use it for analysis and discussion in the study. Anonymity and confidentiality for the unpublished interview data and documents was agreed with participants. This avoided repercussions for participants' honest answers.

3.7 Summary

This chapter presented the research methodology used. A method for a systematic literature review, coding framework, and thematic analysis of project success dimensions and assessment/measurement techniques focussing on the project management industry was presented. The results will be used to inform the development of interview questions, which will be further tested through a survey, multiple stakeholder model, and focus group. It was determined that the study was based on contingency and stakeholder theory and adopted a post-positivist philosophy, a survey strategy, a cross sectional time horizon, and a mixed methods approach, whereby both qualitative and quantitative methods were employed, as this increases credibility, as well as addressing a gap in current research. Thus, this chapter critiqued appropriate research strategies to answer the research questions.

4 Results

The initial systematic literature review highlighted a deficiency in the existing body of knowledge when measuring project success from stakeholders' perspectives other than the project manager. This led to the development of research question one to examine what has been considered when measuring project success and the subsequent methods used in the literature. It also led to the development of research question two to investigate which stakeholders recognise dimensions of project success in the literature and practice. Both research questions one and two will be answered through a systematic literature search, combining technological solutions (software – including the Web of Science database, Bibexcel, NVivo, and Excel) that identified key papers for review (see the methodology chapter for details). Not all authors expressing the same view are quoted in this section. For full details and thematic charts, see Appendix 19. Research question two is further answered through in-depth interviews and a survey to ask about the literature findings. Finally, research question three presents a new multiple stakeholder theoretical model that is tested through a focus group and small sample to reconcile the different success dimensions for project success to manage expectations and aid in successful project delivery.

4.1 Systematic Literature Review Results

4.1.1 The Concept of Success Dimensions

It is clear from the forgoing review that definitions of project success lack clarity, with over 100 statements found to describe success (see Appendix 20). An example is eight statements referring to project success described by Wateridge (1998): 'meets its defined objective', 'produced to specification', 'achieves its business purpose', 'all parties are happy during the project and with the project outcomes', 'profitable for the sponsor or owner and contractors', 'budget', 'quality', and 'schedule or time'. Despite the subsequent publication of alternative methods to measure project success, it is evident that they can all be traced back to the original measurement instrument of Pinto and Slevin (1987). A comparison of Pinto and Slevin's instrument with success dimensions from additional methods mentioned in the literature revealed two new main

themes: 'stakeholder/people specific' and 'project structure' (Figure 9). Each of the main themes has sub-themes that will be discussed; for example, 'personnel skills/issues' is a sub-theme within the main theme of 'stakeholder/people specific'. Appendix 19 contains the thematic charts.
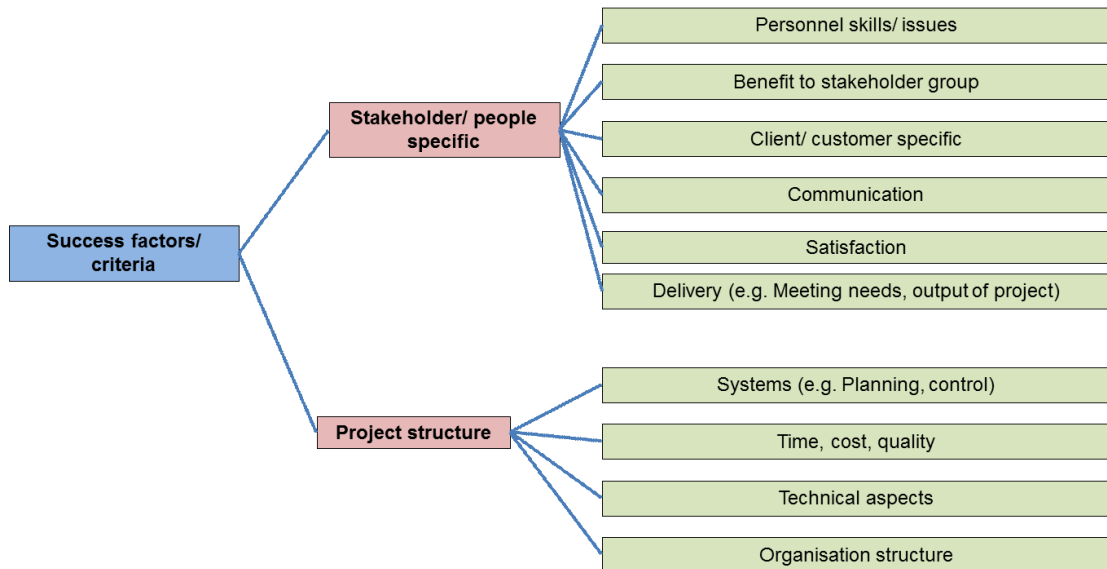
Figure 9: Overview of Main Success Dimension and Sub-themes

Personnel skills/issues

The 'personnel skills/issues' sub-theme can be categorised into four main areas, 'organisation', 'project', 'project manager', and 'trust', but they have not been equally recognised in academic research. 'Top management support' within the main organisation theme is cited the most frequently (Jugdev and Müller, 2005; Pinto and Prescott, 1990; Pinto and Slevin, 1988a, 1989; Slevin and Pinto, 1986; Smith-Doerr *et al.*, 2004; Tishler *et al.*, 1996). However, this perspective was derived from empirical investigations into project managers' perceptions and not directly from top management, indicating a lack of ownership by top management and poor communication between them and the project manager. This suggests a need to conduct empirical work into the perception of top management. Few articles identified the need for the organisation ('corporate understanding of project management' sub-theme) to understand project management (Jugdev and Müller, 2005; Kerzner, 1987). It was noted that no consideration was given to other organisational departments (e.g., business

managers from finance) and how they comprehend project management. The need to 'select people with an appropriate skill set' for a project who were managed by the project manager was revealed (Pinto and Slevin, 1989; Tishler *et al.*, 1996). The selection of competent, dedicated, and skilled staff could be argued to be the critical step in setting up the team, along with the essential skills and qualities of a project manager, 'experience' (Belassi and Tukel, 1996), 'management skills' (Pinto and Slevin, 1988a), and 'leadership style' (Müller and Turner, 2007a; Pinto and Slevin, 1988a; Turner and Müller, 2005; Turner *et al.*, 2009), but these themes lacked research. This suggests that top management must support the project, but the selection, management, and training of the team are equally important for success.

Benefit to stakeholder group and client/customer specific issues

The appreciation of a project outcome was identified in both the 'benefit to stakeholder group' and 'client/customer specific issue' themes. However, limited reference was made in areas such as looking at 'the benefit to customer' (Wang and Huang, 2006), 'end user' (Tishler *et al.*, 1996), 'management' (Cooke-Davies, 2002), 'other stakeholders' (Atkinson, 1999), 'client expectations' (Jugdev and Müller, 2005), and 'customer relationship with organisation' (Tishler *et al.*, 1996). A lack of 'ongoing appreciation' during the project lifecycle of the benefits of any project by top management was a major theme emerging from the literature (Müller and Turner, 2007a; Toor and Ogunlana, 2010). Too often, a project can be deemed peripheral to the core business and other issues perceived as urgent would take priority (Smith-Doerr *et al.*, 2004). Project teams were often seen as temporary and unique, making it difficult to allocate the best resources for a project to succeed (Pinto and Slevin, 1988a, 1989).

Furthermore, few studies conducted empirical research regarding 'customer acceptance' (Tukel and Rom, 2001; Wateridge, 1998), 'the customer relationship with the organisation' (Tishler *et al.*, 1996), 'client appreciation' (Müller and Turner, 2007a; Toor and Ogunlana, 2010), 'benefit to owner' (Jugdev and Müller, 2005; Toor and Ogunlana, 2010; Wateridge, 1998), and 'benefits to the organisation' (Atkinson, 1999; Jugdev and Müller, 2005; Tishler *et al.*, 1996), indicating a need for further empirical work in these areas.

Communication within a project

'Communication' was seen as important in a project, especially when referring to the client, customer, or user involvement. The number of publications on communication between the project core team and the project recipient stakeholder groups indicates the need for it to be effective, but there is little research examining how communication is conducted between the project manager and line management and those at the corporate level. This suggests a research gap in the literature. The 'stakeholder involvement' theme emphasised the need to 'define roles and responsibilities' (Munns and Bjeirmi, 1996; Pinto and Slevin, 1988a, 1988b, 1989; Slevin and Pinto, 1986; Tishler *et al.*, 1996) and have 'continual communication' (Turner, 2004). However, the literature that collected empirical data from industry had numerous different definitions of stakeholder groups, which included 'owner', 'senior management', 'client', and 'user'. Project managers' perceptions were sought, but when referring to the success dimensions, there is a lack of literature to evidence *"the project manager and his or her leadership style or competence as a success factor on projects"* (Turner and Müller, 2005, p.49).

Satisfaction of a stakeholder with a project

'Satisfaction' was a major theme, as there was consensus that stakeholder groups should be satisfied with the project, the most recognised being 'client' (Jugdev and Müller, 2005; Lim and Mohamed, 1999), 'customer' (Müller and Turner, 2007a; Smith-Doerr *et al.*, 2004), and 'end user' (Turner, 1999; Turner *et al.*, 2009; Turner and Müller, 2006; Wateridge, 1998). The 'importance placed on the project' ('perceived value') was identified by all the above stakeholder groups (Barclay and Osei-Bryson, 2009; Smith-Doerr *et al.*, 2004; Tishler *et al.*, 1996). However, the sponsor and owner views were assumed and not empirically tested. If their satisfaction was measured, it might contradict the assumed recorded stakeholder view suggesting that these groups should be included when evaluating the success of a project. Additional stakeholder groups (contractor, project team, supplier, and supporters) were mentioned in the context of satisfaction but excluded from the 'involvement' theme (only owner, senior management, client, and user were noted in this context). It may be meaningful that additional stakeholder groups were only referenced more recently. The 'impact' (the importance placed on success dimensions by different stakeholder groups) on customers

(Shenhar *et al.,* 1997; Shenhar and Dvir, 2007) and the team (Shenhar and Dvir, 2007) was recognised, but the impact on other stakeholder groups that were referred to as needing to be satisfied, e.g., supplier and supporters, was not. This identified gap in the measurement of project success by different stakeholder groups other than the customer and team, such as the owner, top management, and director, and might affect the overall perception of project success.

Delivery

The 'delivery' of the project was a recurring sub-theme, which was split into two main areas of 'delivering the product' and 'meeting expectations'. Other sub-themes included 'preparing for the future' (Jugdev and Müller, 2005), 'socio economic issues' (Toor and Ogunlana, 2010), and 'reoccurring/repeat business' (Müller and Turner, 2007a; Müller and Turner, 2007b). The successful delivery of a project was notable, with sub-themes of 'project performance' (Barclay and Osei-Bryson, 2009; Belassi and Tukel, 1996; Jugdev and Müller, 2005) and 'impact' being the most recognised in the literature (Pinto and Prescott, 1990; Wateridge, 1998). How the project performs and its impact contradict the empirical studies, which have failed to look at the project completion stage, as impact implies that it can only be assessed after the project has been completed (Jugdev and Müller, 2005). The theme 'to meet expectations' (Jugdev and Müller, 2005; Müller and Turner, 2007a, 2007b) occurred but only referred to meeting the user requirements; however, it is noted that this theme could be duplicated in the satisfaction theme. Few studies discussed how a project 'creates new opportunities' (Smith-Doerr *et al.*, 2004) and what happens when a stakeholder is disappointed with the project outcome (Jugdev and Müller, 2005).

Systems used within a project

'Project planning' and 'control' were identified as key themes to ensure project success (Kerzner, 1987; Munns and Bjeirmi, 1996; Pinto and Prescott, 1990). Again, there was an emphasis on the planning and implementation stages of a project, reinforcing the need to examine post-project stages. 'Clarity when planning' was a theme (Jugdev and Müller, 2005; Pinto and Prescott, 1990; Tishler *et al.*, 1996), with an emphasis to look at success related to the planning (sub-themes 'project objectives' – Barclay and Osei-

Bryson, 2009; Toor and Ogunlana, 2010; Wang and Huang, 2006 – and 'agreement of success' – Jugdev and Müller, 2005; Wateridge, 1998) and implementation stages ('dividing project into manageable components' sub-theme – Jugdev and Müller, 2005), implying a gap in that success linked to post-project learning is lacking (Shenhar and Dvir, 2007). It was also noted that 'objectives, goals and vision' should be agreed upon in the planning stage, with the project mission being crucial (Barclay and Osei-Bryson, 2009; Toor and Ogunlana, 2010; Wang and Huang, 2006). This was further evidenced through discussions about the planning stage of a project in the 'measures' theme (Belassi and Tukel, 1996; Jugdev and Müller, 2005; Pinto and Prescott, 1990; Pinto and Slevin, 1988a; Tishler *et al.*, 1996).

The theme for 'objectives' was split into two categories, those concerning 'planning' (Belassi and Tukel, 1996) and those for 'post-project' (Barclay and Osei-Bryson, 2009). This fails to examine the objectives throughout the implementation stage, contradicting the 'systems' theme, whereby the importance of success during the project planning and implementation stages was highlighted. It was recognised that there a was need to define the project before it commenced, but these were named 'definition', 'mission', 'requirements', 'vision', 'objectives', 'scope', and 'goals' (Barclay and Osei-Bryson, 2009; Belassi and Tukel, 1996; Bryde and Robinson, 2005; Clarke, 1999; Jugdev and Müller, 2005; Morris and Hough, 1987; Pinto and Slevin, 1988a; Tishler *et al.*, 1996). This highlights the need for clarity and agreement among the terms used within a project context.

There was a lack of research on the process to examine whether the 'project management system is adequate' (Toor and Ogunlana, 2010), 'how decisions were made' (Tishler *et al.*, 1996), 'the development of standards' (Barclay and Osei-Bryson, 2009), 'how a project was terminated' (Wateridge, 1998), 'capturing post project evaluation' (Munns and Bjeirmi, 1996), 'how scheduling was set' (Pinto and Slevin, 1989), and 'updating project documents' (Jugdev and Müller, 2005). There was also a gap in 'who defines the project success dimensions'. 'Resource' was another key area, with the emphasis being on 'how resources are managed by senior management' (Bounds, 1998; Morris and Hough, 1987) and the 'need for a competent team to execute the project' successfully (Tishler *et al.*, 1996).

Time, cost, and quality and technical aspects of a project

There was consensus that a perception of 'time, cost, and quality' adherence (referred to as the 'iron triangle' by some authors – Atkinson, 1999; Barnes, 1969; Barclay and Osei-Bryson, 2009; Bryde and Robinson, 2005; Cooke-Davies, 2002; Jugdev and Müller, 2005; Lim and Mohammed, 1999; Müller and Turner, 2007a; Munns and Bjeirmi, 1996; Toor and Ogunlana, 2010; Tukel and Rom, 2001; Wang and Huang, 2006; Wateridge, 1998) is used to evaluate the success of the project. Little literature linked the 'cost issues' theme to the 'need for a project to be commercially profitable' (Jugdev and Müller, 2005; Wateridge, 1998). This raises the question of whether it is essential to make a profit even when this is listed as a success dimension or if meeting the budget is sufficient when the costs are evaluated in the project.

The 'technical aspects' theme included sub-themes, 'system must perform as required' (Pinto and Slevin, 1988a), 'technical performance' (Belassi and Tukel, 1996; Jugdev and Müller, 2005; Tukel and Rom, 2001), 'technical specification' (Toor and Ogunlana, 2010; Wateridge, 1998), and 'technically valid or feasible' (Pinto and Slevin, 1988a, 1988b; Tishler *et al.*, 1996), and hence demands precise dimensions to judge success that will give an unequivocal decision.

Organisation structure

The main theme identified was how the project would fit into the 'organisation structure' (Cooke-Davies, 1990; Kerzner, 1987; Pinto and Prescott, 1990; Smith-Doerr *et al.*, 2004; Turner, 2004), as project teams are often seen as temporary and unique, making it difficult to create a sense of urgency when allocating resources to a project team from an organisational pool. However, there were contradictory themes where the 'urgency' (Pinto and Slevin, 1988a; Pinto and Slevin, 1989; Tishler *et al.*, 1996) of the project is often not appreciated and top management support is not provided.

Project fit (including the sub-themes 'organisationally valid' – Pinto and Slevin, 1988a, 1988b and 'does not change corporate culture' and 'does not disturb flow of organisation' – Wateridge, 1998) was also seen as dependent on the type of organisation e.g., 'a pure project organisation on the functional division of the parent organisation (matrix form)' and 'part of a functional division of the organisation or separate from the

rest of the parent organisation'. The organisation was noted as being impacted by a project in that 'value and a business purpose' had to be achieved (Pinto and Prescott, 1990; Pinto and Slevin, 1988b). However, the organisation was not mentioned in the stakeholder involvement or satisfaction areas. This suggests that the term 'organisation' needs to be clearly defined, and the stakeholder who defines this must be identified. The term is ambiguous and can be interpreted as being 'all encompassing', whereby the whole organisation (all business departments) is considered when defining project success. This also suggests that the 'impact' (the perception of project success by different stakeholder groups) of a project on an organisation and how it is perceived could be examined. Areas that had limited research were 'whether the project was completed in line with organisational strategy' (Toor and Ogunlana, 2010), 'how the project contributed to the strategic mission, goals, and vision of the organisation' (Cleland and Ireland, 2002; Jugdev and Müller, 2005), 'how the project affected the organisation' (Wateridge, 1998), 'how the project would affect the organisation in the future' (Shenhar *et al.,* 1997; Shenhar and Dvir, 2007; Wang and Huang, 2006), and 'the organisation's readiness to adapt to the project' (Jugdev and Müller, 2005).

The themes identified the lack of clarity when examining perceptions of success and the details of stakeholder groups involved. Figures 10 and 11 summarise the gaps found. Note that the gaps for empirical work extend beyond the scope of this study but are included to show the comprehensiveness of the literature analysis.

Theme – Stakeholder/ People Specific	Gap for Empirical Work
Personnel Skills/ Issues	The perception of top management
	How other organisational departments comprehend project management
	The competency, experience, management skills and leadership style of the project manager lacked research
Benefit to Stakeholder Group and Client/ Customer Specific	Examining the benefit to customer, end user, management, other stakeholders, client expectations and customer relationship with the organisation
	Asking the customer, client, owner and organisation their perception of project success
Communication	How communication is conducted between the project manager and line management and the corporate level
	Further define the stakeholder groups, which included the owner, senior management, client and user
	The board, programme or portfolio director were not explicitly mentioned as a group
Satisfaction	Examine project success by different stakeholder groups other than the customer and team such as the owner, top management and director
Delivery	How a project creates new opportunities and what happens when a stakeholder is disappointed with the project outcome

Figure 10: Gap Identification from Stakeholder/People Specific Theme

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Theme – Project Structure		Gap for Empirical Work
		Success linked to post project learning is lacking
		Examine the objectives throughout the implementation stage
Systems		Clarity and agreement among the terms used within a project context
		Examine whether the project management system is adequate, how decisions were made, the development of standards, how a project was terminated, capturing post project evaluation, how scheduling was set and updating project documents
		Who identifies project success dimensions
Time, Cost and Quality/ Technical Aspects		Linking the importance of meeting cost/ budget/ finance and the explicit need to make a profit
		Who deemed a technology appropriate?
		The term 'organisation' needs to be clearly defined and the stakeholder who defines this be identified
		The impact of a project on an organisation and how it is perceived
Organisation Structure		How success affected the business, whether the project was completed in line with organisational strategy, how the project contributed to the strategic mission, goals and vision of the organisation, how the project affected the organisation, how the project would affect the organisation in the future and the organisation's readiness to adapt to the project

Figure 11: Gap Identification from Project Structure Theme

4.1.2 Measurement Methods

Diagnostic behavioural instrument

The dimensions used in the various measurements of project success showed that the list for Pinto and Slevin's (1987) 'diagnostic behavioural instrument' (previously listed in Table 5) was cited most frequently (Jugdev and Müller, 2005) (see Appendix 13 for full PIP documentation).

The list comprises key success factors measured throughout a project from a project manager's and team member's viewpoint using a seven-point Likert scale. Totalled scores are plotted on a percentile score grid and compared against 409 other projects to determine whether the project is 'critical', 'fair', or 'good'. Steps are then offered to move towards project success. Pinto and Slevin (1987) noted a deficiency in empirical work and indicated that project management frameworks were theoretically driven, and further development of the instrument in subsequent publications and studies addressed these deficiencies.

Slevin and Pinto first developed their instrument in 1986. Their collection method was based on Project Echo from the US Department of Defense. The study took place at the University of Pittsburgh. The 52 subjects were evening part-time MBA students who were employed full-time by local Fortune 1000 companies. Participants who had project involvement within two years were given question cards and asked to write how they would improve implementation success. There were 94 useable responses based on 82 successful projects, and two experts classified the responses into ten factors. The experts were found to similarly sort the responses, with 119 out of 236 matching between experts; the responses formed the basis of the questionnaire. The questionnaire was then tested using 85 further practitioners, and statistical analysis highlighted a useful diagnostic instrument through average total correlations of 0.59 within each factor (Slevin and Pinto, 1986). The following method is from Pinto and Slevin's 1987 work (p.24):

Stage 1

- *"Subjects were given a packet containing instructions and 10 blank 3 x 5 cards.*

- *The subjects were asked to consider a project they had been involved in in the last two years.*
- *A successful project was defined as one that resulted in organizational change.*
- *Participants were asked to briefly describe the project as well as their own involvement as a check against inclusion in the sample of "trivial" or inappropriate projects.*
- *The subjects were then asked to put themselves in the position of a project manager charged with the responsibility for the successful implementation of the project.*
- *They were then asked to select the first blank 3 x 5 card, labeled 'Successful Project 1', and write on it something they could do that would substantially help implementation success.*
- *Next, the participants chose the second blank card, labeled 'Successful Project 2', and described another action they could take to substantially help implementation success.*
- *This process continued through the set of five cards, each listing an action to be taken to aid project implementation"* (p.24).

Stage 2

- *"Textual/Thematic analysis – of factors by two experts.*
- *The set of cards containing actions leading to implementation success were sorted first by one expert into 10 categories.*
- *Subsequently, a second sort by the other expert also led to a 10 factor classification.*
- *Inter-rater agreement [examines homogeneity of experts classification], based on the percentage of cards similarly sorted across the total number of cards, was 0.50, or 119 out of 236.*
- *Eliminating duplications and miscellaneous responses, a total of 94 useable responses were classified across the 10 factors. The number of classified responses ranged from a maximum of 12 in one factor to a minimum of 5 in another"* (p.24).

Slevin and Pinto (1987) built on their 1986 work and Pinto and Slevin (1987), offering a method to categorise the ten success factors into a strategic ('mission', 'top management support', 'project schedule/plans factors') and tactical ('client consultation', 'personnel', 'technical tasks', 'client acceptance', 'monitoring and feedback', 'communication', 'trouble-shooting' factors) framework to assess project error (e.g., 'action is not taken, causing a negative impact on the project' or the 'wrong problem is solved') and offer solutions for a range of project types.

In 1988 Pinto and Slevin (1988a) distributed three questionnaire types via post to 600 random project managers and Project Management Institute (PMI) members. The first required the respondent to take the view of a successful project, the second considered an unsuccessful project, and the third did not specify. The response rate was 71%, with 400 returned questionnaires. The questionnaire required the respondents to rank their responses on a seven-point Likert scale from 'strongly agree' to 'strongly disagree'. Statistical analysis was performed to test the results to explore the difference between factors. T-tests and beta value were used to highlight the strength of each factor linked to project success. This revealed that the ten critical success factors were predictive of project success, and the highest notable relationships were between 'success and project mission', 'characteristics of the project team leader', 'technical tasks', 'client consultation'. and 'client acceptance'. Stepwise regression (encompassing r squared values) was conducted to select the variables using project phase in order of importance to leave only the significant factors. This yielded results including the following: *"Conceptual phase in a project, two factors (Project Mission and Client Consultation) are capable of predicting 64% of the causes of project success"* (Pinto and Slevin, 1988a, p.72).

Pinto and Slevin (1988b) further discussed the measurement scale to ensure its applicability to a 'wide range of measures of project success' and to different types of projects. It suggests that the instrument can be applied to a project organisation. Five hundred eighty-five PMI members were emailed the questionnaire. From the responses, 409 projects were extracted, and 159 of these were research and development projects. Further statistical tests were performed. ANOVA and stepwise regression analysis were used to explore the difference between groups. This revealed the order of importance of

the factors in each project phase. For example, in the conceptual stage, *"the Project Mission, Client Consultation, Personnel, and Urgency account for over 92 percent of the variance in project success"* (Pinto and Slevin, 1988b, p.72).

In 1990, Pinto and Prescott used a nationwide postal survey to collect data from 586 PMI members. 408 project managers replied, resulting in a 69% response rate. The survey used the developed instrument with a seven-point Likert scale from 1986 and 1987. This comprised 50 questions in total, five items per each of the ten critical success factors. Statistical analysis was performed: *"means, standard deviations, and intercorrelations among the ten independent variables and the aggregate measure of project success"* (Pinto and Prescott, 1990, p.312). The results showed strong intercorrelations, signifying additional factors within the variable. T-tests were used for each variable to indicate non-response bias. Possible individual bias was lessened by the wide distribution of scores. The unit of analysis was the project, and the responses spanned the project lifecycle: *"35 (8.6 per cent) conceptual, 72 (17.6 per cent) planning, 198 (48.5 per cent) execution, and 103 (25.3 per cent) termination"* (Pinto and Prescott, 1990, p.312). Principal component factor analysis using varimax rotation was used to examine the dimensions of the scale examining the 13 items for suitability. Regression analysis then tested the planning and tactical factors' significance throughout the project lifecycle. The results showed that planning was significantly related to project success in all lifecycle stages up to termination, whereas tactics were significant in the execution and termination phases. This highlighted that the roles of planning and tactics switch as the project progresses. Issues with multicollinearity were identified where various factors were shown to be closely correlated with each other. This suggested that the factors could be regrouped to avoid this issue. The 13 project success items were tested for reliability, receiving above acceptable levels with Cronbach alpha scores ranging from 0.79 to 0.90, and the overall project success scale 0.87.

In 2009, Pinto *et al.* sent the survey to 150 respondents (75 contractors and 75 owners) and received a response rate of 61% with 92 responses. The survey items were employed along with the seven-point Likert scale ('strongly agree' to 'strongly disagree'). The correlation matrix highlighted that all variables were intercorrelated.

Principal component factor analysis was used to test the scales construct validity, which had a 'total variance through the two-factor model of 55.5%'. The scale's reliability using Cronbach's alpha was 0.86 and within acceptable levels.

A noted weakness by the researcher is that no questions referring to upper management, clients, and end users were answered by those stakeholders. This suggests that the survey should seek the views of additional stakeholders as well as the project manager and team members to ensure a full perspective.

The 'diagnostic behavioural instrument' focuses on collecting perceptions from the project manager, whereas the current research aims to understand and conceptualise the manner in which a project can be judged as successful or not by additional stakeholders. Therefore, the overall concept of project success is examined, and further work will be considered to categorise the results into the strategic and tactical framework to examine errors and solutions for each stakeholder group. Eight additional instruments were identified where each author developed his or her own method/theory for assessing project success. These will now be discussed.

Macro and micro views

Lim and Mohamed (1999) offered frameworks of macro and micro success based on a literature review of previous construction project studies and unstructured interviews (e.g., discussions over lunch) with 40 project professionals in Kuala Lumpur. There were no details of the questions asked or how these could be tested for consistency/confirmability. The micro criteria included 'time', 'cost', 'quality', 'performance', and 'safety', and the macro criteria encompassed these and the actual benefits achieved in the operation phase. The macro view concerns whether the end users were satisfied with the overall result, and the micro view involves whether the construction parties met time, cost, and quality objectives. It was noted that the work referring to this focused on the construction industry and discussed it in the context of a literature review rather than testing the method empirically in the context of project success, providing limited help in evaluating the potential of this method in a real project setting. The current study aims to devise a method that is applicable to multiple

project and industry types and could be used in all phases, and the mentioned criteria will be encompassed in the final model.

Balanced scorecard

The balanced scorecard (Barclay and Osei-Bryson, 2009; Cooke-Davies, 2002; Jugdev and Müller, 2005) is a tool to measure whether project goals have been met using four components to give a balanced view of the impact on the organisation ('financial', 'internal business processes', 'learning and growth', and 'customer satisfaction'). For example, finances might be down but counteracted by an increase in customer satisfaction. This allows stakeholders to apply the instrument to short-, medium-, and long-term project objectives and to match them to the organisation strategy and set outcomes. The tool focuses on the organisation as a whole and requires extensive planning and discussion to agree the criteria in each of the four areas and must refer to organisation strategy; it is typically used with detailed accounting methods. This study aims to identify stakeholder perceptions of project success as an overall concept and not specific business activities that impact the organisation. Therefore, this is not an appropriate tool for the current study.

Key performance indicators

Key performance indicators (KPIs) are identified quantifiable critical success factors to achieve organisational goals/strategy and are therefore a measure of success (Toor and Ogunlana, 2010; Turner *et al.*, 2009). For example, the number of customer service queries resolved in a day can be used as a KPI. KPIs tend to become a long-term focal point for the organisation, but because projects and stakeholders are changeable over time, they should be used in combination with other measures. KPIs can be beneficial in the short term, but a long-term focus on one rigid measure can mislead an organisation's performance. This study requires a flexible tool that can be used throughout the project and can be adapted based on changing stakeholder needs. KPIs have been proposed as an additional tool to aid the multiple stakeholder model interpretation.

The square root

Atkinson (1999) created the square root framework based on a literature review to better understand success criteria. This encompassed four categories to provide a balanced view of success:

1. *"Iron triangle – cost, quality, time.*
2. *The information system – maintainability, reliability, validity, information quality, use.*
3. *Benefits (organisation) – improved efficiency, improved effectiveness, increased profits, strategic goals, organisational-learning.*
4. *Benefits (stakeholder community) – satisfied users, social and environmental impact, personal development, professional learning, contractors profits, capital suppliers, content project team, economic impact to surrounding community"* (p.341).

These dimensions do not take into account scope changes caused by differing stakeholder views (Maylor, 2005), nor how the project will fit into current organisation operations or culture. This study requires a model that is adaptive to changes and takes into account multiple stakeholder views across the organisation.

Four conditions

Turner (2004, p.350) discussed four conditions for success based on the work of two doctoral students:

"1. Success criteria should be agreed on with the stakeholders before the start of the project, and repeatedly at configuration review points throughout the project.

2. A collaborative working relationship should be maintained between the project owner (or sponsor) and project manager, with both viewing the project as a partnership.

3. The project manager should be empowered with flexibility to deal with unforeseen circumstances as they see best, and with the owner giving guidance as to how they think the project should be best achieved.

4. The owner should take an interest in the performance of the project".

This suggests that accountability for project success resides with owners and that their level of engagement should be investigated further. However, no empirical evidence supports the suggested conditions. These conditions are more guidelines for how to act when working on a project and not the stakeholder perceptions of what constitutes project success. It is therefore unsuitable.

Maturity models

Maturity models are tools used to measure an organisation's project management maturity and identify areas for performance improvement. These tools focus on the overall organisation maturity and not those of the individual's perception of success. Furthermore, the models are seen as rigid and impractical (Jugdev and Thomas, 2002) and lack implementation guidance; for example, the Capability Maturity Model Integration is over 500 pages. They also require an organisation's continual signoff (Herbsled *et al.,* 1997), which can stifle creativity as they strive to maintain high maturity without taking risk. Maturity models are not suitable for this study, as they are inflexible and strive to improve the whole organisation's maturity through setting targets. The focus becomes attaining the target to reach the next maturity level, and they do not examine the impact of stakeholder perception to improve project success.

Four universal dimensions

Shenhar *et al.* (1997) identified four universal dimensions of success from an empirical study: 'project efficiency', 'impact on customers', 'business and direct success', and 'strategic potential' (preparing for the future). 'Time and cost' were considered resources and 'quality' customer satisfaction, in contrast to using them as separate entities. They related efficiency to short-term turnover and business success and strategic potential to longer-term goals but stated that customer satisfaction was the more important criterion for project success. Whilst the current study will encompass the four universal dimensions, they are already encompassed in the 'diagnostic behavioural instrument' and are therefore not needed.

Seven influencing forces

Morris and Hough (1987) presented seven influencing forces for project success. These are 'the external content' (cost, time), 'external influences', 'attitudes' and 'support

given to the project', 'set objectives' and 'how these will be achieved', 'people/leadership/teamwork', 'planning/reporting/control systems', and 'roles/responsibilities/contractual relationships'. These seven forces are included in the 'diagnostic behavioural instrument', and although they are used independently, the inclusion of more dimensions in the diagnostic instrument gives more confidence in the 'success' judgement.

Practitioner Tools

There are numerous practitioner tools which act as best practice guides that comprise of principles and processes to follow when managing projects, programmes and portfolios. They offer advice and frameworks to follow for successful project management but do not ask for stakeholder perception. Of the tools listed, Managing Successful Programmes (MSP - Cabinet Office, 2011) is closest to the work described in this thesis. The key difference being that the stakeholders in programmes are often poorly defined and tend to disagree on the nature and definition of a problem, let alone the dimensions used to measure success. In contrast, stakeholders in projects are clearly defined, usually in agreement about the problem to be solved but not the dimensions used to define success. Note that practitioner tools and best practice guides were not returned in the systematic literature review results. However, for completeness, the major tools have been presented in summary Table 31, which details their focus and gives an explanation for their exclusion from this study. It is recognised that the use of these tools offer frameworks to control and manage projects and are widely used. However, this study explores the perceptions of stakeholders throughout the project lifecycle and suggests a more fluid approach based on post-positivism and contingency theory.

Summary

Table 31 compares the models. All the theoretical models and theories presented have similar views of involving elements across the organisation. The 'micro and macro views' and 'balanced scorecard' are concerned with the organisation as a whole; 'KPIs' need to be set and used with other measures; the 'square root method', 'four universal dimensions of success' and 'seven influencing forces' present success dimensions to interpret success; 'four conditions of success' presents a theory; and 'maturity models'

are inflexible, looking at improving the whole organisation's maturity. While each has its merits, there is no tool that examines the impact of multiple stakeholder views on project success. This underlines the need for a tool with clear guidelines that provides questions to examine stakeholder perception.

Table 31: Comparison of Dimension Models

Dimension	What do they do/Purpose	Deficiencies	Applicable to this study?
Diagnostic Behavioural Instrument	Identify key success factors throughout a project from a project manager's and team member's viewpoint.	Aimed at project manager and team members, but the way questions are phrased suggests that other stakeholders should be asked.	Yes – Questions can be adapted to ask additional stakeholder groups.
Macro and Micro Views	The macro view concerns whether the end users are satisfied with the overall result, and the micro view involves whether the construction parties have met time, cost, and quality objectives.	Focused on construction industry. Literature review and not empirically tested.	No – The current study aims to devise a method that is applicable to multiple project and industry types.
Balanced Scorecard	Measures whether project goals have been met using four components to give a balanced view of the impact on the organisation.	Focuses on the organisation as a whole and requires extensive planning and discussion to agree on the criteria and must refer to organisational strategy.	No – The current study aims to identify stakeholder perceptions of project success as an overall concept and not specific business activities that impact the organisation.
Key Performance Indicators	Identifies quantifiable critical success factors to achieve organisational goals/strategy.	Beneficial in the short term, but a sole long-term focus on one rigid measure can mislead an organisation's performance.	No – The current study requires a flexible instrument that can be used throughout the project and adapted based on changing stakeholder needs. Note: Will be used as an additional tool to aid in the trial multiple stakeholder model interpretation.
Square Root	Provides a balanced view of success.	Does not take into account scope changes caused by differing stakeholder views, nor how the project will fit into current organisation operations or culture.	No – This study requires an instrument that is adaptive to changes and takes into account multiple stakeholder views across the organisation.
Four Conditions	Guidelines of how to act when working on a project.	No empirical evidence supports the suggested conditions.	No – These conditions are more guidelines for how to act when working on a project and not the stakeholder perceptions of what constitutes project success.

Dimension	What do they do/Purpose	Deficiencies	Applicable to this study?
Maturity Models	Measure an organisation's project management maturity and identify areas for performance improvement.	Focus on the overall organisation maturity and not those of the individual's perception of success. Models are seen as rigid and impractical.	No – They are inflexible and strive to improve the whole organisations maturity through setting targets. The focus becomes on attaining the target to reach the next maturity level and not the impact of stakeholder perception to improve project success.
Four Universal Dimensions	Lists dimensions to categorise success into.	Limited dimensions noted.	No – The current study will encompass the four universal dimensions, which are already encompassed in the 'diagnostic behavioural instrument' and therefore not needed.
Seven Influencing Forces	Lists dimensions to categorise success into.	Limited dimensions noted.	No – These seven forces are already taken into account in the 'diagnostic behavioural instrument' and therefore not needed as separate dimensions.
Managing Successful Programmes	"MSP represents proven programme management best practice in the successful delivery of transformational change through the application of programme management" (Cabinet Office, 2011).	Focuses on programmes and how to achieve a transformational change.	No – this study focuses on projects and not programmes. It is concerned with how stakeholder perceptions affect project success and not the tools needed such as appropriate governance systems.
PRINCE2	"PRINCE2 is a process-based approach for project management providing an easily tailored and scalable method for the management of all types of projects. PRINCE2 is a flexible method that guides you through the essentials for running a successful project regardless of project type or scale" (Office of Government Commerce, 2009b).	Focuses on tools for the project manager.	No – this study is concerned with how stakeholder perceptions affect project success and not the tools needed for success such as appropriate planning and control methods.
Agile	"The Agile movement seeks alternatives to traditional project management. Agile approaches help teams respond to unpredictability through incremental, iterative work cadences, known as sprints. Agile methodologies are an alternative to waterfall, or traditional sequential development" (DSDM Consortium, 2010).	Focuses on project management and processes to run a project.	No – this study is concerned with how stakeholder perceptions affect project success and not the tools needed such as appropriate planning and control methods.

Table 31: Comparison of Dimension Models Continued

Dimension	What do they do/Purpose	Deficiencies	Applicable to this study?
Portfolio, Programme and Project Offices	"Portfolio, Programme and Project Offices (P3O®) provides a decision enabling/delivery support structure for all change within an organization" (Office of Government Commerce, 2013).	Focuses on how to achieve a transformational change through project management processes.	No – this study is concerned with how stakeholder perceptions affect project success and not the tools needed such as appropriate planning and control methods.
P3M3	"P3M3® is a maturity model for project management and provides a framework within which organizations can assess their current performance and plan for improvement when managing and delivering change" (AXELOS, 2016).	Focus on the overall organisation maturity and not those of the individual's perception of success. Models are seen as rigid and impractical.	No – They are inflexible and strive to improve the whole organisations maturity through setting targets. The focus is on attaining the target to reach the next maturity level and not the impact of stakeholder perception to improve project success.
ITIL	"ITIL advocates that IT services are aligned to the needs of the business and support its core processes. It provides guidance to organizations and individuals on how to use IT as a tool to facilitate business change, transformation and growth" (AXELOS, 2016).	Is specific to IT projects.	No – this study desires to create a model applicable to multiple stakeholders and project types.
PMBoK	"The Project Management Body of Knowledge (PMBOK) is a collection of processes and knowledge areas accepted as best practice for the project management profession" (PMBoK, 2013).	Focuses on tools for the project manager.	No – this study is concerned with how stakeholder perceptions affect project success and not the tools needed such as appropriate planning and control methods.
Scrum	"Scrum is an iterative and incremental agile software development framework for managing product development" (Scrum Alliance, 2016).	Used for software development.	No – this study creates a model applicable to multiple stakeholders and project types.

Table 31: Comparison of Dimension Models Continued

Dimension	What do they do/Purpose	Deficiencies	Applicable to this study?
RESILIA	"RESILIA™ is a framework of best practice, to build cyber resilience skills across an organization. Based on the Cyber Resilience Best Practices guide, it offers practical knowledge to enhance existing management strategies and help align cyber resilience with IT operations, security and incident management. Using the ITIL lifecycle it develops the skills and insight needed to detect, respond to and recover from cyber-attacks" (AXELOS, 2016).	Is specific to IT projects.	No – this study creates a model applicable to multiple stakeholders and project types.
Management of Risk	"Management of Risk (M_o_R®) is part of the Global Best Practice suite of publications, which helps organizations and individuals manage their projects, programmes and services consistently and effectively. Effective risk management can bring far-reaching benefits to all organizations, whether large or small, public or private sector, as well as individuals managing projects or programmes" (Office of Government and Commerce, 2010a).	Focuses on risk management.	No – this study is concerned with how stakeholder perceptions affect project success and not the tools needed to manage risk.
Management of Portfolios	"The MoP® (Management of Portfolios) guidance provides senior executives and practitioners responsible for planning and implementing change, with a set of principles, techniques and practices to introduce or re-energize portfolio management" (Office of Government and Commerce, 2011).	Focuses on portfolios and how to achieve a transformational change.	No – this study focuses on projects and not programmes. It is concerned with how stakeholder perceptions affect project success and not the tools needed such as appropriate governance systems.
Management of Value	"Management of Value (MoV) provides a set of principles, processes and techniques to enable organizations and individuals to maximize the benefits from portfolios, programmes and projects. MoV supplements the main purposes of PRINCE2®, MSP® and M_o_R®, but its focus is on maximizing value" (Office of Government Commerce, 2010b).	Focuses on benefits realisation and is a supplementary tool to other tools.	No – this study is concerned with how stakeholder perceptions affect project success and not the tools needed for benefits realisation.

4.1.3 Comparison of Identified Thematic Categories with the Diagnostic Behavioural Instrument Areas

Table 32 compares the thematic categories from the summarised analysis as illustrated previously in Figure 9 ('Overview of Success Dimension Themes') to the original list from Pinto and Slevin (1987). Ten project success themes were identified in the analysis, of which seven are in Pinto and Slevin's list. This implies that their entire list has been replicated in a range of studies and adds to the credibility and applicability of the dimensions for stakeholder assessment of project success. Identified limitations that were found in the literature but not in Pinto and Slevin's instrument are 'benefit to the stakeholder group', 'client/customer specific issues', and 'time, cost, and quality'. Pinto and Slevin's list mentions top management, personnel, client, and key players but does not seek their input for their instrument. This omission is important, as the literature states that these stakeholders contribute to the overall perception of project success.

Table 32: Comparison of Thematic Categories to Pinto and Slevin's (1987) List

Thematic Analysis Category/Dimension	Pinto and Slevin's (1987) Ten Factor List. Direct Quotes.
Personnel skills/issues	5. Personnel – Recruitment, selection, and training of competent personnel 2. Top management support – Resources, authority, and power for implementation
Benefit to stakeholder group	None explicitly identified
Client/customer specific issues	None explicitly identified
Communication	4. Client consultation – Communication with and consultation of all stakeholders 9. Communication – Provision of timely data to key players
Satisfaction	7. Client acceptance – Selling of the final product to the end users
Delivery	7. Client acceptance – Selling of the final product to the end users
Systems	3. Schedule and plans – Detailed specification of implementation process 8. Monitoring and feedback – Timely and comprehensive control 10. Trouble-shooting – Ability to handle unexpected problems
Time, cost, and quality	None explicitly identified
Technical aspects	6. Technical tasks – Ability of the required technology and expertise
Organisation structure	1. Project mission – Clearly defined goals and direction

4.1.4 The Importance of Stakeholders and Their Perceptions of Success Dimensions

The stakeholders who had an opinion about project success were identified to answer research question two. An analysis of the stakeholders identified (see the methodology chapter for details of the analysis) evidences the project manager as the most highly referenced stakeholder (Table 33). The key stakeholder groups that are believed to have the most impact on project success perception are the senior management, project core team, which includes project managers, and project recipient stakeholder groups. Therefore, these groups were selected as the focus of this study.

The 'perception of project success of certain stakeholder groups' was discussed, but in most cases, this was not tested empirically. It was identified that there was a theme to empirically study the 'project manager', 'the client', and 'the user/end user/consumer'. There were also more references for stakeholders involved directly in a project (project manager, project team, client, contractor, users, customer, and project sponsor or owner) and fewer references for those considered indirectly involved in a project (director, engineer, executive, external influences, internal and external management, investor, line manager, organisation, other interested parties, suppliers, owner, project executive, project leader, public, senior management, supporters, and top management). There were only a few studies examining the perception of success from a senior management point of view, including top management, owners, and company directors, yet the majority of studies stated that top management support is essential to project success. For example, in Table 33, the project owner had eight references, senior management and executive management three references, and project executives and senior suppliers only one reference. There is undoubtedly a link between the terms used to describe project success and stakeholder groups. The impact of different stakeholders e.g., business departments within the organisation and external stakeholders was not considered in this study.

Table 33: Frequency of Stakeholders Mentioned in the Reviewed Literature as Having an Interest in Project Success

Stakeholder	Number of references	Literature
Project manager	29	**Project manager** – Atkinson, 1999; Barclay and Osei-Bryson, 2009; Belassi and Tukel, 1996; Belout and Gauvreau, 2004; Cooke-Davies, 1990; Freeman and Beale, 1992; Jugdev and Müller, 2005; Kendra and Taplin, 2004; Kerzner, 1987; Lim and Mohamed, 1999; Müller, 2003; Müller and Turner, 2007a, 2007b; Munns and Bjeirmi, 1996; Pinto and Slevin, 1987, 1988a, 1988b, 1989; Shenhar *et al.,* 1997; Smith-Doerr *et al.,* 2004; Tishler *et al.,* 1996; Toor and Ogunlana, 2010; Tukel and Rom, 2001; Turner, 2004; Turner *et al.,* 2009; Turner and Müller, 2005, 2006; Wang and Huang, 2006; Wateridge, 1998
Project team	24	**Project team** – Barclay and Osei-Bryson, 2009; Belassi and Tukel, 1996; Bounds, 1998; Cooke-Davies, 1990, 2002; Jugdev and Müller, 2005; Kerzner, 1987; Munns and Bjeirmi, 1996; Pinto and Prescott, 1990; Pinto and Slevin, 1987, 1988a, 1988b, 1989; Shenhar and Dvir, 2007; Slevin and Pinto, 1986; Smith-Doerr *et al.,* 2004; Toor and Ogunlana, 2010; Turner, 1999, 2004, 2009; Turner *et al.,* 2009; Turner and Müller, 2006; Wang and Huang, 2006; Wateridge, 1995, 1998
Client	18	**Client** – Atkinson, 1999; Barclay and Osei-Bryson, 2009; Belassi and Tukel, 1996; Bryde and Robinson, 2005; Jugdev and Müller, 2005; Kerzner, 1987; Müller and Turner, 2007a; Munns and Bjeirmi, 1996; Pinto and Prescott, 1990; Pinto and Slevin, 1987, 1988b, 1989; Shenhar *et al.,* 1997; Slevin and Pinto, 1986; Toor and Ogunlana, 2010; Turner *et al.,* 2009; Turner and Müller, 2006; Wateridge, 1998
Contractor Users /end user/consumer	15	**Contractor** – Barclay and Osei-Bryson, 2009; Bryde and Robinson, 2005; Jugdev and Müller, 2005; Kerzner, 1987; Lim and Mohamed, 1999; Morris and Hough, 1987; Müller and Turner, 2007a; Pinto *et al.,* 2009; Tishler *et al.,* 1996; Toor and Ogunlana, 2010; Turner, 2004; Turner *et al.,* 2009; Turner and Müller, 2006; Wang and Huang, 2006; Wateridge, 1998 **Users/end user/consumer** – Atkinson, 1999; Jugdev and Müller, 2005; Kerzner, 1987; Lim and Mohamed, 1999; Müller and Turner, 2007a; Munns and Bjeirmi, 1996; Pinto and Prescott, 1990; The Standish Group, 1995; Tishler *et al.,* 1996; Toor and Ogunlana, 2010; Turner, 1999, 2009; Turner *et al.,* 2009; Turner and Müller, 2006; Wateridge, 1998
Customer Project sponsor	14	**Customer** – Atkinson, 1999; Barclay and Osei-Bryson, 2009; Cooke-Davies, 1990, 2002; Freeman and Beale, 1992; Jugdev and Müller, 2005; Kerzner, 1987; Lim and Mohamed, 1999; Shenhar *et al.,* 1997; Shenhar and Dvir, 2007; Tishler *et al.,* 1996; Tukel and Rom, 2001; Turner *et al.,* 2009; Wateridge, 1998 **Project sponsor** – Barclay and Osei-Bryson, 2009; Cooke-Davies, 1990, 2002; Freeman and Beale, 1992; Jugdev and Müller, 2005; Kerzner, 1987; Morris and Hough, 1987; Müller, 2003; Müller and Turner, 2007a, 2007b; Turner, 1999, 2004; Turner *et al.,* 2009; Wateridge, 1998

Table 33: Frequency of Stakeholders Mentioned in the Reviewed Literature as Having an Interest in Project Success Continued

Stakeholder	Number of references	Literature
Top management	9	**Top management** – Atkinson, 1999; Belassi and Tukel, 1996; Cooke-Davies, 1990; Jugdev and Müller, 2005; Kerzner, 1987; Pinto and Prescott, 1990; Pinto and Slevin, 1987, 1989; Slevin and Pinto, 1986
Organisation Owner	8	**Organisation** – Belassi and Tukel, 1996; Bounds, 1998; Cleland and Ireland, 2002; Jugdev and Müller, 2005; Morris and Hough, 1987; Pinto and Slevin, 1988b; Shenhar *et al.,* 1997; Wang and Huang, 2006 **Owner** – Jugdev and Müller, 2005; Lim and Mohamed, 1999; Pinto and Slevin, 1988b; Pinto *et al.,* 2009; Turner, 2004; Turner *et al.,* 2009; Wang and Huang, 2006; Wateridge, 1998
Line manager	7	**Line manager** – Cooke-Davies, 1990; Jugdev and Müller, 2005; Kerzner, 1987; Müller and Turner, 2007b; Toor and Ogunlana, 2010; Turner and Müller, 2005; Wenell, 2000
Project leader Project personnel Team members	4	**Project leader** – Pinto and Slevin, 1988b; Slevin and Pinto, 1986; Smith-Doerr *et al.,* 2004; Wateridge, 1998 **Project personnel** – Kerzner, 1987; Müller and Turner, 2007a; Slevin and Pinto, 1986; Tishler *et al.,* 1996 **Team members** – Atkinson, 1999; Belassi and Tukel, 1996; Tishler *et al.,* 1996; Turner and Müller, 2005
Executive Executive management Internal and external Management Other suppliers Public Senior management Subcontractor Supporters	3	**Executive** – Jugdev and Müller, 2005; Kerzner, 1987; Toor and Ogunlana, 2010 **Executive management** – Barclay and Osei-Bryson, 2009; Kerzner, 1987; The Standish Group, 1995 **Internal and external** – Lester, 1998; Morris, 1997; Pinto and Slevin, 1988b **Management** – Bounds, 1998; Freeman and Beale, 1992; Morris and Hough, 1987 **Other suppliers** – Lim and Mohammed, 1999; Müller and Turner, 2007a; Turner, *et al.,* 2009 **Public** – Lim and Mohamed, 1999; Munns and Bjeirmi, 1996; Turner *et al.,* 2009 **Senior management** – Jugdev and Müller, 2005; Kerzner, 1987; Wateridge, 1998 **Subcontractor** – Belassi and Tukel, 1996; Lim and Mohammed, 1999; Turner *et al.,* 2009 **Supporters** – Toor and Ogunlana, 2010; Turner, 1999; Wateridge, 1998

Table 33: Frequency of Stakeholders Mentioned in the Reviewed Literature as Having an Interest in Project Success Continued

Stakeholder	Number of references	Literature
Client organisation Construction contractor Consultant Director Engineer Investor Manager Middle manager Other interested parties Project team leader Supplier	2	**Client organisation** – Jugdev and Müller, 2005; Pinto and Slevin, 1988b **Construction contractor** – Toor and Ogunlana, 2010; Wang and Huang 2006 **Consultant** – Lim and Mohammed, 1999; Toor and Ogunlana, 2010 **Director** – Cooke-Davies, 1990; Smith-Doerr *et al.,* 2004 **Engineer** – Smith-Doerr *et al.,* 2004; Wang and Huang, 2006 **Investor** – Barclay and Osei-Bryson, 2009; Turner *et al.,* 2009 **Manager** – Cooke-Davies, 1990; Toor and Ogunlana, 2010 **Middle manager** – Cooke-Davies, 1990; Jugdev and Müller, 2005 **Other interested parties** – Turner *et al.,* 2009; Turner and Müller, 2006 **Project team leader** – Pinto and Slevin, 1988a, 1989 **Supplier** – Müller and Turner, 2007a, 2007b
External influences Project executive /Senior supplier	1	**External influences** – Morris and Hough, 1987 **Project executive /Senior supplier** – Turner *et al.,* 2009

Appendix 21 contains evidence supporting the 'impact theme'. There was a recurring theme whereby 'those who make use of a system' (users, clients, and customers) are considered to have an impact on the perceived success of a project (Jugdev and Müller, 2005; Pinto and Prescott, 1990; Pinto and Slevin, 1988b; Wateridge, 1998). This is in line with empirical studies that measured the perception of project success from the user, client, and customer viewpoint. The only other recurring themes were 'impact on the parent organisation' (Müller and Turner, 2007a; Turner *et al.*, 2009) and 'project manager' (Müller and Turner, 2007b; Turner and Müller, 2005). However, it was not made clear which stakeholders were involved to assess the impact on the organisation. There was limited evidence of the 'impact on external organisational factors' (Pinto and Slevin, 1988b), 'market impact' (Tishler *et al.*, 1996), 'owner', 'contractor', and 'supervisors' (Wang and Huang, 2006). There were also few studies examining the impact/perception of success from a senior management point of view, including top management, owners, and company directors, yet the majority of the literature stated that top management support was essential to project success.

An analysis of the publication year and the stakeholders mentioned (Figure 12) revealed that external influences were only referred to from 1987; however, this may result from a lack of clarity in defining terms. In 2009, there was a focus on studying the contractor, project manager, and project sponsor/owner/executive and a departure from organisation and management. For example, the project manager was mentioned as a project stakeholder from 1987 to 2009, the project team was referred to from 1996 to 2009 and management from 1987 to 1998. This highlighted a gap in the literature at that time to examine and compare multiple stakeholders with both direct and indirect involvement in a project. However, Figure 12 looks at stakeholders beyond 2009, and the impact of this is discussed in section 2.5.
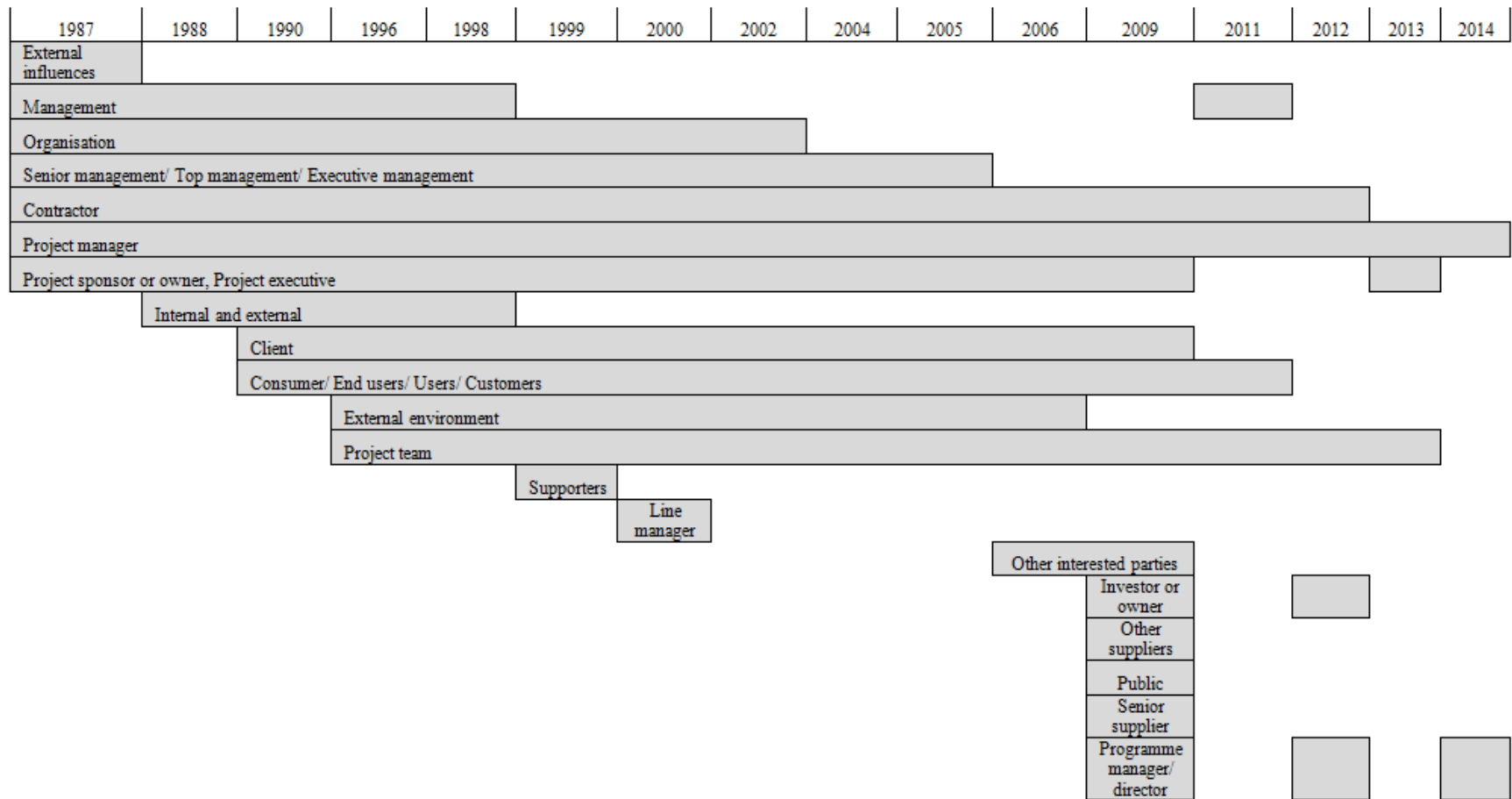
Figure 12: Timeline of Identified Stakeholders

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4.1.5 Stakeholder Groups' Differing Views of Project Success

The stakeholder groups contributing to the perception of project success have been identified previously in Table 33. The perception of success held by identified stakeholder groups will now be presented. Appendix 22 contains further evidence.

Project manager perception of success

The project manager perception looked at success criteria and the underpinning factors that influenced them. Recurrent success criteria were 'budget/cost' (Barclay and Osei-Bryson, 2009; Freeman and Beale, 1992; Wateridge, 1998), 'schedule/time' (Barclay and Osei-Bryson, 2009; Jugdev and Müller, 2005; Wateridge, 1998), and 'quality' (Tukel and Rom, 2001; Wateridge, 1998), reiterating the studies that used 'time, cost, and quality' to assess success. 'Stakeholder satisfaction' (customer, team, and end user), a success criterion, (Müller and Turner, 2007a; Tukel and Rom, 2001; Wateridge, 1998) and being 'people focussed', a success factor, (Turner and Müller, 2005; Wang and Huang, 2006) were also themes that reiterate the previous section's findings. 'Whether the technology works' and 'implementation of the software' were the last themes (Barclay and Osei-Bryson, 2009; Belassi and Tukel, 1996). Research areas that occurred once included 'cooperation between the project team' (Cooke-Davies, 2002), 'agreeing objectives' (Turner, 2004), 'are products suitable and market feasibility' (Barclay and Osei-Bryson, 2009), 'emotional and managerial competencies' (Müller and Turner, 2007b), 'commercial success of a project' (Wateridge, 1998), 'top management support', 'client consultation and availability of resources' (Belassi and Tukel, 1996), 'agreement on success criteria between project manager and end users' (Jugdev and Müller, 2005), 'impact on customer', 'business and direct success', and 'strategic potential' (Jugdev and Müller, 2005). This suggests that some project managers found these areas to be less influential in determining project success, although some, e.g., support of top management, have been found to be important previously.

Client and user perception of success

Clients perceived 'stakeholder satisfaction' (including acceptance and meeting needs) (Müller and Turner, 2007a; Pinto and Prescott, 1990; Pinto and Slevin, 1988b; Slevin and Pinto, 1986; Turner *et al.*, 2009; Wateridge, 1998) and 'communication' (Belassi

and Tukel, 1996; Pinto and Slevin, 1987; Pinto and Slevin, 1989; Slevin and Pinto, 1986) as the two main themes. The client 'making use of the finished product' was the only other recurrent theme (Munns and Bjeirmi, 1996; Pinto and Slevin, 1988b). 'Repeat business' (Turner *et al.*, 2009) with the client and 'time' and 'cost' were also considered (Bryde and Robinson, 2005).

'Quality' (defined as 'the satisfaction of meeting user's needs') was the most recurrent theme by the user (including end users, consumers, and customer) (Jugdev and Müller, 2005; Lim and Mohammed, 1999; Munns and Bjeirmi, 1996; Tishler *et al.*, 1996; Tukel and Rom, 2001; Turner *et al.*, 2009; Wateridge, 1998). 'Close co-operation' and 'involvement' were the only other recurrent themes (Cooke-Davies, 2002; Tukel and Rom, 2001). Themes with limited work referring to them included 'perceived values' (Jugdev and Müller, 2005), 'project is well accepted by users' (Lim and Mohammed, 1999), 'users make use of the completed project or product' (Munns and Bjeirmi, 1996), 'how the final project is sold to intended users' (Pinto and Prescott, 1990), 'meeting the functional and technical specifications' (Tishler *et al.*, 1996), 'the benefit provided by the asset', 'obtaining benefit from project outcome', 'availability', 'reliability', 'maintainability', 'cost', and 'time' (Turner *et al.*, 2009). It is interesting that cost and time elements would appear to less important to the client than to the project manager.

Project team perception of success

The project team stakeholder was found to assess success by the 'level of collaboration within a project' (Barclay and Osei-Bryson, 2009; Cooke-Davies, 2002). This was echoed in the 'user' stakeholder theme; however, the owner only recognised 'the need for communication' and not 'collaboration'. This suggests a lack of collaboration between stakeholder groups when defining project success and could account for different perceptions of what constitutes success between groups. Other themes found in this group were 'the importance of the project mission' (Pinto and Slevin, 1988a) and 'successfully reaching the end of the project' (Munns and Bjeirmi, 1996).

Senior management perception of success

Among the senior management stakeholders (sponsors, owners, and executives), the one recurring theme in the 'executive' group was 'identification of objectives' (Barclay and

Osei-Bryson, 2009; Jugdev and Müller, 2005). 'Executive commitment to project management' and 'corporate understanding of the project' (Kerzner, 1987) were also noted. There were no recurring themes in the sponsor or owner stakeholder groups. This highlights a gap to conduct an empirical study assessing senior management's perception of success. The sponsor category included 'maximising efficiency', 'developing a quality reputation' (Barclay and Osei-Bryson, 2009), 'time' (Freeman and Beale, 1992), and 'having a project manager with appropriate focus for their work' (Müller and Turner, 2007a). The owner theme noted 'continuous communication' (Jugdev and Müller, 2005), 'project performance reports' (Turner, 2004), and 'determining project success' (Wang and Huang, 2006).

4.1.6 Summary of Stakeholders' Perception of Success

Table 34 contains the summarised dimensions of project success with a theme only being mentioned when two or more stakeholder groups recognised it. A further summary can be found in Appendix 23. This summary combines both criteria (for example, 'time' and 'cost') and factors (for example, 'makes use of finished product' and 'the project delivering the strategic benefits') for ease of data presentation. Success dimension one ('cooperation/collaboration/consultation/communication') was the most frequently cited by five stakeholder groups (project manager, client, owner, user, and project team). Four stakeholder groups (project manager, client, sponsor, and user) considered 'setting and meeting a schedule' (success dimension two) essential for measuring and understanding project success. Success dimensions three to six were the third most frequent and have been classified as 'satisfaction' and 'cost'. This reiterates themes relating to success dimension measures, which occurred most frequently. Finally, success dimensions seven to nine were recognised in two stakeholder groups, which were related to project manager and senior management. This is consistent with the fact that less empirical research has been conducted on senior management's perception of success.

Table 34: Analysis of Success Dimensions across Stakeholder Groups

Success Dimension Theme	Project Manager	Client	Sponsor	Owner	Executive	User, etc.	Project Team
1. Cooperation/ collaboration/ consultation/ communication	x	x		x		x	x
2. Time	x	x	x			x	
3. Identifying /agreeing objectives/ mission	x				x		x
4. Stakeholder satisfaction (quality)	x	x				x	
5. Makes use of finished product/ acceptance		x				x	x
6. Cost/budget	x	x				x	
7. A project manager competencies and focus	x		x				
8. The project delivering the strategic benefits	x		x				
9. Top management support/ executive commitment	x				x		

4.1.7 Comparison of Stakeholder Perception of Success – Identifying the Differing Views of Stakeholders when Perceiving Project Success

Table 35 contains a comparison of the identified stakeholders against the success dimensions within which they were themed. This revealed that the groups with the most success dimensions in common were the clients and users (success dimensions – 'communication', 'time', 'stakeholder satisfaction', 'makes use of finished product/acceptance', and 'cost/budget'), which was expected, as there is overlap when defining clients and users.

There were four success dimensions in common between project managers and users/clients (success dimensions – 'communication', 'time', 'stakeholder satisfaction', and 'cost/budget'). There were fewer success dimensions in common between project managers and sponsors/owners, which could account for the project manager needing 'top management support'.

The results revealed that the project manager and project team (success dimensions – 'communication' and 'identifying/agreeing with objectives/mission') and project team and user/client (success dimensions – 'communication' and 'makes use of finished product/acceptance') had only two success dimensions in common. It could be assumed that these would be the closest groups, as the project manager would inform the project team of the success dimensions, and these would be filtered to the user/client. This could suggest a lack of project manager leadership skills. It is interesting to note that the project team recognises the importance of acceptance of the product but the project manager does not and also that the team do not share all the success dimensions in common with the project manager.

There was only one success dimension in common between those in senior management (sponsor, owner) and the client/user (sponsor and user success dimension – 'time'; owner and user success dimension – 'communication'), which could result from the project manager dealing with the client/user and not senior management. It was striking that no senior management stakeholder groups ('executive', 'sponsor', 'owner') shared the same success dimensions: 'client and executive', 'sponsor and owner', 'sponsor and executive', 'sponsor and project team', 'owner and executive', and 'executive and user'. Since these groups are historically more likely to be involved in the measurement of project success, this might be one reason for the observed increase in project failure.

Table 35: Comparison of Stakeholder Success Dimensions

Stakeholder	Success Dimensions in Common (see Table 34 for success dimensions)	Total Number of Success Dimensions in Common
Client and user, etc.	1, 2, 4, 5, 6	5
Project manager and client	1, 2, 4, 6	4
Project manager and user, etc.	1, 2, 4, 6	4
Project manager and Sponsor	2, 7, 8	3
Project manager and executive	3, 9	2
Project manager and project team	1, 3	2
Client and project team	1, 5	2
User and project team	1, 5	2
Project manager and owner	1	1
Client and sponsor	2	1
Client and owner	1	1
Sponsor and user, etc.	2	1
Owner and user, etc.	1	1
Owner and project team	1	1
Executive and project team	3	1
Client and executive	None	None
Sponsor and owner	None	None
Sponsor and executive	None	None
Sponsor and project team	None	None
Owner and executive	None	None
Executive and user, etc.	None	None

The stakeholders that have an impact on project success were categorised into three stakeholder groups: 'senior management', 'project core team', and 'project recipient' (Table 36). This was based on NVivo's cluster analysis tool, which recognised patterns in the data set and grouped themes that shared similar words or were coded similarly by nodes (see section 3.5.2).

Table 36: Identified Stakeholders for Empirical Work

Category	Stakeholder
Senior Management	Board, director, executive, executive management, investor, project executive, portfolio director, programme director, owner, senior management, sponsor, top management, project sponsor.
Project Core Team	Engineer (i.e., those involved in carrying out the work), other organisational involvement (e.g., business departments), project leader, project manager, project personnel, project team leader, project team, team members.
Project Recipient	Client, consumer, customer, end users, users.

The results from Table 34 were categorised into these three stakeholder groups in Table 37, which revealed that the key common success dimensions were 'communication' and 'time'. Senior management and the project core team both recognised 'identifying/agreeing objectives/mission', 'project manager competencies and focus', 'the project delivering the strategic benefits', and 'top management support'. The project core team and project recipients both identified 'stakeholder satisfaction', 'makes use of finished product/acceptance', and 'cost/budget'.

Grouping the stakeholders into three groups shows a clear gap in the success dimensions used by stakeholders, justifying both the dimension and stakeholders for the current research. Those stakeholders who had no success dimensions in common highlight the differences in perception among the three main stakeholder groups of senior management, project core team, and project recipients. This identifies the need for further investigation and reveals a gap to examine the three stakeholders in detail to investigate why perceptions of success dimensions differ and whether any differences lead to the apparent high rate of perceived project failure.

Table 37: Analysis of Success Dimensions across Categorised Stakeholder Groups

Success Dimension	Senior Management	Project Core Team	Project Recipient
Communication	x	x	x
Time	x	x	x
Identifying/agreeing objectives/mission	x	x	
Project manager competencies and focus	x	x	
The project delivering the strategic benefits	x	x	
Top management support	x	x	
Stakeholder satisfaction		x	x
Makes use of finished product/acceptance		x	x
Cost/budget		x	x

4.1.8 Summary of Systematic Literature Review Results

In answering research question one, it was found that the most cited authors to assess project success were Pinto and Slevin (1987). An in-depth investigation was undertaken to compare the success dimensions and methods to assess success that were recognised or used in the literature with the success factors of the 'diagnostic behavioural instrument'. The success dimensions extracted and classified by other authors were compared with Pinto and Slevin's list to establish the dimensions that could be used for empirical work. This will extend Pinto and Slevin's (1987) 'diagnostic behavioural instrument' to include additional areas identified in the thematic analysis of the project success dimensions 'benefit to the stakeholder group', 'client/customer specific issues', and 'time, cost, and quality'.

Figure 13 summarises the two main themes identified when referring to project success, one referring to the 'stakeholders involved in a project' and the other related to 'project structure'. The two main themes were broken down into ten areas identified in the project success dimension thematic analysis (extracting the project success dimensions from the reviewed literature). The areas arising from the categorised themes informed the development of the qualitative interview questions.
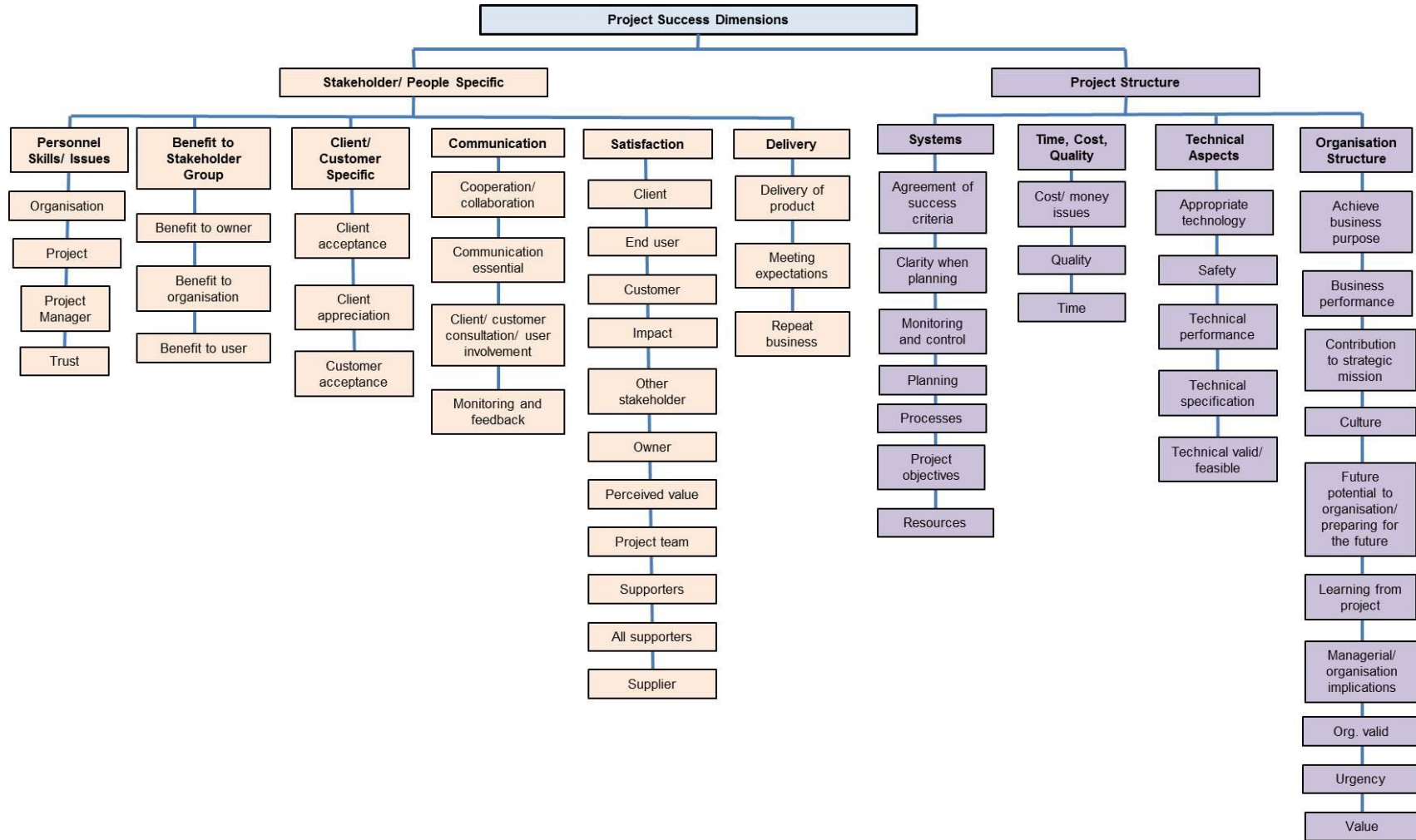
Figure 13: Project Success Dimensions from the Literature

The stakeholder groups that influenced the success of a project were identified to answer research question two. The thematic analysis successfully evidenced the project manager as the most highly cited stakeholder when measuring project success. There was a theme to study project managers empirically, as they were commonly used to judge success. It was noted that the more senior a role in an organisation is, the less research had been undertaken, suggesting that empirical work in this area would give greater insight into their role in the judgement of project failure or success. The thematic analysis revealed that the client and user had the most in common in perceiving project success, recognising five success dimensions: 'communication', 'time', 'stakeholder satisfaction', 'makes use of finished product/acceptance', and 'cost/budget'. The main issue highlighted was that, for some groups, there were no success dimensions in common, which were all linked to the senior management group (executive, sponsor, and owner). This suggested that there was no agreement in project success dimensions between these stakeholders and highlighted the differences between them.

Figure 14 shows the different stakeholder groups identified for analysis and their relationship with and effect on the success dimensions. This predicts that success dimensions are influenced by the relationships between the people involved at different hierarchical levels of the organisation. The relationships are assessed by empirical research examining the commonality and differences in perceptions of project success dimensions between the stakeholder groups of senior management, project core team, and project recipients. The outcome will identify groups that have more success dimensions in common, whether the success dimensions in the academic literature are reflected in industry, and any particular areas where there is a wide disparity in perception of success across the three stakeholder groups. The current study challenges the concept that a limited number of stakeholders (often just the project manager) can determine the success or failure of a project and argues that multiple stakeholders should be included. It also explores the possibility and development of a new multiple stakeholder theoretical model to monitor and assess the failure or success of a project from a multiple stakeholder perspective rather than solely relying on the view of the project manager.
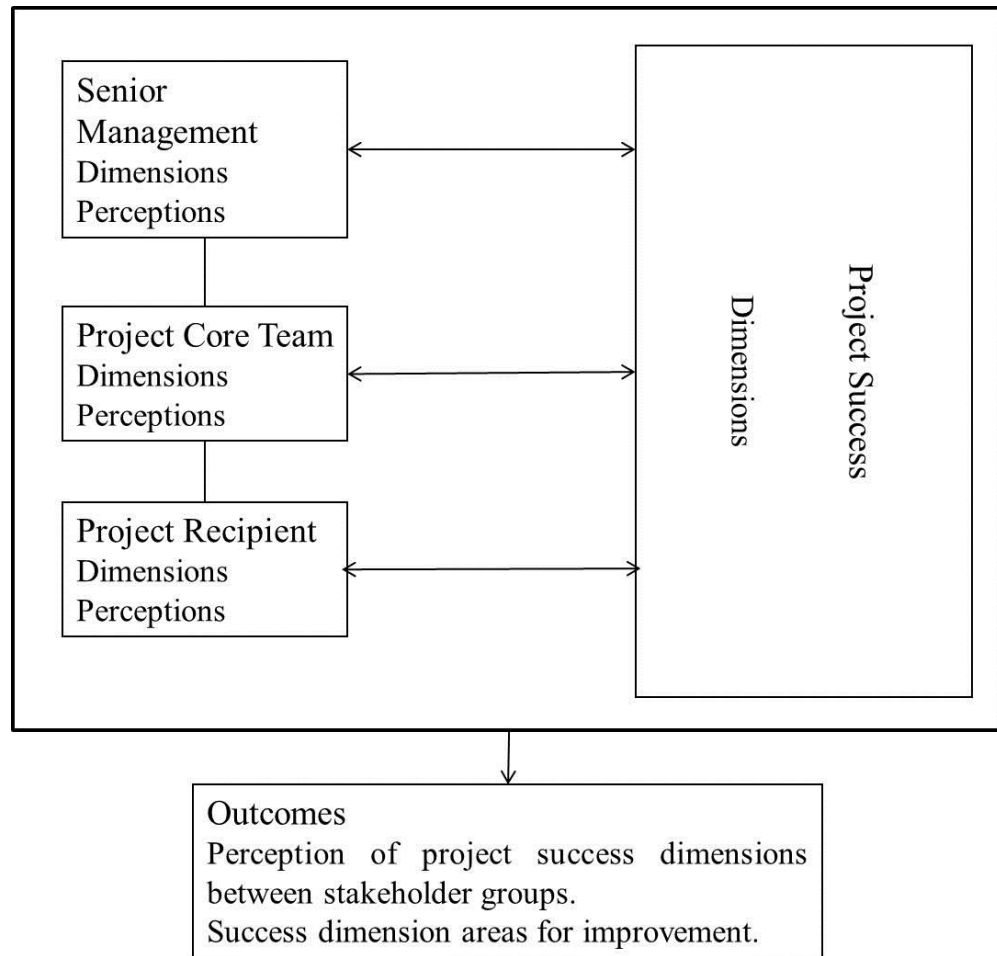
Figure 14: Stakeholders for Empirical Work

4.1.9 The Conceptual Framework

Shields and Rangarajan (2013) noted that conceptual frameworks aid in focusing the purpose and direction of research. Miles and Huberman (1984, 1994) noted that a quantitative conceptual framework derives its structure from literature and personal experience, whereas a qualitative framework evolves from the collected and analysed perceptions of stakeholders. The current study uses existing literature to build a starting point that is analysed through the perception of stakeholders. Therefore, the framework combines both quantitative and qualitative concepts. The conceptual framework for the study is shown in Figure 15. Three research questions were posed to test the conceptual framework as detailed in section 1.3.

Conceptual Framework

Identify related theory

Post-positivism

Contingency theory

Stakeholder theory

Literature Review Results

Identify success dimensions

Stakeholder/ People
Specific Dimensions:
1 - Personnel Skills Issues
2 - Benefit to Stakeholder Group
3 - Customer/ Client Specific Issues
4 - Communication
5 - Satisfaction
6 - Delivery

Project Structure Dimensions:
7 - Systems
8 - Time, cost and quality
9 - Technical Aspects
10 - Organisation Structure

Identify stakeholders

More studies empirically examined the project manager, the client and the user. Little data that examines the role of senior managers.

Main success dimension found common to five stakeholder groups (project manager, client, owner, user and project team) was communication.

Stakeholders categorised into three groups (senior management, project core team, project recipient) to evaluate why the perception of success dimensions differ.

Identify methods

Most cited model to measure success – the diagnostic behavioural instrument (Pinto and Slevin, 1987).

Adapt Pinto and Slevin's (1987) method to measure identified new themes by more stakeholder groups.

More studies favoured quantitative methods using a survey/ questionnaire, fewer used qualitative interviews.

Qualitative Data Analysis Techniques - Textual/ thematic analysis.

Quantitative Data Analysis Techniques - Descriptive statistics, Cronbach alpha reliability test for the scale instrument.

Methodology

Research philosophy - Post-positivism

Research approach – Deductive/ Inductive

Research strategy Survey, structured in-depth interviews

Time horizon - Cross sectional

Data collection methods Systematic integrative literature review. Open and closed question survey and interviews. Informal focus group.

Data analysis methods Web of Science, Bibexcel and Nvivo. Qualitative thematic analysis and interpretation. Quantitative statistical analysis using established methods.

Results

Evaluates project success through development of new success dimensions not used by established Pinto and Slevin's (1987) diagnostic tool . Uses representative stakeholder groups to test the success dimensions.

Combines technological solutions (software – including Web of Science database, Bibexcel, NVivo and Excel) to facilitate the systematic identification, selection and analysis of data sources. Application to different research. Adds a new facet to post-positivism as the social world is being studied through a scientific method (technological solution) to attain objectivity and develop theory and hence justify applicability.

Empirical research used to measure multiple stakeholder groups perceptions of project success that has not been previously attempted.

Creation of a new theoretical multiple stakeholder model to measure project success. Preliminary tests reveal that the model is equal or better than Pinto and Slevin's diagnostic tool in predicting project success and applicability to a broad range of project types and organisations.

Figure 15: Conceptual Framework

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4.2 Interview Results

This section answers research question two by providing examples of where the perception of project success has changed when different stakeholder views are documented. NVivo was used to facilitate the systematic analysis of interviews to identify the most prevalent themes. The creation of themes depended on the number of times a subject was referred to in the interviews. A comparison of the systematic literature review themes to those of the interviews to refine the survey questions is presented. See Appendix 12 for a sample interview script. The results in the summary tables have been restricted for layout reasons; however, further results are provided in Appendix 24. The main interview themes identified did not include Pinto and Slevin's extra area of 'project performance', as it was included in the 'time, cost, and quality', 'delivery', 'benefit to stakeholder group', and 'planning' themes. When analysing the interviews, the following themes were prevalent:

- **Personnel Skills/Issues** (sub-themes – 'project', 'skills, qualities, traits', 'issues, problems, failure')
- **Benefit to Stakeholder Group**
- **Customer/Client Specific Issues**
- **Communication** (sub-themes – 'cooperation collaboration', 'stakeholder consultation/involvement', 'monitoring and feedback', 'managing the relationship', 'support', 'why communicate')
- **Delivery** (sub-themes – 'delivery aspects', 'meeting expectations/goals/aims', 'output of a project', 'adoption of project/product', 'rewards/consequences', 'impact', 'post implementation')
- **Systems** (sub-themes – 'resources', 'planning', 'monitoring and control', 'processes', 'performance measures', 'change', 'testing')
- **Time, Cost, and Quality** (sub-themes – 'cost/money issues', 'time', 'quality', 'combination of more than one')
- **Technical Aspects**
- **Accountability**
- **Organisation Issues**
- **Assurance**

Example quotes from the interviewees are provided, and these correspond to the interviewee numbers in Table 38. Note that acronyms will be used from now on when discussing senior management (SM), project core team (PCT), project recipients (PR) and 'total all interviewees' (TAI).

Table 38: Key to Interview Results Tables

Stakeholder Group	Acronym	Interviewee Numbers Corresponding to Table 24
Senior Management	SM	1, 2, 7, 8, 13, 14, 19, 20
Project Core Team	PCT	3, 4, 9, 10, 15, 16, 21, 22
Project Recipient	PR	5, 6, 11, 12, 17, 18, 23, 24

4.2.1 Personnel Skills/Issues

Project

Table 39 shows the 'project' sub-theme results from the 'personnel skills/issues' theme.

Table 39: Personnel Skills/Issues – Project Theme: Interviewee Results

Sub-theme within Personnel Skills/Issues – Project Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Seen as a hassle	1, 2, 8, 13, 14	5	3, 4, 9, 21, 22	5	11, 17, 24	3	13	1 – *'The people that I have to get involved in the projects, it is not their day job and they are doing it in addition to their day job'.*
Perception of a project	1, 2, 7, 14, 19	5	4, 9, 10, 15, 16, 22	6	5, 12	2	13	1 – *'Some of it can just be experience or an actual benefit to them in their day to day job'.*
How project linked to people	1, 2, 7, 14	4	4, 9, 16, 22	4	5, 17, 23, 24	4	12	7 – *'It is all about getting the right people in the key roles with the right relationships to work together'.*
How project affects organisation	1, 7	2	9, 15, 16, 21	4	17	1	7	17 – *'They [projects] all seem to come along at once at times. I think they wait until everyone's really busy and then they land about three or four on us at once'.*

The first recurring themes for all three stakeholder groups were the 'perception of a project' and how projects were 'seen as a hassle' (13 interviewees). Reasons for this

were attributed to projects being viewed as an addition to their normal day-to-day duties. This resulted in people being too busy to engage with the project. 'How the project was linked to people' was the next recurrent theme (12 interviewees). The interviews highlighted that projects are linked to the people involved in terms of understanding their roles, their ability to work as a team, and achieving a balance of the people working together. The interviewees emphasised that the project manager should be challenged and provide a positive experience to build relationships that can resolve areas of dissent. When the project was internal to the organisation (theme: 'how project affects organisation'), it became apparent that projects were bunched and not distributed equally over time; this resulted in people being overloaded and not being able to dedicate as much time as they would like to the project. This could be attributed to a lack of understanding of why projects are bunched; e.g., it is necessary to achieve an overall aim. In addition, there was a lack of proper governance in place between the projects, i.e., a lack of consistency when using the same setup, processes, and documents.

Skills, qualities, traits

Table 40 shows the 'skills, qualities, traits' sub-theme results from the 'personnel skills/issues' theme.

Table 40: Personnel Skills/Issues – Skills, Qualities, Traits: Interviewee Results

Sub-theme within Personnel Skills/Issues – Skills, Qualities, Traits	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Know what they're doing Competence Confidence Experience	7, 8, 14, 19, 20	5	4, 9, 10, 15, 16, 21, 22	7	12, 23, 24	3	15	15 – *'I think you just have to be consistent in terms of how you deal with them and manage them and apply a degree of common sense'.*
Attitude	1, 2, 7, 8, 13, 19, 20	7	3, 9, 15, 21	4	5, 6, 17, 24	4	15	3 – *'People who are comfortable share with each other'.*
Has right skills	2, 7, 8, 13, 14, 19, 20	7	4, 9, 16, 21, 23	5	12, 24	2	14	2 – *'The people that are allocated to the project have the appropriate skills'.*
Managing project Logic	1, 2, 13, 14	4	4, 9, 10, 15, 16, 21, 22	7	6	1	12	13 – *'You have to be logical'.*

Table 40: Personnel Skills/Issues – Skills, Qualities, Traits: Interviewee Results Continued

Sub-theme within Personnel Skills/Issues – Skills, Qualities, Traits	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Awareness Knowledge Common sense	2, 7, 8, 14	4	9, 10, 15, 16, 21, 22	6	5, 17	2	12	7 – 'I use common sense to sort out people issues'.
Behaviour	1, 2, 7, 8, 14	5	9, 10, 15, 22	4	5, 6	2	11	5 – 'Coming out and giving their time on a Saturday to make sure that my guys were trained to the best of their ability'.
Looking after Developing people Counselling	2, 8, 13	3	15, 16, 22	3	17	1	7	15 – 'I look after my team to develop their skills'.
Communication	2, 14	2	X	0	5, 6, 11, 12, 17	5	7	6 – 'Somebody that is a good communicator, that will listen to your views'.
Coaching Guiding	7, 20	2	3, 4, 21	3	17	1	6	4 – 'Working with understandable instructions and the right amount of coaching'.
Influence Persuasion Negotiation	2	1	4, 9, 15, 16, 22	5	X	0	6	22 – 'Influencing the team to get what you need is essential'.
Honesty Modesty	2, 7, 8	3	9, 16	2	17	1	6	8 – 'The expectations of project leaders is to be honest and upfront about the issues they find'.
Advice Advise	7, 8	2	X	0	12, 23, 24	3	5	12 – 'Sometimes they might want our advice in terms of actually helping them decide what it is they want'.
Trusting	2, 7, 14, 19	4	9	1	X	0	5	14 – 'People buy products from us because they trust the brand'.
Belief	1, 2, 7, 14	4	X	0	X	0	4	7 – 'If we don't believe in it, it won't get done'.
Motivation Inspire	14, 20	2	9, 22	2	X	0	4	9 – 'I have to motivate my team'.
Leadership	2, 7	2	22	1	6	1	4	7 – 'This is where good leadership and project management come in to set clear objectives'.
Personable Approachable Emotions	14, 20	2	9, 15	2	X	0	4	20 – 'The project manager should be approachable'.
Networking	14	1	9, 21	2	X	0	3	21 – 'Projects are networking opportunities'.
Passion	1, 2	2	X	0	X	0	2	1 – 'Passion to sponsor a project is paramount'.

The list was extensive, but the most frequently recurring theme was having experience (15 interviewees; 'knows what they are doing/competence/confidence/experience' theme). This was followed by the need for appropriate skills to work on projects. Skills included the need to be logical, having common sense, being a good communicator, coaching skills, honesty, being able to advise, trustworthiness, and being a leader.

An unexpected area from the analysis was differing stakeholders' attitudes, behaviour, and beliefs towards a project. The main theme was the attitude towards and experience gained whilst being involved in a project (15 interviewees), which included individuals feeling comfortable and being excited with the project. The behaviour of individuals was associated with panicking when things go wrong, putting in extra effort, being able to depersonalise from a project, and complacency. The need to believe in the project was also noted.

Issues, problems, failure

Table 41 shows the 'issues, problems, failure' sub-theme results from the 'personnel skills/issues' theme.

Table 41: Personnel Skills/Issues – Issues, Problems, Failure: Interviewee Results

Sub-theme within Personnel Skills/Issues – Issues, Problems, Failure	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
People issues	1, 2, 7, 8, 13, 14, 19	7	4, 9, 10, 21, 22	5	5	1	13	22 – *'I think one of the challenges is around conflicting objectives; do everyone's objectives line up?'*
Blame fault conflict	2, 7, 13, 14, 19	5	4, 9, 15, 22	4	5, 12, 23	3	12	19 – *'You quite often get into tricky conversations because they'll go, "It's nothing to do with my code; it's your environment"'.*
Negative perception of project	1, 2, 13, 14	4	9, 21	2	5, 17	2	8	14 – *'I see people struggle. I don't mind saying I've got people who have had serious problems because of the stresses and strains they have gone through'.*
Admit problem, fault, weakness	2, 7	2	10, 16, 21	3	X	0	5	7 – *'We manage to persuade the vast majority of people that it was better to own up early'.*
Resistance to project	2, 8	2	X	0	X	0	2	2 – *'Some people don't want to work on a project, as they resist change'.*

The main themes when discussing problems working on a project were linked to people issues and conflict. Other themes included blame, negative perceptions of a project that create pressure and stress, and individuals finding it difficult to admit their weaknesses or own up to problems.

Summary of personnel skills/issues theme

Table 42 shows the key findings in the 'personnel skills/issues' theme. This revealed that the most prevalent themes were the need for people working on the project to be competent and experienced, as well as the attitude towards the project. The themes within the stakeholder groups will now be presented.

Table 42: Personnel Skills/Issues – Summary: Interviewee Results

Sub-theme	Sub-sub-theme	SM	PCT	PR	TAI
Skills, qualities, traits	Knows what they're doing, competence, confidence experience	5	7	3	15
Skills, qualities, traits	Attitude	7	4	4	15
Skills, qualities, traits	Has right skills	7	5	2	14
Project	Seen as a hassle	5	5	3	13
Issues, problems, failure	People issues	7	5	1	13
Project	Perception of a project	6	5	2	13

Tables 43 to 45 show the themes recognised within the three stakeholder groups. This revealed that the key theme for SM was the attitude towards a project, followed by behaviour and that projects are seen as a hassle and an addition to their day-to-day work. The key theme for the PCT was for the people involved in a project to be logical, followed by how a project was perceived. This group also echoed that projects are seen as a hassle, as in the SM group. The PR stakeholder group highlighted the key theme of communication. This showed that SM and the PCT do not equally recognise the same themes as PRs, as only two SM interviewees recognised communication and there was no recognition within the PCT. The PR echoed the need for a positive attitude, as in the SM group.

Table 43: Personnel Skills/Issues – SM: Interviewee Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Skills, qualities, traits	Attitude	7	4	4
Skills, qualities, traits	Behaviour	5	4	2
Project	Seen as a hassle	5	5	3

Table 44: Personnel Skills/Issues – PCT: Interviewee Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Skills, qualities, traits	Managing project, logic	4	7	1
Project	Perception of a project	4	6	2
Project	Seen as a hassle	5	5	3

Table 45: Personnel Skills/Issues – PR: Interviewee Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Skills, qualities, traits	Communication	2	0	5
Skills, qualities, traits	Attitude	7	4	4
Project	How project is linked to people	4	4	4

Table 46 shows the 'personnel skills/issues' theme. The blue highlighted sections reveal the categories where there is little or no recognition of the themes by the three stakeholder groups. This indicates that the PR view has little in common with those of the other two groups; e.g., communication was cited five times by this group, not at all by the PCT group, and only twice by the SM group.

Table 46: Personnel Skills/Issues – Conflicting Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Skills, qualities, traits	Networking	1	2	0
Skills, qualities, traits	Influence, persuasion, negotiation	1	5	0
Skills, qualities, traits	Passion	2	0	0
Issues, problems, failure	Resistance to project	2	0	0
Skills, qualities, traits	Personable, approachable, emotions	2	2	0
Skills, qualities, traits	Belief	4	0	0
Skills, qualities, traits	Trusting	4	1	0
Skills, qualities, traits	Leadership	2	1	1
Skills, qualities, traits	Coaching, guiding	2	3	1
Project	How project affects organisation	2	4	1
Skills, qualities, traits	Honesty, modesty	3	2	1
Skills, qualities, traits	Looking after, developing people, counselling	3	3	1
Skills, qualities, traits	Managing project, logic	4	7	1
Issues, problems, failure	People issues	7	5	1
Skills, qualities, traits	Communication	2	0	5

4.2.2 Benefit to Stakeholder Group

Table 47 shows the 'benefit to stakeholder group' theme results.

Table 47: Benefit to Stakeholder Group: Interviewee Results

Sub-theme within Benefit to Stakeholder Group	Sub-sub-theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Measurable benefits	Cost/ money benefit	2, 7, 13, 19, 20	5	3, 15, 21, 22	4	5, 6	2	11	6 – *Financial benefits was one of the targets'.*
Benefits relating to project stage	Delivery after project	1, 2, 7, 8, 13, 20	6	4, 9, 15, 16, 22	5	X	0	11	13 – *'Benefits can only be seen after the project'.*
Benefits relating to project stage	Throughout project	2, 14, 19	3	3, 4, 9, 15, 21, 22	6	23	1	10	4 – *'We have a benefits tracking grid'.*
Benefits relating to project stage	Start of project	2, 8, 20	3	3, 4, 21	3	5, 6, 23	3	9	4 – *'Part of our business case, asks us to upfront identify benefits'.*
Benefit to project recipient		2, 13	2	16	1	5, 6, 24	3	6	24 – *'It should benefit me as I use it'.*
Measurable benefits	Benefit visibility	19	1	4, 21, 22	3	X	0	4	22 – *'Everyone has to be able to see the benefits'.*
Benefit to senior management		X	0	4, 16, 21	3	X	0	3	21 – *'My sponsor keeps on my back about them getting their bonus'.*
Benefit to project core team		1	1	9	1	X	0	2	9 – *'I want to promotion after this project'.*

The benefit to stakeholder group theme was a key identified theme in the study. The benefits were grouped into those that were measurable in either a quantitative (e.g., cost) or qualitative way (e.g., benefits to organisation); those that have a specific link with a project stage; and those seen by different stakeholder groups. The results indicate that cost/money benefits are most easily recognised (11 out of 24 responses), with almost equal responses from the SM and PCT. It is also apparent that benefits are usually considered at the start of a project and tracked and reviewed at the end of the project, as there is little variation in the total number of responses (9, 10, and 11 interviewees). It was noted that the PR group's recognition of benefits was poor and surprisingly greatest at the start of the project, with no response after delivery when the benefit of a project is realised. The PR and SM were recognised as receiving benefits

from a project, but there was little recognition that the PCT received any benefits from a project, which might reflect the attitude that it is part of their job.

Summary of benefit to stakeholder group

Tables 48 to 50 show the key themes for each of the three stakeholder groups. These revealed that SM recognise the need to identify benefits after the project is delivered and the fact that financial measurable benefits are key. The PCT echoed these findings, recognising the benefits throughout the project and then the benefits after delivery and measurable financial benefits. The PR highlighted that the benefits should be set at the start of the project (these should be for the PR) and then echoed the theme of financial measurable benefits.

Table 48: Benefit to Stakeholder Group – SM: Interviewee Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Benefits relating to project stage	Delivery after project	6	5	0
Measurable benefits	Cost money benefit	5	4	2
Benefits relating to project stage	Start of project	3	3	3

Table 49: Benefit to Stakeholder Group – PCT: Interviewee Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Benefits relating to project stage	Throughout project	3	6	1
Benefits relating to project stage	Delivery after project	6	5	0
Measurable benefits	Cost/money benefit	5	4	2

Table 50: Benefit to Stakeholder Group – PR: Interviewee Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Benefits relating to project stage	Start of project	3	3	3
Benefit to project recipient		2	1	3
Measurable benefits	Cost/money benefit	5	4	2

Table 51 shows the 'benefit to stakeholder group' theme whereby the blue highlighted sections reveal the differences in perceptions among the three stakeholder groups. This shows that the PR view does not equally recognise five themes, the PCT two themes, and SM four themes.

Table 51: Benefit to Stakeholder Group – Conflicting Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Measurable benefits	Benefit visibility	1	3	0
Benefit to senior management		0	3	0
Benefit to project core team		1	1	0
Benefits relating to project stage	Throughout project	3	6	1
Measurable benefits	Benefit type	1	3	1
Benefit to project recipient		2	1	3

4.2.3 Customer/Client Specific Issues

Table 52 shows the 'customer/client specific issues' theme results.

Table 52: Customer/Client Specific Issues: Interviewee Results

Sub-theme within Customer/Client Specific Issues Theme	Sub-sub-theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Client	Expectations	2, 7, 8, 13	4	4, 9, 10	3	11, 23, 24	3	10	2 – 'You understand what their requirements are and also what their expectations are and then manage those expectations accordingly'.
Client	Appreciation	1, 2, 13, 20	4	10	1	23, 24	2	7	10 – 'The client needs to appreciate the project'.
Customer	Experience	14, 20	2	16	1	5, 17, 24	3	6	14 – 'The appraisal form hasn't been used for a range of reasons, from not knowing it was available to thinking that their own was better'.
Client	Acceptance	1, 7, 13	3	X	0	X	0	3	1 – 'We need to know when the client accepts it by signoff'.
Client	Experience	X	0	9	1	X	0	1	9 – 'Making sure the client has a positive experience brings in repeat work'.
Customer	Acceptance	X	0	X	0	12	1	1	12 – 'When it comes to me as a customer, you have to make sure I accept it'.

Interviewees for the current study indicated that client expectations were set at the start of a project. They also thought that acceptance is better linked to satisfaction through

meeting expectations. Additional themes included appreciation. Interviewees suggested that this was measured largely by the customer experience using the outcome. The acceptance/appreciation and client/customer themes were not really understood by interviewees, and most thought that there was no difference in these pairings. The systematic literature review thematic analysis also identified a new area of client and customer specific issues; however, interviewees could not separate and allocate issues appropriate to customers or clients. Therefore, this theme was absorbed into other areas including 'communication', 'monitoring and feedback', 'unexpected problems', 'systems', and 'post project'.

Summary of customer/client specific issues

Tables 53 to 55 show the key themes for each of the three stakeholder groups. This revealed that SM recognised themes relating to the client as the most paramount, and the PCT and PR agreed with this in regard to client expectations. The PR also agreed with the PCT and recognised customer experience as another recurring theme, which was not recognised as a top theme by SM.

Table 53: Customer/Client Specific Issues – SM: Interviewee Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Client	Expectations	4	3	3
Client	Appreciation	4	1	2
Client	Acceptance	3	0	0

Table 54: Customer/Client Specific Issues – PCT: Interviewee Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Client	Expectations	4	3	3
Client	Appreciation	4	1	2
Customer	Experience	2	1	3

Table 55: Customer/Client Specific Issues – PR: Interviewee Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Customer	Appreciation	0	0	6
Client	Expectations	4	3	3
Customer	Experience	2	1	3

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Table 56 shows the 'customer/client specific issues' theme whereby the blue highlighted sections reveal the differences in perceptions among the three stakeholder groups. This shows that the PCT view does not equally recognise six themes and the PR and SM three themes. The most marked differences are in customer appreciation (SM and PCT – 0, PR – 6) and client acceptance (SM – 3, PCT and PR – 0).

Table 56: Customer/Client Specific Issues – Conflicting Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Customer	Appreciation	0	0	6
Customer	Experience	2	1	3
Client	Appreciation	4	1	2
Customer	Acceptance	0	0	1
Client	Client experience important	0	1	0
Client	Acceptance	3	0	0

4.2.4 Communication

Cooperation and collaboration

Table 57 shows the 'cooperation collaboration' sub-theme results from the 'communication' theme.

Table 57: Communication – Cooperation Collaboration: Interviewee Results

Sub-theme within Communication Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Cooperation and collaboration	1, 2, 7, 8, 13, 14, 19	7	3, 4, 9, 10, 15, 16, 21, 22	8	5, 6, 11, 12, 17, 23, 24	7	22	10 – *'The sponsors are detached'.* 2 – *'It's the buy-in and commitment of the team'.*

Twenty-two out of 24 interviewees mentioned cooperation and collaboration on a project, indicating their recognition that the theme is critical to success. The key element of the theme focussed on engagement with the correct stakeholders, but the stakeholders were not the same. However, there was agreement that engagement with SM made a difference and that the sponsors were too often detached. Additional themes included the need for individuals to buy in to the project and be committed. Sub-themes

included individuals providing input to the project, the need to work together to ensure project direction and focus, and working as a team.

4.2.5 Stakeholder Consultation/Involvement

Table 58 shows the 'stakeholder consultation/involvement' sub-theme results from the 'communication' theme.

Table 58: Communication – Stakeholder Consultation/Involvement: Interviewee Results

Sub-theme within Communication – Stakeholder Consultation/Involvement Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Getting the right people involved	1, 2, 7, 8, 14, 19, 20	7	3, 4, 9, 10, 15, 16, 21, 22	8	5, 6, 11, 12, 17, 23, 24	7	22	24 – *'Bringing the right people in to work on the project so you have confidence in the people that you're working with'.*
What is involved	13	1	9, 16, 22	3	5, 17, 24	3	7	13 – *'You've also got to make that physical thing whether it be new building or a new piece of software useable or staff won't use it'.*
When involved	7, 8	2	3, 10	2	5, 6	2	6	5 – *'All stakeholders were involved from start to finish'.*

When discussing stakeholder involvement in a project, the main theme in the interviews was to get the 'right people' involved. The mix of the 'right people' should include SM across departments in an organisation and the end users of the project outcome. It was noted that SM have limited time, and this should be recognised when working with them. What the stakeholder was involved with can depend on how high profile the project is and the size of investment in the project. It was apparent that the end users were frequently not involved, this was an area that end users felt should be developed, as, in most cases, they receive or use the final output of the project. They regard themselves as the ultimate decision makers of whether a project is successful or not through the use of a new system or process. It was noted that, if the end users were unsatisfied with a new system, they would find ways to avoid using it. It emerged that all stakeholders should be involved from the start of the project ('when involved'

theme). However, this is not always possible, for example, when the end user is the public or when the project is a result of mandatory regulatory changes.

Monitoring and feedback

Table 59 shows the 'monitoring and feedback' sub-theme results from the 'communication' theme.

Table 59: Communication – Monitoring and Feedback: Interviewee Results

Sub-theme within Communication – Monitoring and Feedback Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Methods (survey calls, discussions, documents, meetings)	1, 2, 7, 8, 13, 14, 19, 20	8	3, 4, 9, 10, 15, 16, 21, 22	8	5, 6, 11, 12, 17, 23, 24	7	23	5 – *'We have meetings every Thursday'.*
Feedback Tracking progress	1, 2, 7, 13, 19, 20	6	3, 4, 9, 10, 15, 16, 21, 22	8	5, 6, 11, 12, 17, 23	6	20	2 – *'They tend to like a one-page summary type approach'.*

In terms of communication method ('methods (survey calls, discussions, documents, meetings)' theme), the interviewees reported that physical weekly meetings and telephone calls were effective, although attendance at meetings could be problematic. Emails were viewed as ineffective for group communication; interviewee ten said, *'Some of our people get hundreds of emails in a morning; they're lost'.* Feedback in the form of written communication needs to be short and precise and produced within an agreed-upon timeframe by all stakeholders. This was very evident for SM compared to PCT.

Managing the relationship

Table 60 shows the 'managing the relationship' sub-theme results from the 'communication' theme.

Sub-theme within Communication – Managing the Relationship Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Conflicts, problems, issues	1, 2, 7, 8, 13, 14, 19, 20	8	3, 4, 9, 10, 15, 21, 22	7	5, 6, 11, 12, 17, 23, 24	7	22	2 – *'People don't have the time, or the wherewithal to complete that'.*
Understanding	1, 2, 7, 13, 14, 19, 20	7	3, 9, 10, 15, 16, 21	6	5, 6, 11, 12, 23, 24	6	19	19 – *'How as an exec sponsor am I meant to know if that's going to deliver the outcomes?'*
Working on relationships	1, 2, 7, 13, 14, 19, 20	7	3, 9, 15, 21, 22	5	5, 6, 12, 17	4	16	14 – *'What you typically need to communicate is what you are trying to achieve and the outcome of an individual project'.*
Keeping informed	14, 19, 20	3	3, 4, 9, 10, 22	5	6, 11, 12, 17, 23, 24	6	14	12 – *'So once we know there is going to be a delay, we'll make the client aware'.*
Working with multiple people	1, 7, 13, 14, 19	5	16, 21	2	11, 17, 24	3	10	21 – *'You need someone who can work with many different types of people'.*
Working across the business	2, 7, 19	3	3, 15, 22	3	23, 24	2	8	15 – *'My team...is different for every project... so at any one time, I have probably five or six teams I have to manage, but without ultimately being their manager'.*

Twenty-two interviewees noted issues that resulted in conflict. Problems noted included stakeholders not giving enough time to the project and SM not understanding the project. Escalation of problems to SM arose, but it was noted that not all problems should be taken to SM because of their shortage of time or lack of engagement. This was dealt with by attempting to avoid having to go back to a steering group by agreeing to tolerance measures at the start of the project. Nineteen interviewees recorded the need to ensure that the stakeholders understand the project and should be aware of what the project is trying to achieve. It was noted that this aspect could be more difficult when working with multiple people located in different parts of the business. The interviewees recognised the need to keep 'key actors' informed of the actions arising from the input given, along with the need to notify clients ('keeping informed' theme) of any changes, delays, and unexpected problems. The interviewees noted keeping people informed; they mentioned two-way communication and top-down

communication, which could account for difficulties in keeping all stakeholders informed. The appropriate communication method should be agreed upon by all stakeholders involved in a communication plan. It was noted that this method could be selected based on the timeline or depending on the type of project and was in the most part not discussed with the stakeholders. It was noted that projects work across the organisation ('working across the business' theme) with multiple people and not in isolation ('working with multiple people' theme). This meant that the relationships need to be worked on ('working on relationships' theme) to understand the stakeholders and establish rapport. When working across the organisation, the interviewees recognised issues when having to manage a team without being directly responsible for them.

Support

Table 61 shows the 'support' sub-theme results from the 'communication' theme.

Table 61: Communication – Support: Interviewee Results

Sub-theme within Communication – Support Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Linked to senior management	1, 2, 14, 19, 20	5	3, 4, 9, 10, 15, 16, 21, 22	8	12, 17, 23, 24	4	17	17 – *'I've got direct access into her whenever I want it. I personally feel that I've got that access, but whether that's because I've been around a bit and have been involved in things at a higher level...'*
More support needed	14	1	16	1	12, 17	2	4	14 – *'You get mainly two types of sponsors of projects. You get those who have got a vested interest in the outcome to get the outcome that they are looking for and you generally find that they are well engaged because they have a vested interest in the success. You then get the other type of project sponsor, which can be given to people as a development opportunity, and I guess those sponsors can vary in terms of their capability and their level of engagement'.*

The need for support was directly linked to SM. This was recognised as crucial to success and to acquire additional or any resources. It was noted that SM support was not always possible, especially if the sponsor was detached from the project with no vested interest, and more support was needed.

Why communicate

Table 62 shows the 'why communicate' sub-theme results from the 'communication' theme.

Table 62: Communication – Why Communicate: Interviewee Results

Sub-theme within Communication – Why Communicate Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Disseminate information	1, 2, 7, 13, 14, 20	6	9, 16	2	5, 6, 12, 17, 24	5	13	24 – *'A group policy is our starting point; we then use that to build our mandate, which we go out and communicate to the business to clearly say you are accountable for this'*.
Work with stakeholder	1, 2, 7, 13	4	4, 9, 10, 16, 21	5	12, 17	2	11	12 – *'We might have a conference call to discuss between the client what they want… they'll either agree or they'll come back to me with some questions'*.
Solve problems, get signoff, make decisions	2, 8, 13, 14, 19	5	9	1	X	0	6	19 – *'A progress update about what's moving, what's slipping, what's come forward, where the contentions are'*.
Bringing team together	19	1	9, 10, 16	3	17	1	5	17 – *'My team cuts across Dorset, Somerset, Devon and Cornwall… there's a real coordinated approach; we have weekly training sessions in the branches and there will be a real coordinated approach of the messages'*.

The reasons for communication included a need to disseminate information, to work with stakeholders to maintain relationships, solve problems, obtain signoff, make decisions, and bring the team together.

Summary of communication

Table 63 shows the key findings in the 'communication' theme. This revealed that the most prevalent themes were to get the right people involved, cooperation and collaboration, and monitoring the progress on a project to ensure that any conflicts or issues are resolved.

Table 63: Communication – Summary: Interviewee Results

Sub-theme within Communication Theme	Sub-sub-theme	SM	PCT	PR	TAI
Stakeholder consultation/involvement	Getting the right people involved	7	8	8	23
Monitoring and feedback	Methods (survey calls, discussions, documents, meetings)	8	8	7	23
Cooperation and collaboration		7	8	7	22
Managing the relationship	Conflicts, problems, issues	8	7	7	22

Tables 64 to 66 show the key themes for each of the three stakeholder groups. This revealed that all three groups agree on solving conflict, cooperation and collaboration, getting the right people involved, and the need to monitor and provide feedback on the project progress.

Table 64: Communication – SM: Interviewee Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Managing the relationship	Conflicts, problems, issues	8	7	7
Monitoring and feedback	Methods (survey calls, discussions, documents, meetings)	8	8	7
Cooperation and collaboration		7	8	7
Stakeholder consultation/involvement	Getting the right people involved	7	8	8
Managing the relationship	Understanding	7	6	6
Managing the relationship	Working on relationships	7	5	4

Table 65: Communication – PCT: Interviewee Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Cooperation and collaboration		7	8	7
Stakeholder consultation/involvement	Getting the right people involved	7	8	8
Monitoring and feedback	Methods (survey calls, discussions, documents, meetings)	8	8	7
Support	Linked to senior management	5	8	4
Managing the relationship	Conflicts, problems, issues	8	7	7

Table 66: Communication – PR: Interviewee Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Stakeholder consultation/involvement	Getting the right people involved	7	8	8
Cooperation and collaboration		7	8	7
Monitoring and feedback	Methods (survey calls, discussions, documents, meetings)	8	8	7
Managing the relationship	Conflicts, problems, issues	8	7	7

Table 67 shows the 'communication' theme whereby the blue highlighted sections reveal the differences in perceptions among the three stakeholder groups. This shows that the SM view does not equally recognise three themes and PCT and the PR two themes.

Table 67: Communication – Conflicting Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Why communicate	Solve problems, get signoff, make decisions	5	1	0
Stakeholder consultation/involvement	What is involved	1	3	3
Support	More support needed	1	1	2
Why communicate	Bringing team together	1	3	1

4.2.6   Delivery

Delivery aspects

Table 68 shows the 'delivery aspects' sub-theme results from the 'delivery' theme.

Table 68: Delivery – Delivery Aspects: Interviewee Results

Sub-theme within Delivery – Delivery Aspects Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Delivery aspects	2, 7, 8, 13, 19, 20	6	4, 9, 22	3	12, 23, 24	3	12	23 – *'Get those people identified and understand how the changes are going to impact them to make sure the delivery is as smooth as possible'.*
Delivery launch rollout	7, 8	2	4, 9, 10, 16	4	23	1	7	4 – *'It is deployed seamlessly with good communication into their day-to-day work'.*
How delivery is done	7	1	4	1	23, 24	2	4	23 – *'It's a challenge to understand exactly how to deliver something, and by that, I mean getting the low level requirements out'.*

'Delivery aspects' were discussed in terms of the launch and how delivery was executed, such as whether it was a smooth delivery, seamless (e.g., with or without a formal handover), or challenging (e.g., an early launch caused problems).

Table 69 shows the 'meeting expectations/goals/aims' sub-theme results from the 'delivery' theme.

Table 69: Delivery – Meeting Expectations/Goals/Aims: Interviewee Results

Sub-theme within Delivery – Meeting Expectations/Goals/Aims Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Achieving expectations	1, 2, 7, 8, 13, 14, 19, 20	8	4, 9, 10, 15, 16, 21, 22	7	5, 6, 12, 17, 23, 24	6	21	5 – *'My expectation for a lot of this is that the service provider should be providing me that service'.*
Not achieving expectations	1, 2, 7, 13, 14, 19, 20	7	4, 9, 10, 15, 16, 22	6	5, 11, 12, 17	4	17	22 – *'We take some stuff out and deliver something on time that's got less in it that we originally hoped'.*
Aims, goals, purpose	1, 2, 7, 8, 14, 19	6	9, 15, 21	3	6	1	10	7 – *'We will deliver the goals we established ourselves'.*
Measuring results or not	1, 2, 13, 14, 19	5	4, 10, 16	3	11, 12	2	10	4 – *'The measurement of the deployment of the project into business as usual would be the key performance measures that we set at the outset of the project'.*

The interviewees discussed achieving expectations. The issues identified included giving stakeholders what they want and delivering what was asked for, expected, and agreed to, exceeding expectations, and working with stakeholders to meet expectations. Statements included the client knowing the end result but not how to get there and gauging whether client expectations are met, whether the project does what it is supposed to and has delivered, i.e., whether the requirements have been delivered. The interviewees discussed not achieving expectations; reasons for this included not being able to deliver and failure to admit this to stakeholders, delivering less than agreed, the project failing to deliver what was expected, the outcome not being what stakeholders wanted and resulting in complaints, the creation of more problems, and market changes such that the project was no longer needed. Multiple terms were used when discussing achieving expectations, such as 'goals', 'aims', and 'purpose'. An additional theme was how meeting expectations was measured via complaints and surveys. Interestingly,

interviewees noted that, in the majority of cases, it was not measured whether or how the project has affected people.

Output of a project

Table 70 shows the 'output of a project' sub-theme results from the 'delivery' theme.

Table 70: Delivery – Output of a Project: Interviewee Results

Sub-theme within Delivery – Output of a Project Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Better functionality performance	1, 2, 7, 8, 13, 14, 19, 20	8	3, 4, 9, 10, 15, 21, 22	7	5, 6, 11, 12, 17, 23	6	21	3 – *'Improving customer service and our service deliverable'.*
Better service – experience something for stakeholder	1, 2, 7, 13, 14, 19, 20	7	3, 4, 9, 10, 16, 22	6	5, 6, 11, 12, 17	5	18	5 – *'We're trying to give our customer the best experience possible'.*

Defining the output of a project was discussed; outputs included a better functionality performance and better service, e.g., an improved customer experience to make life easier and to reduce problems.

Adoption of project/product

Table 71 shows the 'adoption of project/product' sub-theme results from the 'delivery' theme.

Table 71: Delivery – Adoption of Project/Product: Interviewee Results

Sub-theme within Delivery – Adoption of Project/Product Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Using new system	2, 7, 14, 20	4	4, 21, 22	3	6, 11, 17	3	10	4 – *'We can track the footfall... so that would indicate acceptance'.*
Don't use new system	2, 7, 8, 13, 14	5	10, 22	2	5, 17	2	9	17 – *'If it doesn't work or if it doesn't do what it's expected to do, then people are going to drop it as quickly as they're allowed to'.*
Goes into business as usual	X	0	3, 4, 22	3	5, 24	2	5	4 – *'The measurement of the deployment of the project into business as usual would be the key performance measure that we set at the outset of the project'.*

Whether stakeholders adopted a project (e.g., using a new system) was regarded as a measure of success and acceptance of the project output. It was discussed that end users need to be motivated and encouraged to use a new system, but it was noted that, upon the introduction of a new system, whether the system works is not monitored. It was found that end users would not use a new system if they did not like it, resulting in the system being removed and replaced with its predecessor. The lack of use resulted from the new system not meeting end user needs, as they were not consulted about what they wanted or involved in the system development process. A project was seen as successful if it was deployed seamlessly into business as usual and became part of people's everyday work.

Rewards/consequences

Table 72 shows the 'rewards/consequences' sub-theme results from the 'delivery' theme.

Table 72: Delivery – Rewards/Consequences: Interviewee Results

Sub-theme within Delivery – Rewards/Consequences Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Money	1, 2, 7, 8, 13, 14, 19, 20	8	10, 16, 21, 22	4	6, 17	2	14	1 – 'We bonus and reward people based on the business objectives, which are all sales and new clients'.
Recognition	2, 7, 13, 20	4	9, 10, 22	3	5, 6, 11, 12	4	11	2 – 'They tend to be more well done, good job, and recognition rather than monetary'.
Consequence	2, 13, 19	3	9, 10, 22	3	5, 6, 11, 17, 23	5	11	11 – 'I'm not aware of any, no'.

Upon project delivery, money (bonus) and recognition (thanking people) were recognised rewards. Failure to deliver resulted in limited or no consequences; however, it was recognised that people did disappear.

Impact

Table 73 shows the 'impact' sub-theme results from the 'delivery' theme.

Table 73: Delivery – Impact: Interviewee Results

Sub-theme within Delivery – Impact Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Impact	2, 7, 13, 14, 20	5	3, 9, 10, 15, 16, 21, 22	7	6, 12, 17, 23, 24	5	17	3 – 'There is a criteria that we use based on the number of stakeholders affected and we gauge the size of the impact. So we might have a project that doesn't impact a vast amount of users which was a discreet delivery so that wasn't a very high-profile, big-impact project. Where it affects every single depot right across the company has a big impact and we have to think about the deployment and communication very carefully'.
On stakeholders	2, 13, 14	3	3, 4, 15, 16, 21, 22	6	5, 12, 23, 24	4	13	21 – 'What we're doing has an impact on the performance of the businesses on the customers'.
On organisation	2, 14	2	3, 15	2	24	1	5	15 – 'Impact on the organisation'.

It was highlighted that, when fewer people are impacted by a project, it is seen as less important by the organisation and could result in less investment. The impact of a project on stakeholder groups was noted in the interviews. This included the impact on customers, front line colleagues, and the organisation.

Post-implementation

Table 74 shows the 'post-implementation' sub-theme results from the 'delivery' theme.

Table 74: Delivery – Post-implementation: Interviewee Results

Sub-theme within Delivery – Post-implementation Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Post-implementation	2, 13, 14, 19, 20	5	4, 9, 15, 16, 21, 22	6	5, 6, 23	3	14	4 – 'The whole idea of centrally logging projects with business and IT was that it would give the visibility to ensure that there weren't duplications of similar purposes and objectives'.
Review	1, 2, 8, 14	4	3, 4, 10, 15, 16, 21, 22	7	5, 23	2	13	10 – 'There are typically clear… checkpoints throughout the project that the client actually reviews and signs off on at various stages'.
Closing down	1, 2	2	22	1	X	0	3	22 – 'When a particular project closes down, one of the things you do is go round the stakeholders and talk to them about how it went'.

'Post-implementation issues' was the most recognised theme; these issues included the lack of follow-up linked to the organisation's culture being geared to move on to the next project and other opportunities and the need to centrally log projects in the organisation for future use. After project delivery, interviewees noted a review of the project. Three interviewees recognised a formal closing down of the project.

Summary of delivery

Table 75 shows the key findings in the 'delivery' theme. This revealed that the most prevalent themes were the need to meet expectations and the output of the project to deliver a better performance/experience for the stakeholders.

Table 75: Delivery – Summary: Interviewee Results

Sub-theme within Delivery Theme	Sub-sub-theme	SM	PCT	PR	TAI
Meeting expectations/goals/aims	Achieving expectations	8	7	6	21
Output of a project	Better functionality/performance	8	7	6	21
Output of a project	Better service/experience for stakeholders	7	6	5	18

Tables 76 to 78 show the key themes for each of the three stakeholder groups. This revealed that all three groups agreed that achieving expectations and providing better functionality/performance were key. SM also regarded monetary rewards as paramount.

Table 76: Delivery – SM: Interviewee Results

Sub-theme within Delivery Theme	Sub-sub-theme	SM	PCT	PR
Meeting expectations/goals/aims	Achieving expectations	8	7	6
Output of a project	Better functionality/performance	8	7	6
Rewards/consequences	Money	8	4	2

Table 77: Delivery – PCT: Interviewee Results

Sub-theme within Delivery Theme	Sub-sub-theme	SM	PCT	PR
Meeting expectations/goals/aims	Achieving expectations	8	7	6
Output of a project	Better functionality/performance	8	7	6

Table 78: Delivery – PR: Interviewee Results

Sub-theme within Delivery Theme	Sub-sub-theme	SM	PCT	PR
Meeting expectations/goals/aims	Achieving expectations	8	7	6
Output of a project	Better functionality/performance	8	7	6

Table 79 shows the 'delivery' theme whereby the blue highlighted sections reveal the differences in perceptions among the three stakeholder groups. This shows that the PR view does not equally recognise four themes and the PCT and SM two themes.

Table 79: Delivery – Conflicting Results

Sub-theme within Delivery Theme	Sub-sub-theme	SM	PCT	PR
Post-implementation	Closing down	2	1	0
Impact	On organisation	2	2	1
Meeting expectations/goals/aims	Aims, goals, purpose	6	3	1
Delivery aspects	Delivery, launch, rollout	2	4	1
Delivery aspects	How delivery is done	1	1	2
Adoption of project/product	Goes into business as usual	0	3	2

4.2.7   Systems

Resources

Table 80 shows the 'resources' sub-theme results from the 'systems' theme.

Table 80: Systems – Resources: Interviewee Results

Sub-theme within Systems – Resources theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Who allocates resources	1, 2, 7, 8, 13, 14, 19, 20	8	3, 4, 10, 15, 16, 22	6	5, 6, 11, 12, 17, 23, 24	7	21	2 – *'We don't personally interview them; we do let the senior managers nominate people'.*
Inappropriate resources	1, 2, 7, 8, 13, 14, 19, 20	8	3, 4, 9, 10, 15, 16, 21, 22	8	5, 12, 17, 23, 24	5	21	2 – *'We had a wrong person on the previous project'.*
Appropriate people	1, 2, 7, 8, 13, 14, 19, 20	8	3, 4, 9, 10, 15, 16, 21, 22	8	5, 12, 23, 24	4	20	16 – *'Throughout the project lifecycle the resource will flex, it will vary because there are different skill sets required at different times'.*

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It was evident that SM determined the allocation of resources ('who allocates resources' theme) and not the PCT. Interviewees noted that the project team did not have any input into the selection of people for a project, and some interviewees could select their own people. Interviewees noted issues when 'inappropriate resources' are allocated to a project. The interviewees had mixed responses of how this was dealt with; e.g., some had the authority to remove and replace people, some could reassign them to a different project or to something more suitable, some escalated the issue to a senior person, and one did not give work to a person who had to remain on the project. There was a need to have 'appropriate people' to ensure sufficient coverage of the skills needed for the project, which should provide a balance of people working on a project. However, this depended on the availability of resources (as resources change throughout the project), as most tended to be allocated elsewhere or were too busy to engage in the project.

Planning

Table 81 shows the 'planning' sub-theme results from the 'systems' theme.

Table 81: Systems – Planning: Interviewee Results

Sub-theme within Systems – Planning theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Outcomes, requirements, aim, goal, success criteria, expectations Planning doc, agenda	1, 2, 7, 8, 13, 14, 19, 20	8	3, 4, 9, 10, 15, 16, 21, 22	8	5, 6, 11, 12, 17, 23, 24	7	23	14 – *'It's about defining what the outcomes are that you are trying to achieve from the project'.*
Where is project initiated	2, 7, 8, 13, 14, 19, 20	7	3, 4, 9, 10, 15, 16, 21, 22	8	5, 12, 23, 24	4	19	3 – *'A board-sponsored project which is fed down from the board meetings'.*
Methodology, technique	1, 2, 7, 8, 13, 14, 19, 20	8	4, 9, 10, 15, 16, 21	6	12	1	15	16 – *'You need to work from a methodology'.*
Risk	2, 7, 8, 13, 14, 20	6	3, 4, 9, 15, 16, 22	6	12, 23, 24	3	15	20 – *'We do run risk logs against projects; reviewing the risk is key'.*

The interviewees discussed the need for a detailed plan to define, for example, the outcomes, requirements, criteria, and expectations. The interviews indicated that projects are initiated mainly from SM but also from client business needs, customer

needs, organisation needs, legal requirements, and external needs. The interviewees discussed a variety of methods applied to a project, the most popular being agile methodology, a project framework, the Responsible, Accountable, Contribution, Informed matrix, net promoter scores, Prince2, and the waterfall approach. The need to recognise, assess, manage, and understand risk using a risk log was also key.

Monitoring and control

Table 82 shows the 'monitoring and control' sub-theme results from the 'systems' theme.

Table 82: Systems – Monitoring and Control: Interviewee Results

Sub-theme within Systems – Monitoring and Control Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Problems on a project	1, 2, 7, 8, 13, 14, 19, 20	8	3, 4, 9, 10, 15, 16, 21, 22	8	5, 6, 11, 12, 17, 23, 24	7	23	11 – *'You could never quite find out exactly where that last decision came from and who it was that said it had to be that way'.*
Why, how, who, when to monitor	1, 2, 7, 8, 13, 14, 19, 20	8	3, 4, 9, 10, 15, 16, 21, 22	8	5, 6, 12, 17, 23, 24	6	22	16 – *'Equally, there are check points, so as you move through the lifecycle, you can only move through when you've got approvals and signoff'.*

The interviewees discussed dealing with problems on a project. The main issue was that people did not know who to go to in the event of a problem or how to track who made decisions, resulting in blame and conflict. The reasons for monitoring and control included getting approvals and signoff, checking the project status and ensuring that it is on track, providing traceability, checking that the project is progressing as it needs to, and monitoring how projects are going. The interviewees highlighted that the methods and frequency of how often the project is monitored should be agreed upon with stakeholders. The interviewees noted that monitoring takes place by a project management office, project manager, or steering group.

Processes

Table 83 shows the 'processes' sub-theme results from the 'systems' theme.

Table 83: Systems – Processes: Interviewee Results

Sub-theme within Systems – Processes Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Structure	1, 2, 7, 8, 13, 14, 19, 20	8	3, 4, 9, 10, 15, 16, 21, 22	8	5, 6, 11, 12, 17, 23, 24	7	23	4 – 'The aim is to deliver business improvement to business processes, and that can be right across the business from central support processes to operational processes'.
Priority	1, 2, 7, 8, 13, 14, 19	7	4, 9, 10, 15, 16, 21, 22	7	5, 6, 11, 17, 23, 24	6	20	22 – 'Their senior leaders wouldn't necessarily identify that there's a huge benefit or it wouldn't be top of their list'.
Phases/stages	1, 2, 7, 8, 14, 19, 20	7	3, 4, 9, 10, 15, 16, 21, 22	8	5, 12, 17, 23	4	19	15 – 'It might be progress through a test phase or build phase'.
Processes	2, 7, 8, 13, 14, 19, 20	7	4, 9, 10, 15, 16, 21, 22	7	5, 17, 23, 24	4	18	23 – 'You would obviously engage with the stakeholders and the sponsor to make that decision. It's not ultimately the project manager's choice'.
Overview focus	1, 2, 7, 8, 13, 14, 19, 20	8	3, 4, 9, 15, 16, 21	6	6, 12, 17, 23	4	18	15 – 'Understanding what it is that you're trying to deliver'.

Interviewees discussed structure. For example, approval process, business process/central support process/operational process, companywide process, formal process, and standard process documentation and the need for a logical structure. The interviewees discussed how project priority was determined and found that people have different priorities, meaning that SM do not always see the project as a priority and therefore would not dedicate the necessary resources or time to it. Project priority was determined by different aspects; these included the benefits, cost, gut instinct, and monetary value. Priority was reviewed annually or iteratively. Priority was set by SM, the client, department functions, and the staff. The phases/stages that a project goes through were discussed, and it was noted that many of the project specifics can be decided before the project starts. A majority of comments referred to the start of the

project and the crucial nature of adequate planning. This was followed by the implementation of a project, pushing a project through to completion, and a brief mention about the close of a project. However, this was discussed more in the delivery theme with the need for post-project review sub-themes. Interviewees discussed the processes involved when working on a project. The processes included how to make decisions work, who makes decisions, and the fact that it was not always possible to trace where the decisions came from to question the motives. When taking an overview of the project, the ability to understand what was trying to be achieved was noted by interviewees. The view was not just how to get to the end outcome; it also involved how the project fits into the business and a wider context. This was echoed in the theme of knowing how the project affects others. This was followed by understanding what needs to be delivered and how to deliver the agreed-upon project expectations. There was a necessity to be able to focus on the 'end game' and knowing the expected outcomes to be able to achieve this.

Performance measures

Table 84 shows the 'performance measures' sub-theme results from the 'systems' theme.

Table 84: Systems – Performance Measures: Interviewee Results

Sub-theme within Systems – Performance Measures Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Performance measures	1, 2, 8, 13, 14, 19, 20	7	4, 9, 10, 15, 16, 21, 22	7	5, 6, 12, 24	4	18	10 – *'A lot of what I have done … does not have a financial impact, so it's difficult to measure'.*

Performance of the project and its measures were discussed, and it was noted that some projects are difficult to measure. Measures included the balanced scorecard, benchmarking, customer dropout, key performance indicators, milestones, error rate, and sales performance.

Change

Table 85 shows the 'change' sub-theme results from the 'systems' theme.

Table 85: Systems – Change: Interviewee Results

Sub-theme within Systems – Change Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Requesting change, making changes	1, 2, 7, 13, 14, 19, 20	7	3, 9, 10, 15, 16, 21, 22	7	5, 6, 11, 12, 17, 23, 24	7	21	13 – *'Often... you will hear it said, "Oh, well, you think you delivered, but I didn't expect that. I don't know what I did expect, but I didn't expect that", and at that point, you realise that actually you never really understood what they wanted or they've changed their mind'.*
Resisting change, intimidation	1, 7, 13, 19	4	9, 21	2	11, 17, 23	3	9	17 – *'Below a certain level, the resistance to change is higher... whilst change might be uncomfortable, it's something to be embraced rather than something to be resisted'.*
Accepting change	2, 20	2	22	1	17	1	4	20 – *'I will not put code or change live that has not been accepted and signed off by the business sponsor'.*

Change was discussed in the context of the need to request change, manage change, clients changing their minds, and process change. However, the issues included people resisting change because it is uncomfortable, intimidating, or difficult, and this was linked to the resistance increasing lower the hierarchy. This resistance was related to a lack of engagement with those who will be using the final outcome. This implies that the need to be involved is linked to the acceptance of a project. Change should be accepted before a project is deployed to ensure success. Changes were accepted once the basics of the project had been delivered; however, change should not impact (or break) something further down the line.

Testing

Table 86 shows the 'testing' sub-theme results from the 'systems' theme.

Table 86: Systems – Testing: Interviewee Results

Sub-theme within Systems – Testing Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Testing	2, 8, 14, 20	4	4, 9, 15, 16, 22	5	5, 6, 11, 12, 17, 23, 24	7	16	12 – *'They will typically roll out a solution on a testing environment and make sure it works there first'.*

Interviewees noted the importance of testing and mentioned pilot tests, when appropriate, to ensure success. These should involve the end user to identify any problems and ensure that expectations are being met.

Summary of systems

Table 87 shows the key findings in the 'systems' theme. This revealed that the most prevalent themes were the need to define the project in terms of outcomes, structure, monitoring, ensuring that the right resources are allocated to the project, and change procedures.

Table 87: Systems – Summary: Interviewee Results

Sub-theme within Systems Theme	Sub-sub-theme	SM	PCT	PR	TAI
Planning	Outcomes, requirements, aim, goal, success criteria, expectations Planning doc, agenda	8	8	7	23
Processes	Structure	8	8	7	23
Monitoring and control	Problems on a project	8	8	7	23
Monitoring and control	Why, how, who, when to monitor	8	8	6	22
Resources	Who allocates resources	8	6	7	21
Resources	Inappropriate resources	8	8	5	21
Change	Requesting change, making changes	7	7	7	21

Tables 88 to 90 show the key themes for each of the three stakeholder groups. This revealed that SM and PCT agreed on many of the themes pertaining to resources, planning, and monitoring and control, whereas the PR also considered the processes and testing important.

Table 88: Systems – SM: Interviewee Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Resources	Who allocates resources	8	6	7
Resources	Appropriate people	8	8	4
Resources	Inappropriate resources	8	8	5
Planning	Outcomes, requirements, aim, goal, success criteria, expectations Planning doc, agenda	8	8	7
Planning	Methodology, technique	8	6	1
Monitoring and control	Problems on a project	8	8	7
Monitoring and control	Why, how, who, when to monitor	8	8	6
Processes	Overview focus	8	6	4
Processes	Structure	8	8	7

Table 89: Systems – PCT: Interviewee Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Resources	Appropriate people	8	8	4
Resources	Inappropriate resources	8	8	5
Processes	Structure	8	8	7
Processes	Phases, stages	7	8	4
Planning	Outcomes, requirements, aim, goal, success criteria, expectations Planning doc, agenda	8	8	7
Planning	Where is project initiated from	7	8	4
Monitoring and control	Problems on a project	8	8	7
Monitoring and control	Why, how, who, when to monitor	8	8	6

Table 90: Systems – PR: Interviewee Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Testing		4	5	7
Resources	Who allocates resources	8	6	7
Processes	Structure	8	8	7
Planning	Outcomes, requirements, aim, goal, success criteria, expectations Planning doc, agenda	8	8	7
Change	Requesting change, making changes	7	7	7
Monitoring and control	Problems on a project	8	8	7

Table 91 shows the 'systems' theme whereby the blue highlighted sections reveal the differences in perceptions among the three stakeholder groups. This shows that the PR view does not equally recognise two themes and the PCT one theme.

Table 91: Systems – Conflicting Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Planning	Methodology, technique	8	6	1
Change	Accepting change	2	1	1

4.2.8 Time, Cost and Quality

Table 92 shows the 'time, cost, and quality' theme.

<div align="center">Table 92: Time, Cost, and Quality: Interviewee Results</div>

Sub-theme within Time, Cost, and Quality Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Time	1, 2, 7, 8, 13, 14, 19, 20	8	3, 4, 9, 10, 15, 16, 21, 22	8	5, 6, 11, 12, 17, 23, 24	7	23	1 – 'We have no choice a lot of the time… 99% of the deadlines that I work to are black and white. They would never move'.
Cost/money issues	1, 2, 7, 8	4	3, 4, 9, 10, 15	5	5, 6, 11, 12	4	13	10 – 'I've seen that several times where for whatever reason budgets may need to be reassigned in certain areas and projects can be stopped'.
Quality	1, 2, 19, 20	4	4, 9, 15, 16, 21, 22	6	12, 17, 23	3	13	15 – 'The quality perspective really for me comes into the outcomes and deliverables so you understand what good looks like'.
Combination of more than one	2, 7, 13, 14, 19, 20	6	9, 15, 16, 21	4	5, 12, 23	3	13	7 – 'There's always a balance between time, cost, quality'.
Scope	1, 2, 7, 13, 14, 19	6	3, 4, 15, 16, 21	5	X	0	11	4 – 'We have to clarify what the purpose is in order to scope out what needs to happen'.

Time

Twenty-three interviewees mentioned time as an issue on a project. When estimating time, interviewees discussed issues including how to meet time schedules, imposed timescales, or a set timeframe and that there was no choice in how time constraints are met. The need to set end dates for project delivery and working backwards from end dates and deadlines were discussed. Issues that determined the end date included the allocation of staff, people's time, SM imposing deadlines, and working out the necessary resources. There was discussion around dictated and imposed deadlines, drop-dead dates, and fixed schedules; however, this contradicted the theme of needing to set realistic deadlines. Setting, meeting, and delivering against milestones was mentioned, with interviewees noting unrealistic timescales, referring to a lack of commitment to meet deadlines. There was limited acknowledgement if time distracted from

stakeholders' main duties and that limited or no time was given to work on projects. Interviewees noted that it was important to deliver a project on time. Themes included the focus to deliver allocated parts of the project on time, a lack of concern with meeting time, and not being informed with the need to meet time requirements. Few interviewees noted that projects finished ahead of timescale and a need to shorten the timescale, as resources would not be available for the next project. Delaying projects was common, with interviewees noting that the wrong person delayed the project, causing further problems. In some cases, it seemed acceptable to move timescales, defer completion of a project, delay the launch of the project, or repeatedly move the project deadline back with no consequences. One interviewee stated that a loss of goodwill can result from repeated delay. Slippage was briefly mentioned with the need to identify the drivers, but it does not affect whether a project goes live. It was a common problem that a project went over time and again; in most cases, this did not incur consequences. It seemed more important to get the project right than to hit the deadline. One interviewee noted that there would be a fine for not meeting a deadline, and one noted that, if there were consequences, the performance would be better, as the project would be forced to be completed on time.

Cost/money issues

When discussing the criteria of cost, interviewees noted a focus on meeting the budget, some interviewees did not know how the budget was determined, and two noted that no budget was set. The interviewees stated that, once the budget was identified, it should be broken down into the costs throughout the project and there should be strong governance to meet the budget. Budgets tend to be reassigned to other projects, meaning that overspending was common, resulting in other areas being sacrificed if the project was over budget. In addition, interviewees stated that there are sometimes no consequences for going over budget. Interviewees mentioned cost linked to budget; the issues included cost savings, cost benefits, the fact that costs are important, and the need to meet costs. Limited consequences were mentioned when exceeding costs. Consequences were linked to fines and penalty payments; however, as previously mentioned, in most cases, there were no consequences when exceeding budgets. Additional terms linked to budgets in the interviews included investment, with the need

to make a case for the investment, along with a need for return, who decides what to invest in, and the basing the project on the available investment. Funding was a limited area for discussion in relation to determining whether changes take place and requesting funding. This could also fall within the investment theme. Saving and getting value for money also arose as themes. This again echoes the sub-themes in the investment and funding themes. Price was linked to the concept of tending, charging a fair price, prices in proposals, and penalties for not meeting fixed prices. Interviewees noted that projects compare their expenditures and that there was a need to manage overspends continually. Financial benefits, impact, objectives, outcomes, and rewards and return were mentioned, which were echoed in the themes on benefits and impact. The need for profitability and to increase the margin was noted by interviewees. This could be a result of the fact that the focus of some projects linked not to making money but to softer benefits such as making people's lives easier. Invoicing was briefly mentioned in relation to sales development, evaluation of transactions, and client satisfaction with what they paid for.

Quality

The interviewees discussed quality linked to objectives, outcomes, and deliverables. Quality was defined by project defects, end point, content, delivery, and service. Interviewees mentioned that quality is normally sacrificed when a project exceeds time or budget.

Combination of more than one and scope

Some interviewees did not separate time, cost, quality, and scope. They noted a need to balance these and determine them according to the client needs. Interviewees discussed scope in the context of clarity, defining scope, the need to add or remove scope, and managing scope.

Summary of time, cost, and quality

Tables 93 to 95 show the key themes for each of the three stakeholder groups. This revealed that all three groups are in agreement that 'time' is the most recognised theme. SM also considered scope and a combination of time, cost, and quality important,

whereas the PCT considered 'quality' and PR considered 'cost/money issues' the most important.

Table 93: Time, Cost, and Quality – SM: Interviewee Results

Sub-theme	SM	PCT	PR
Time	8	8	7
Scope	6	5	0
Combination of more than one	6	4	3

Table 94: Time, Cost, and Quality – PCT: Interviewee Results

Sub-theme	SM	PCT	PR
Time	8	8	7
Quality	4	6	3

Table 95: Time, Cost, and Quality – PR: Interviewee Results

Sub-theme	SM	PCT	PR
Time	8	8	7
Cost/money issues	4	5	4

Table 96 shows the 'time, cost, and quality' theme whereby the blue highlighted section reveals the difference in perception among the three stakeholder groups. This shows that the PR view does not equally recognise issues only in the 'scope' theme.

Table 96: Time, Cost, and Quality – Conflicting Results

Sub-theme	SM	PCT	PR
Scope	6	5	0

4.2.9 Technical Aspects

Table 97 shows the 'technical aspects' theme.

Table 97: Technical Aspects: Interviewee Results

Sub-theme within Technical Aspects Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Appropriate technology	2, 7, 8, 19, 20	5	3, 9, 10, 15	4	5, 17, 23, 24	4	13	23 – *'There would be certain suppliers that would give us those solutions, and you have to pick the best solution that they would offer'.*

Table 97: Technical Aspects: Interviewee Results Continued

Sub-theme within Technical Aspects Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Technically valid/feasible specifications	2, 7, 19	3	3, 4, 9, 15,21, 22	6	5, 17, 23	3	12	21 – *'I like that new system, but we're going to go through a year of hell to get the thing working properly'.*
Technical performance	2, 19	2	X	0	X	0	2	19 – *'The project is delivered on time, it runs, it works, and the technology works'.*

Interviewees stated that, in some cases, there was no choice of technology. Technical specifications were mentioned briefly; however, the interviewees did not focus on the technical aspects of a project but more on whether the project was technically valid or feasible when delivered, architecture, IS systems' increasing complexity, IT platforms integration, and relying on IT systems too much. The technology performing when implemented into the organisation and the need for proper testing were also mentioned.

Summary of technical aspects

Tables 98 to 100 show the key themes for each of the three stakeholder groups. This revealed that the three groups agreed that the project output should use appropriate technology and be technically valid/feasible.

Table 98: Technical Aspects – SM: Interviewee Results

Sub-theme	SM	PCT	PR
Appropriate technology	5	4	4
Technically valid/feasible specifications	3	6	3

Table 99: Technical Aspects – PCT: Interviewee Results

Sub-theme	SM	PCT	PR
Technically valid/feasible specifications	3	6	3
Appropriate technology	5	4	4

Table 100: Technical Aspects – PR: Interviewee Results

Sub-theme	SM	PCT	PR
Appropriate technology	5	4	4
Technically valid/feasible specifications	3	6	3

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Table 101 shows the 'technical aspects' theme whereby the blue highlighted section reveals the difference in perception among the three stakeholder groups. This shows that both the PR and PCT views do not equally recognise one theme that SM recognised.

Sub-theme	SM	PCT	PR
Technical performance	2	0	0

4.2.10 Accountability

Table 102 shows the 'accountability' theme.

Table 102: Accountability: Interviewee Results

Sub-theme within Accountability Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Definition of accountability	1, 2, 7, 8, 13, 14, 19, 20	8	3, 4, 9, 10, 15, 16, 21, 22	8	5, 6, 11, 12, 17, 23, 24	7	23	2 – *'Who's actually responsible or accountable for delivering this project'.*
Accountability linked to something	1, 2, 13, 14, 19, 20	6	3, 9, 15, 21, 22	5	6, 17, 24	3	14	3 – *'They're accountable for their specific areas'.*
Accountability linked to people	1, 2, 13	3	3, 4, 9	3	5, 6, 11, 23, 24	5	11	24 – *'The approved persons who are ultimately responsible for delivery of the regulatory requirements'.*
Roles, responsibilities, relationships	1, 2, 19	3	10	1	6, 24	2	6	6 – *'I guess a bit around responsibilities, who's going to be responsible for what, and having that clearly defined as well',*

The interviewees discussed 'accountability', and this was identified as a new area for investigation. Accountability was defined as roles and responsibilities, not my job, ownership and delegations of authority, doing what you are told, feeling responsible for delivery, being in charge of the project, looking after the programme to the end, owning the project, owning the process or documents, owning the issues, and giving restrictions on what people can and cannot do. Accountability was noted as everything to do with the project and being linked to project delivery ('accountability linked to something' theme), area delivery, cost/budget, benefits, objectives, control framework, governance, quality of delivery, target delivery, outcomes, requirements, and being associated with a

project or programme. Accountability was recognised as being set by the project leads ('accountability linked to people' theme) or SM, with all stakeholders being accountable, including, project managers, team leader, clients, owners, sponsor, steering groups, and end users. It was noted that accountability depended upon seniority, that it was difficult to get people to take accountability, and that escalation is needed when accountability is not taken. In addition, if there is no accountability, there is no motivation to complete tasks on the project, and this would become apparent only if the project went wrong. Accountability should clearly define the roles and responsibilities, which must be acknowledged and transparent so everyone knows what they have to do and understands their roles and where they stand. This can include a debate to ensure agreement.

Summary of accountability

Tables 103 to 105 show the key themes for each of the three stakeholder groups. This revealed that all three groups agreed that accountability should be defined and linked to something, e.g., SM or the project manager.

Table 103: Accountability – SM: Interviewee Results

Sub-theme	SM	PCT	PR
Definition of accountability	8	8	7
Accountability linked to something	6	5	3

Table 104: Accountability – PCT: Interviewee Results

Sub-theme	Sub-sub-theme	SM	PCT	PR
Definition of accountability		8	8	7
Accountability linked to something		6	5	3
Accountability linked to people	Project manager	3	5	3

Table 105: Accountability – PR: Interviewee Results

Sub-theme	SM	PCT	PR
Definition of accountability	8	8	7
Accountability linked to people	3	3	5

Table 106 shows the 'accountability' theme whereby the blue highlighted section reveals the difference in perception among the three stakeholder groups. This shows that the PR and SM do not equally recognise the same one theme as the PCT.

<div align="center">

Table 106: Accountability – Conflicting Results

Sub-theme	SM	PCT	PR
Roles, responsibilities, relationships	3	1	2

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4.2.11 Organisation Issues

Table 107 shows the 'organisation issues' theme.

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Table 107: Organisation Issues: Interviewee Results

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Sub-theme within Organisation Issues Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Organisation structure	1, 2, 7, 8, 13, 14, 19, 20	8	3, 4, 9, 10, 15, 16, 21, 22	8	5, 6, 11, 12, 17, 23, 24	7	23	3 – *'We can have a number of projects right across this business'.*
Project type	1, 2, 7, 8, 13, 14, 19, 20	8	3, 4, 9, 10, 15, 16, 21, 22	8	5, 6, 11, 12, 17, 23, 24	7	23	4 – *'Primarily, we deal with IT system based technical projects'.*
Education, training, learning	1, 2, 7, 8, 13, 14, 20	7	3, 4, 9, 10, 15, 16, 22	7	5, 6, 11, 12, 23, 24	6	20	2 – *'We've got end users involved in the project and then we run some training for them'.*
Organisation purpose, strategy	1, 7, 8, 13, 14, 20	6	3, 4, 10, 15, 16, 22	6	5, 17	2	14	3 – *'What we see fit in line with our strategy'.*
How project fits into the organisation	1, 7, 13, 14, 19	5	4, 9, 15, 16, 21	5	12	1	11	4 – *'Successful delivery of that project is deployment into business as usual'.*
Culture	1, 2, 7, 8, 20	5	9, 16	2	5, 11	2	9	9 – *'As the project person' what you're trying to reconcile is their misunderstandings of their environment'.*

Table 107: Organisation Issues: Interviewee Results Continued

Sub-theme within Organisation Issues Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Hierarchy, power, authority	1, 2, 19	3	3, 4, 16	3	11, 12	2	8	19 – *'You divide it out to teams and then teams go, "Well, mine was fine; yours must have been", and you get all of those political difficulties that come out'.*
Preparing for the future	13, 20	2	9, 15	2	5, 12, 17	3	7	9 – *'I can influence tomorrow; I can't influence what happens today. So it's actually looking at that one step ahead'.*

Regarding the organisational structure, interviewees noted the need for projects to work across the business, countries, the country, disciplines, functions, divisions, and multiple sectors and regions. Problems arose when ensuring consistency in how projects align with the organisation, as each department could have its own portfolio and strategy. The project type was collected. The interviewees discussed being involved in IT projects. Other project types included change projects, business organisation projects (e.g., internal projects, business improvement projects, human resources projects, and business projects), and imposed government projects (e.g., regulatory requirement projects, mandatory changes, and government initiative projects). Capturing implicit and tacit knowledge ('education, training, learning' theme) was mentioned. Learning through the review of a project by providing training and lessons learned was discussed. Interviewees noted that better use should be made of lessons learned, as, in most cases, they are not captured when people are too busy moving on to the next project. Interviewees noted that lessons learned were used for the next project, and one stated that feedback was incorporated into the next project, looking at past issues and using end user feedback. How the project fits into the organisation's strategy ('organisation purpose/strategy' theme) was discussed, with board level SM imposing a top-down strategy and the need to align a project with the strategy and business. The project needed to fit into the organisation by keeping the business running, being integrated into business as usual, being seen from a business point of view, recognising that a business operates around projects, and recognising how the project impacts the business. Organisational culture was discussed from the perspective of assuming that the view of projects is the same throughout the company, reconciling misunderstandings of the

environment, and understanding culture and laws. There were issues associated with political difficulties ('hierarchy, power, authority' theme), power, bureaucracy, and determining the hierarchy of a project. This was echoed when discussing authority. It was discussed that a project could provide something beneficial for the future of the organisation. This included becoming a model for other parts of the organisation, influencing tomorrow, caring about the future of the organisation, moving from a current to future state, being at the edge of the marketplace, moving the business forward, investing in the future of the organisation, and adding and creating value for the organisation.

Summary of organisation issues

Table 108 shows the key themes for each of the three stakeholder groups. This revealed that all three groups agreed on three themes: 'organisation structure', 'project type', and 'education, training, learning'.

Table 108: Organisation Issues – All Stakeholders: Interviewee Results

Sub-theme	SM	PCT	PR
Organisation structure	8	8	7
Project type	8	8	7
Education, training, learning	7	7	6

Table 109 shows the 'organisation issues' theme whereby the blue highlighted section shows that the only difference in perception among the three stakeholder groups is the PR not equally recognising one theme.

Table 109: Organisation Issues – Conflicting Results

Sub-theme	SM	PCT	PR
How project fits into the organisation	5	5	1

4.2.12 Assurance

Table 110 shows the 'assurance' theme.

Table 110: Assurance: Interviewee Results

Sub-theme within Assurance Theme	SM	Total SM	PCT	Total PCT	PR	Total PR	TAI	Example Quote (Interviewee Number)
Oversight	1, 2, 7, 8, 13, 19, 20	7	10, 15, 16, 21, 22	5	6, 11, 12, 17, 23	5	17	6 – 'Not to my knowledge in the ones I've ever been involved with'.
Governance	2, 7, 8, 13, 14, 19, 20	7	4, 10, 15, 16, 22	5	X	0	12	7 – 'You have to set up and agree to your governance'.
Audit	2, 7, 8, 13, 14, 19	6	3, 4, 9, 16, 21	5	24	1	12	16 – 'We have audit teams that will review end to end any part of the process'.
Compliance	7, 8, 14, 20	4	4, 22, 23, 24	4	X	0	8	8 – 'It has 100 percent audit compliance requirements, so the business case says this has got to be done because it's a requirement by law'.
Regulations	7, 13, 14, 19	4	15, 22	2	24	1	7	13 – 'Other projects will be purely about meeting regulatory or legal requirements set upon us by regulators or the government'.

Interviewees did not know whether independent oversight was performed, and one mentioned that there was not enough oversight in place to ensure project success. Governance was a discussion area with respect to the need to agree and define governance as it drives decisions. Assurance methods depended on the size of the project and included auditing performed by teams, departments, and external companies to try to ensure independence. One interviewee noted that it was agreed when the audit would take place, contradicting the independence of checks. Compliance checks were discussed with respect to the need for requirements and standards to be set by key stakeholders to ensure compliance with regulations. Imposed regulations and regulatory changes provided the need for assurance to avoid regulatory sanctions.

Summary of assurance

Tables 111 to 113 show the key themes for each of the three stakeholder groups. This revealed that SM and the PCT agreed on three themes and the PR on one with SM and the PCT.

Sub-theme	SM	PCT	PR
Governance	7	5	0
Oversight	7	5	5
Audit	6	5	1

Table 112: Assurance – PCT: Interviewee Results

Sub-theme	SM	PCT	PR
Governance	7	5	0
Oversight	7	5	5
Audit	6	5	1

Table 113: Assurance – PR: Interviewee Results

Sub-theme	SM	PCT	PR
Oversight	7	5	5

Table 114 shows the 'assurance' theme whereby the blue highlighted sections reveal the differences in perceptions among the three stakeholder groups. This shows that only the PR view does not equally recognise four themes that the PCT and SM do.

Table 114: Assurance – Conflicting Results

Sub-theme	SM	PCT	PR
Audit	6	5	1
Regulations	4	2	1
Governance	7	5	0
Compliance	4	4	0

4.2.13 Summary of Interview Results

Table 115 shows the key themes for each of the three stakeholder groups across all the interview themes to answer research question two (which dimensions the stakeholders recognise as important for project success). Note that the SM and PCT results have been restricted to when eight interviewees recognised the theme. However, as this only revealed one result in the PR group, their results include themes when eight or seven interviewees recognise them. This revealed the results summarised in Table 116. Interestingly, there were no themes in common between just the SM and PCT.

Theme	Sub-theme	Sub-sub-theme	SM	PCT	PR
Accountability	Definition of accountability		8	8	7
Communication	Monitoring and feedback	Methods (survey calls, discussions, documents, meetings)	8	8	7
Organisation issues	Organisation structure		8	8	7
Organisation issues	Project type		8	8	7
Time, cost, and quality	Time		8	8	7
Systems	Processes	Structure	8	8	7
Systems	Planning	Outcomes, requirements, aim, goal, success criteria, expectations Planning doc, agenda	8	8	7
Systems	Monitoring and control	Problems on a project	8	8	7
Communication	Managing the relationship	Conflicts, problems, issues	8	7	7
Systems	Resources	Who allocates resources	8	6	7
Communication	Stakeholder consultation/ involvement	Getting the right people involved	7	8	8
Communication	Cooperation and collaboration		7	8	7
Systems	Change	Requesting change, making changes	7	7	7
Communication	Support	Linked to senior management	5	8	4
Systems	Testing		4	5	7

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Results	Main theme – Sub-theme – Sub-theme
Eight sub-themes in common between all three stakeholder groups. Main themes – 'accountability', 'communication', 'organisation issues', 'systems', and 'Time, cost, and quality'.	1. **Accountability** – Definition of accountability 2. **Communication** – Monitoring and feedback – Methods (survey calls, discussions, documents, meetings) 3. **Organisation issues** – Organisation structure 4. **Organisation issues** – Project type 5. **Systems** – Processes – Structure 6. **Systems** – Planning – Outcomes, requirements, aim, goal, success criteria, expectations, planning doc, agenda 7. **Systems** – Monitoring and control – Problems on a project 8. **Time, cost, and quality** – Time
Two sub-themes in common to the PCT and PR. Main theme – 'communication'.	1. **Communication** – Stakeholder consultation/involvement – Getting the right people involved 2. **Communication** – Cooperation and collaboration
Two sub-themes in common between the SM and PR. Main themes – 'systems' and 'communication'.	1. **Systems** – Resources – Who allocates resources 2. **Communication** – Managing the relationship – Conflicts, problems, issues
The PR recognised 'change' within the 'systems' theme, whereas the SM and PCT did not. However, it is noted that all three groups had seven interviewees noting this.	**Systems** – Change – Requesting change, making changes
The PCT recognised 'support linked to SM' within the 'communication' theme highly and SM and PR did not.	**Communication** – Support – Linked to senior management
The PR recognised 'testing' within the 'systems' theme highly and SM and PCT did not.	**Systems** – Testing

Table 117 shows all the interview themes whereby the blue highlighted sections show the differences in perceptions among the three stakeholder groups. This revealed the results summarised in Table 118.

Theme	Sub-theme	Sub-sub-theme	SM	PCT	PR
Customer/Client Specific Issues	Customer	Acceptance	0	0	1
Customer/Client Specific Issues	Customer	Appreciation	0	0	6
Communication	Support	More support needed	1	1	2
Delivery	Delivery aspects	How delivery is done	1	1	2
Customer/Client Specific Issues	Client	Client experience important	0	1	0
Benefit to Stakeholder Group	Benefit to senior management		0	3	0
Personnel Skills/Issues	Skills, qualities, traits	Networking	1	2	0
Benefit to Stakeholder Group	Measurable benefits	Benefit visibility	1	3	0
Benefit to Stakeholder Group	Measurable benefits	Benefit type	1	3	1
Communication	Why communicate	Bringing team together	1	3	1
Personnel Skills/Issues	Skills, qualities, traits	Influence, persuasion, negotiation	1	5	0
Personnel Skills/Issues	Skills, qualities, traits	Passion	2	0	0
Personnel Skills/Issues	Issues, problems, failure	Resistance to project	2	0	0
Technical Aspects	Technical performance		2	0	0
Personnel Skills/Issues	Skills, qualities, traits	Leadership	2	1	1
Systems	Change	Accepting change	2	1	1
Customer/Client Specific Issues	Client	Acceptance	3	0	0
Personnel Skills/Issues	Skills, qualities, traits	Belief	4	0	0
Delivery	Adoption of project/product	Goes into business as usual	0	3	2
Communication	Stakeholder consultation/involvement	What is involved	1	3	3
Personnel Skills/Issues	Skills, qualities, traits	Communication	2	0	5
Benefit to Stakeholder Group	Benefit to project recipient		2	1	3
Customer/Client Specific Issues	Customer	Experience	2	1	3
Accountability	Roles, responsibilities, relationships		3	1	2
Customer/Client Specific Issues	Client	Appreciation	4	1	2
Delivery	Post-implementation	Closing down	2	1	0
Personnel Skills/Issues	Skills, qualities, traits	Personable, approachable, emotions	2	2	0
Delivery	Impact	On organisation	2	2	1
Personnel Skills/Issues	Skills, qualities, traits	Coaching, guiding	2	3	1
Personnel Skills/Issues	Project	How project affects organisation	2	4	1

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Table 117: All Themes – Conflicting Results Continued

Theme	Sub-theme	Sub-sub-theme	SM	PCT	PR
Delivery	Delivery aspects	Delivery, launch, rollout	2	4	1
Personnel Skills/Issues	Skills, qualities, traits	Honesty, modesty	3	2	1
Personnel Skills/Issues	Skills, qualities, traits	Looking after, developing people, counselling	3	3	1
Benefit to Stakeholder Group	Benefits relating to project stage	Throughout project	3	6	1
Personnel Skills/Issues	Skills, qualities, traits	Trusting	4	1	0
Assurance	Regulations		4	2	1
Assurance	Compliance		4	4	0
Personnel Skills/Issues	Skills, qualities, traits	Managing project, logic	4	7	1
Communication	Why communicate	Solve problems, get signoff, make decisions	5	1	0
Organisation Issues	How project fits into the organisation		5	5	1
Delivery	Meeting expectations/goals/aims	Aims, goals, purpose	6	3	1
Time, cost, and quality	Scope		6	5	0
Assurance	Audit		6	5	1
Assurance	Governance		7	5	0
Personnel Skills/Issues	Issues, problems, failure	People issues	7	5	1
Systems	Planning	Methodology, technique	8	6	1
Benefit to Stakeholder Group	Benefit to project core team		1	1	0

Results	Main theme – Sub-theme – Sub-theme
Four conflicting sub-themes which are recognised by the PR, but not SM or PCT. Main themes – 'customer/client specific issues', 'communication', 'delivery'.	1. **Customer/client specific issues** – Customer – Acceptance 2. **Customer/client specific issues** – Customer – Appreciation 3. **Communication** – Support – More support needed 4. **Delivery** – Delivery aspects – How delivery is done
Seven conflicting sub-themes which are recognised by the PCT, but not SM or PR. Main themes – 'customer/client specific issues', 'benefit to stakeholder group', 'personnel skills/issues', 'communication'.	1. **Customer/client specific issues** – Client – Client experience important 2. **Benefit to stakeholder group** – Benefit to senior management 3. **Benefit to stakeholder group** – Measurable benefits – Benefit visibility 4. **Benefit to stakeholder group** – Measurable benefits – Benefit type 5. **Personnel skills/issues** – Skills, qualities, traits – Networking 6. **Personnel skills/issues** – Skills, qualities, traits – Influence, persuasion, negotiation 7. **Communication** – Why communicate – Bringing team together
Seven conflicting sub-themes which are recognised by the SM, but not PCT or PR. Main themes – 'personnel skills/issues', 'technical aspects', 'systems', 'customer/client specific issues'.	1. **Personnel skills/issues** – Skills, qualities, traits – Passion 2. **Personnel skills/issues** – Issues, problems, failure – Resistance to project 3. **Personnel skills/issues** – Skills, qualities, traits – Leadership 4. **Personnel skills/issues** – Skills, qualities, traits – Belief 5. **Technical aspects** – Technical performance 6. **Systems** – Change – Accepting change 7. **Customer/client specific issues** – Client – Acceptance
Two conflicting sub-themes which are recognised in PCT and PR, but not SM. Main themes – 'delivery', 'communication'.	1. **Delivery** – Adoption of project/product – Goes into business as usual 2. **Communication** – Stakeholder consultation/involvement – What involved with
Five conflicting sub-themes which are recognised in SM and PR, but not in PCT. Main themes – 'personnel skills/issues', 'benefit to stakeholder group', 'customer/client specific issues', 'accountability'.	1. **Personnel skills/issues** – Skills, qualities, traits – Communication 2. **Benefit to stakeholder group** – Benefit to project recipient 3. **Customer/client specific issues** – Customer – Experience 4. **Customer/client specific issues** – Client – Appreciation 5. **Accountability** – Roles, responsibilities, relationships

Results	Main theme – Sub-theme – Sub-theme
Twenty two conflicting sub-themes recognised in SM and PCT but not by the PR. Main themes – 'assurance', 'benefit to stakeholder group', 'communication', 'delivery', 'organisation issues', 'personnel skills/issues', 'systems', 'time, cost, and quality'.	1. **Assurance** – Regulations 2. **Assurance** – Compliance 3. **Assurance** – Audit 4. **Assurance** – Governance 5. **Benefit to stakeholder group** – Benefits relating to project stage – Throughout project 6. **Benefit to stakeholder group** – Benefit to project core team 7. **Communication** – Why communicate – Solve problems, get signoff, make decisions 8. **Delivery** – Post-implementation – Closing down 9. **Delivery** – Impact – On organisation 10. **Delivery** – Delivery aspects – Delivery, launch, rollout 11. **Delivery** – Meeting expectations/goals/aims – Aims, goals, purpose 12. **Organisation issues** – How project fits into the organisation 13. **Personnel skills/issues** – skills, qualities, traits – Personable, approachable, emotions 14. **Personnel skills/issues** – skills, qualities, traits – Coaching, guiding 15. **Personnel skills/issues** – Project – How project affects organisation 16. **Personnel skills/issues** – skills, qualities, traits – Honesty, modesty 17. **Personnel skills/issues** – skills, qualities, traits – Looking after, developing people, counselling 18. **Personnel skills/issues** – skills, qualities, traits – Trusting 19. **Personnel skills/issues** – skills, qualities, traits – Managing project, logic 20. **Personnel skills/issues** – issues, problems, failure – People issues 21. **Systems** – Planning – Methodology, technique 22. **Time, cost, and quality** – Scope

When comparing the interview and literature themes, 'accountability' arose as a new theme for investigation. It was considered important by the interviewees to clearly define the roles and responsibilities with transparent procedures for follow-up. Assurance, governance, and compliance was another new topic, along with the lack of procedures for decision making, dealing with conflict and change, monitoring, and post-project follow up. This will be encompassed into the 'accountability' theme for the survey. The interview themes also revealed that some of the literature themes were not considered the most important themes (recognised by seven or eight interviewees).

These include the sub-themes 'the project delivering the strategic benefits', 'top management support', 'stakeholder satisfaction', 'makes use of finished product/acceptance', and 'cost/budget' (Table 119). This highlights the discontinuity when interpreting project success by the three groups, SM, PCT, and PR, and provides justification for a new model to align stakeholder perceptions of project success.

Table 119: Comparing the Systematic Literature Review to Interview Themes

Theme from Systematic Literature Review	Literature			Interview			Matching Success Dimension from Interview
	SM	PCT	PR	SM	PCT	PR	
Communication	x	x	x	x	x	x	• Communication – sub-theme – Stakeholder consultation/involvement • Cooperation and collaboration • Monitoring and feedback • Managing the relationship
Time	x	x	x	x	x	x	Time, cost, and quality – Time
Identifying/agreeing objectives/mission	x	x		x	x	x	Systems – Planning – Outcomes, requirements, aim, goal, success criteria, expectations, planning doc, agenda
Project manager competencies and focus	x	x		x	x		Systems – Resources – Appropriate people
The project delivering the strategic benefits	x	x					Not in the interview as main theme
Top management support	x	x					Not in the interview as main theme
Stakeholder satisfaction		x	x				Not in the interview as main theme
Makes use of finished product/acceptance		x	x				Not in the interview as main theme
Cost/budget		x	x				Not in the interview as main theme

Table 120 compares the interviewee responses to Pinto and Slevin's factors. This further highlights the need for a new model to measure project success, as some elements from Pinto and Slevin were not recognised by the interviewees. Development of the survey can be found in section 3.5.4.

Interview Theme	Pinto and Slevin Success Factors	Interview Comparison
Personnel Skills/Issues	'Top management support' factor was matched to the 'personnel skills' interview theme. Relates to the granting of additional resources, sharing and delegating responsibility, being supportive in a crisis, and granting authority.	Revealed that this was more appropriate in the 'communication support' theme. New themes included the need to feel important, good, and valued, have a sense of belonging, belief in the project, and personal interest when involved in a project.
Benefit to Stakeholder Group	Not covered.	New area.
Customer/Client Specific Issues	Not covered.	Discussed achieving and measuring expectations.
Communication	All statements echoed in the interview findings.	Recognised the need to notify clients of any changes, delays, and unexpected problems.
	When working across the organisation, the factors ask whether authority has been granted.	Recognised issues when having to manage a team without being directly responsible for them.
	'Monitoring and feedback' factor relied on the PCT view. It is interesting to note that, in a modern project management, team budget and scheduling are the responsibility of SM or the project manager, whereas Pinto and Slevin focused on gaining input from the PCT.	Considered relevant by interviewees, but the inputs into the process were greater. Other stakeholders needed to be involved, and monitoring was based on a schedule that aligned the project with a plan. The end users stated that they should be consulted to ensure that the project meets their requirements since they are the ultimate users of the outcome.
Delivery	Failed to define what an output of a project is.	Recognised that this refers to defining the terms and is not a measure of success.

Interview Theme	Pinto and Slevin Success Factors	Interview Comparison
Systems	Mentioned change in the context of being informed when they happen. Did not discuss change in detail.	Change was discussed in the context of the need to request change.
	'Schedule and plans' factor was reinforced in the interviews.	The need for a detailed plan to define the outcomes, requirements, criteria, and expectations.
	Did not ask where the project is initiated from.	Projects are initiated mainly from SM but also from client business needs, customer needs, organisation needs, legal requirements, and external needs.
	Aimed at asking those in the PCT about resourcing and not SM.	SM determined the allocation of resources and not the PCT. The PCT did not have any input into the selection of people for a project.
	Did not take into account what happens when 'inappropriate resources' are allocated to a project.	Mixed responses of how this was dealt with; e.g., interviewees had the authority to remove and replace people, could reassign them to a different project or to something more suitable, escalate the issue to a senior person, or did not give work to the person, who had to remain on the project.
	Did not ask whether the project had a method applied.	Discussed a variety of methods, the most popular being agile methodology.
	'Trouble-shooting' factor was echoed in the interviews to deal with problems on a project.	Main issue was that people did not know who to go to in the event of a problem or how to track who made decisions.
	Did not recognise how project priority was determined.	People have different priorities, meaning that SM do not always see the project as a priority.

Table 120: Pinto and Slevin Compared to Interview Themes Continued

Interview Theme	Pinto and Slevin Success Factors	Interview Comparison
Time, Cost, and Quality	Did not specifically ask about areas pertaining to the criteria of time.	23 interviewees mentioned time as an issue on a project.
	Cost focuses on meeting the budget.	Agreed with this; additional terms linked to budget included investment, with the need to make a case for investment, along with a need for return and who decides what to invest in.
	Did not specifically ask about areas pertaining to the criteria of quality of a project.	Discussed quality.
	Did not specifically ask about areas referring to the criteria of scope.	Discussed scope.
Technical Aspects	'Technical tasks' factor did not seem clear. They related it to required technology and the need for appropriate technology, expertise, and technical action steps. However, this assumes that all projects have a technical aspect or technology involved.	Noted a variety of projects, notably people based change projects, which often do not involve technical systems. Discussed that, in some cases, there was no choice of technology.
Accountability	Not covered.	New area.
Organisation Issues	'Project mission' factor was matched to this area.	Echoed the same themes when discussing the results of the project benefiting the organisation and the beneficial consequences to the organisation.
Assurance	Not covered.	New area – incorporated into accountability.

The systematic literature review results revealed that the 'diagnostic behavioural instrument' failed to include 'time, cost, and quality', 'benefit to the stakeholder group', and 'client/customer specific issues'. The interviewees could not separate and allocate issues appropriate to customers or clients. Therefore, this theme was absorbed into other areas, such as 'communication', 'monitoring and feedback', 'unexpected problems', 'systems', and 'post-project'. The results of the interviews refined the gaps for the creation of the survey into 'time, cost, and quality', 'accountability', and 'benefit to the stakeholder group'. See Table 27 for more details.

4.3 Survey Results

The sample size for this study was 300, the useable responses totalled 143, and the response rate was 48% (Table 121).

Table 121: Survey Sample Sizes in the Literature and in This Study

Article	Sample Size (N/S=not specified)	Useable Responses Received	Response Rate (%)
Müller and Turner (2007a, 2007b)	300,000	400	0.13
The Chaos Report (The Standish Group, 1995)	8,380	365	4
KPMG Canada Survey (1997)	1,450	176	12
Bryde and Robinson (2005)	1,200	176	15
Tukel and Rom (2001)	650	117	18
Pinto and Slevin (1989)	585	159	27
Belassi and Tukel (1996)	200	57	28
THIS STUDY	**300**	**143**	**48**
Pinto *et al.* (2009)	150	92	61
Wang and Huang (2006)	400	245	61
Pinto and Prescott (1990)	586	408	69
Pinto and Slevin (1988a)	600	418	70
Pinto and Slevin (1987)	60	52	86
Toor and Ogunlana (2010)	80	76	95
Serrador and Turner (2015)	865	859	99
Basamh *et al.* (2013)	N/S	30	N/A
Lim and Mohammed (1999)	N/S	40	N/A
OASIG Study (1996)	N/S	45	N/A
Wateridge (1998)	N/S	132	N/A
The Robbins-Gioia Survey (The Performance Institute, 2001)	N/S	232	N/A

The current study, compared with the group compiled from the literature, is ranked ninth for sample size and useable responses and eighth for response rate. This evidences that the sample size and useable responses are on par with other studies in the field. It also highlights that the response rate of 48% is above the average of 46% in the other studies, but the usable response rate was slightly less than the average at 48%. The individual responses from each organisation are shown in Table 122.

Table 122: Survey Usable Responses

Organisation Number	Number of Surveys Distributed	Returned Responses (Number)	Usable Responses (Number)	Response Rate (%) (Number of Surveys Distributed/Useable Responses)
One	120	109	86	72
Two	60	38	38	63
Three	60	20	13	22
Four	60	9	6	10
Total	**300**	**176**	**143**	**48%**

Table 122 details 176 total responses, and after removal of the incomplete surveys (a response was logged when the respondent opened the questionnaire but went no further), this resulted in 143 responses. There were no responses with missing data. Based on the 176 responses, this resulted in a response rate of 59% and a useable response rate of 48%.

The results of the interview analysis informed the structure of the survey, whose purpose was to test the appropriateness of the interview statements used in practice to further answer research question two. The survey was originally designed to include the dimensions addressed by Pinto and Slevin (1987) and the new areas identified by the systematic literature review and interviews. However, results from the pilot survey indicated that the survey was too complex and too long, risking non-completion. Therefore, the survey was solely comprised of questions based on previously unaddressed areas to test the premise that the results would be quite different from each stakeholder group. However, the survey does address research question two by providing evidence that project success judgement varies by stakeholder group using previously untested questions. For details of the survey development from the interview questions, see section 3.5.4.

4.3.1   Stakeholder Group Size

The stakeholder group size is shown in Table 123. It is notable that most of the recipients were from Organisation One and the only respondents for the PR group.

Table 123: Responses by Stakeholder Group

Organisation Number	Project Core Team	Project Recipient	Senior Management	Total in Organisation
One	68	14	4	**86**
Two	36	0	2	**38**
Three	11	0	2	**13**
Four	4	0	2	**6**
Total Stakeholder Group	**119**	**14**	**10**	

The median and mode for each dimension were used to record the results. Note that dimension statements have been numbered to allow for easier data presentation. The data were classified ordinally based on the seven-point Likert scale. Statistical testing showed that the data were for the most part 'normal' in Kolmogorov-Smirnov normality testing, but some of the significance tests returned a score of less than 0.05, indicating a *"violation of the assumption of normality"* (Pallant, 2013, p.66). However, normality tests are very sensitive to deviations from a normal distribution, especially where the sample size is big or small. The sample sizes in this study are 10, 14, and 119; normality tests in this case, might not have the power to detect a deviation from a normal distribution. When both the Kolmogorov-Smirnov and Shapiro-Wilk tests were run on the entire sample, the value was 0.00 for all statements and did not return any meaningful information. To counter this, Field (2013) suggested using a histogram and examining skewness and kurtosis. The cost dimension responses for senior management were tested for skewness and kurtosis, and the results are shown in Table 124. The positive and negative values in both tests are evenly distributed (6/10 for skewness and 5/10 for kurtosis) and were therefore disregarded. However, *"the further the value is from 0, the more likely it is that the data are not normally distributed"* (Field 2013, p.182). Since the closest value to 0 is 0.41 (skewness), it was concluded that the data are not normally distributed. For this reason, the median and mode were used to analyse the central tendency of the data from the survey results. This was justified in part because the survey results were used only to identify which of the interview statements were the most relevant among those indicated by the interview data.

Table 124: Skewness and Kurtosis for Senior Management – Cost Dimension

Survey Statement	Dimension	Skewness	Kurtosis
A case must be made to gain investment for a project.	CT1	-2.893	8.656
I am aware how investment is decided for projects.	CT2	-1.179	0.571
Costs are clearly documented.	CT3	-0.407	-1.074
The clients understand the costs of each stage of the project and invoices are clearly broken down.	CT4	0.687	-1.043
The financial benefits and impact of projects have been communicated to me.	CT5	-1.179	0.571
There are procedures in place to monitor the budget.	CT6	-1.035	-1.224
Overall, projects I have been involved in came in on or below budget.	CT7	0.463	-0.59
Overall, projects I have been involved in made a profit post-implementation.	CT8	-0.43	0.171
Overspends are common on a project.	CT9	-1.473	1.226
There are clear consequences/penalties when the budget is exceeded.	CT10	0.71	-0.858

"Positive values of skewness indicate a pileup of scores on the left of the distribution, whereas negative values indicate a pileup on the right. Positive values of kurtosis indicate a pointy and heavy tailed distribution whereas negative values indicate a flat and light tailed distribution" (Field, 2013, p.182).

Reliability of the scale was tested using Cronbach's alpha. According to Pallant (2010, 2013) the ideal Cronbach's alpha coefficient is above 0.7. Pinto and Prescott (1990) tested the project success items from the 'diagnostic behavioural instrument' of Pinto and Slevin (1987) and received above acceptable levels with the overall project success scale, achieving an alpha of 0.87. Pinto *et al.* (2009) further tested the instrument based on a study of 150 respondents using the same seven-point Likert scale (strongly agree to strongly disagree) as in the current study, and the alpha score was 0.86. As the scale in the study contained two scale types, two tests for reliability were conducted. When reliability was tested on the items based on the seven-point Likert scale, the alpha was 0.90 and therefore comparable with Pinto and Slevin's instrument. When the test included the seven-point Likert scale and a 1-12 ranking scale, the alpha was 0.78, which is within an acceptable range. The keys and sample size used for the survey results are as follows:

Stakeholder Group	Likert Scale	Likert Scale
SM = Senior Management (10)	1 = Strongly Disagree	4 = Neutral
PCT = Project Core Team (119)	2 = Disagree	5 = Somewhat Agree
PR = Project Recipient (14)	3 = Somewhat Disagree	6 = Agree
		7 = Strongly Agree

4.3.2 Mode and Median Results for Survey Dimensions

Cost dimension

The cost dimension survey statements are shown in Table 125 and the median and mode data from the results in Figure 16.

Table 125: Cost Dimension Key

Dimension Statement Key	Survey Statement
CT1	A case must be made to gain investment for a project.
CT2	I am aware how investment is decided for projects.
CT3	Costs are clearly documented.
CT4	The clients understand the costs of each stage of the project, and invoices are clearly broken down.
CT5	The financial benefits and impact of projects have been communicated to me.
CT6	There are procedures in place to monitor the budget.
CT7	Overall, projects I have been involved in came in on or below budget.
CT8	Overall, projects I have been involved in made a profit post-implementation.
CT9	Overspends are common on a project.
CT10	There are clear consequences/penalties when the budget is exceeded.
CT11	Meeting cost/budget is the most important factor for success.
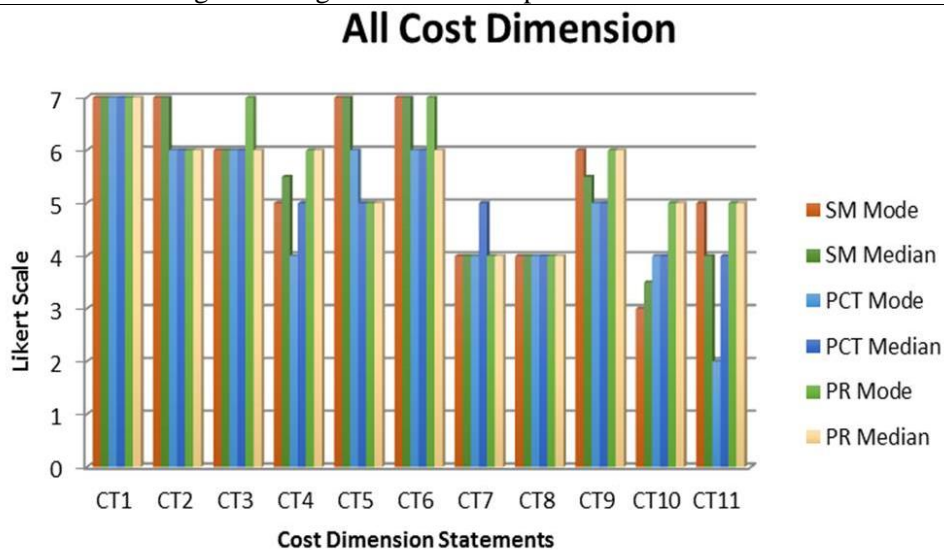
Figure 16: All Stakeholder Cost Dimension Modes and Medians

There is a strong correlation between the median and mode figures. The greatest difference was noted for the PCT data in statement CT11 (mode disagree, median neutral). Generally, there was more variation in the results for the PCT, reflecting the much larger sample size (x10). Figure 16 shows that all the groups share the same

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opinion about cost statements CT1, 2, 3, 6, 7, 8, and 9. There was strong agreement that the early cost procedures; e.g., 'a case made for investment' and 'clearly documented costs and monitoring procedures' were important for success. However, the groups were neutral about the importance of projects being achieved within the original costings in their experience (CT7), which is supported by CT9, where the groups somewhat agree with the statement that overspends were common. Whether a profit was made at the post-implementation stage (CT8) also elicited a neutral response. There was less agreement between stakeholder groups for statements CT4, 5, 10, and 11. For example, CT5 shows a diminishing response from SM strongly disagreeing to PR somewhat agreeing that the financial benefits had been communicated to them; CT10 shows that SM somewhat disagree, PCT are neutral, and PR somewhat agree about the consequences/penalties of a project exceeding the budget. The PCT stakeholder group had a different view from those of the SM and PR stakeholders for CT4 and 11. CT4 asks for an opinion on the understanding of costs for each stage of the project by the client; SM agree and PR strongly agree that this was the case, but the PCT were neutral. Meeting the project budget was agreed by SM and PR to be the most important factor for success, but this was not reflected by the PCT, where the results were closer to disagreement and neutral opinions (taking both mode and median values into account).

Time dimension

The time dimension survey statements are shown in Table 126 and median and mode data from the results in Figure 17.

Table 126: Time Dimension Key

Dimension Statement Key	Survey Statement
TM1	Milestones are clearly defined for delivering the project.
TM2	Deadlines set are realistic and can be met.
TM3	Projects tend to finish before set deadlines.
TM4	Projects often overrun on time.
TM5	Overall, projects I have been involved in come in on schedule.
TM6	There is a lack of commitment to meet deadlines by those involved.
TM7	It is acceptable to delay a project.
TM8	Delaying a project does not incur consequences.
TM9	Deadlines can be shortened to make resources available for other projects.
TM10	Delivering the project on time is the most important dimension for success.
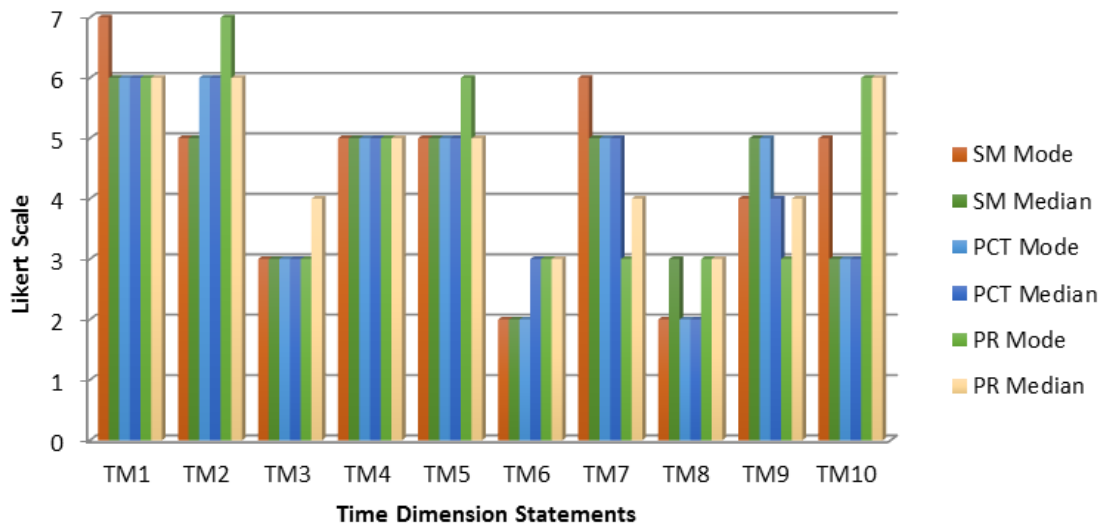
Figure 17: All Stakeholder Time Dimension Modes and Medians

Figure 17 shows that TM1, 3, 4, and 5 are statements that all stakeholders have a shared view: they disagree or somewhat disagree on these statements. Hence, they agree that milestones were clearly defined for a project (TM1) but only somewhat agree that projects often overrun (TM4) and conversely agree that projects they have been involved with come in on schedule (TM5). All of the stakeholder groups somewhat disagree that projects tend to finish before set deadlines, verifying the previous statement that projects frequently overrun with regard to time.

For the remaining statements, the PR group had clearly different results from the SM and PCT groups, even if only in strength of view; e.g., for TM2 – 'deadlines set are realistic', the PR group agreed more strongly than the other two groups, and for TM6 – 'a lack of commitment to meet deadlines by those involved', the PR group only somewhat agree, whereas the other two groups disagree more strongly.

For statements TM7, 8, 9, and 10, the greatest difference was with TM10, where it was suggested that the delivery of a project on time was the most important statement for success. Only the PR group agree with the statement; the other two groups tended to disagree with this statement. For TM7, the PR group were least likely to agree that it was acceptable to delay a project; they somewhat agree with the idea that deadlines

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could be shortened if resources were needed elsewhere (TM9), but the other two groups tended to somewhat disagree with this statement. TM8 indicated that the PR group were not as strongly in agreement as the other two groups in that delaying a project had consequences.

Quality and scope dimension

The quality and scope dimension survey statements are shown in Table 127 and median and mode data from the results in Figure 18.

Table 127: Quality and Scope Dimension

Dimension Statement Key	Survey Statement
QS1	Quality is clearly defined. (For example, the project accomplished the set requirements/standards.)
QS2	Quality is the most important dimension for success on a project.
QS3	Project scope is clearly defined.
QS4	Project scope is the most important dimension on a project.
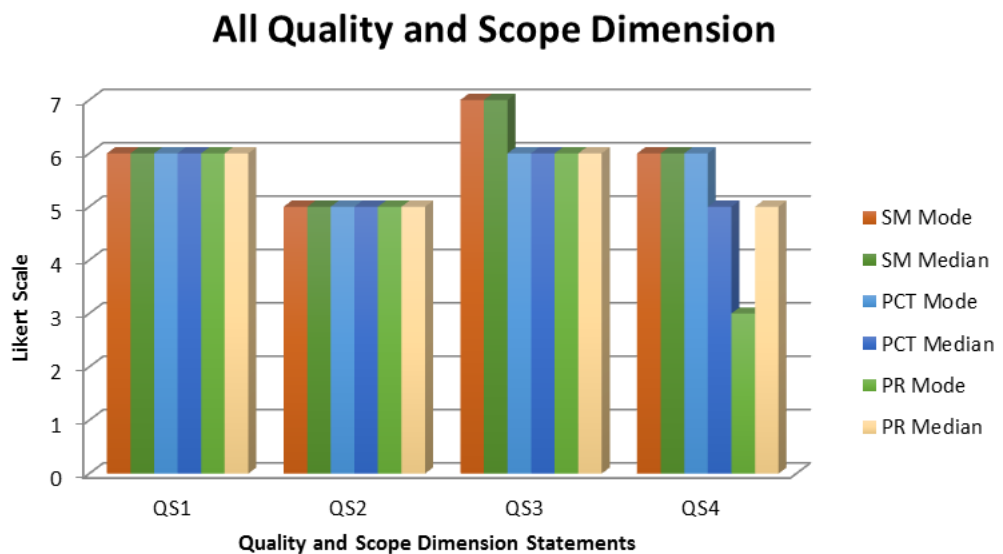
Figure 18: All Stakeholder Quality and Scope Dimension Modes and Medians

The quality and scope dimension has only four dimension statements. With regard to scope, all the groups agree that the quality was clearly defined and somewhat agree that it was the most important factor in a project (QS2). In terms of quality parameters, all of the groups agree that this was clearly defined (QS3), but there was some dissension

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among the groups about the importance of quality to the success of a project (QS4). SM and PCT agreed that this was the most important statement for project success, but the PR group were more neutral about this (mode 3, median 5).

Accountability dimension

The accountability dimension survey statements are shown in Table 128 and median and mode data from the results in Figure 19.

Table 128: Accountability Dimension Key

Dimension Statement Key	Survey Statement
Acc1	There is a clear person responsible for setting accountability on a project.
Acc2	Accountability, roles, and responsibilities are clearly defined, acknowledged, traceable, and transparent.
Acc3	I clearly understand what I am responsible/accountable for and my role when working on a project.
Acc4	Clear procedures are in place when accountability is not recognised.
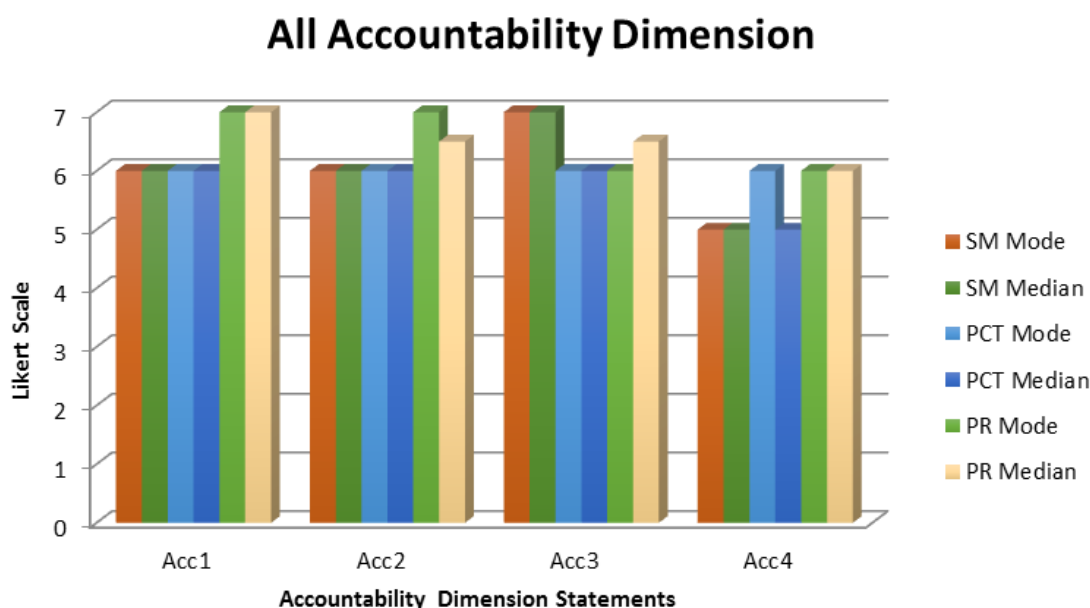
Figure 19: All Stakeholder Accountability Dimension Mode and Median

All the stakeholders agree that a person was accountable for setting accountabilities and that the roles and responsibilities were clearly defined (Acc1 and 2), with the PR at the strongly agree end of the scale. With regard to personal accountability, again, all

stakeholder groups agree that they understood their own accountability (Acc3), but it was strongest for SM (7 on the scale). Recognition that there were procedures in place when accountability was not specified gave a continuum response (Acc4): somewhat agree from SM, agree from PR, and the PCT tending to agree.

Involvement dimension

The involvement dimension survey statements are shown in Table 129 and median and mode data from the results in Figure 20.

Table 129: Involvement Dimension Key

Dimension Statement Key	Survey Statement
Inv1	The project manager should be open to ideas and comments from the team or from other stakeholders.
Inv2	Stakeholder buy-in is clearly identifiable.
Inv3	Stakeholders involved in the project should be clearly identified.
Inv4	I would prefer not to be involved with projects.
Inv5	I would like to be more involved with projects.
Inv6	I am always involved from the start of the project to the end.
Inv7	When requested to attend, I am regularly present at scheduled project meetings.
Inv8	I am involved in developing the project.
Inv9	If I recognise a lack of engagement, I know how to escalate this for action.
Inv10	Being involved in a project provides a positive experience.
Inv11	I am aware that my input is valued and ensure that I use every opportunity to participate in all stages of the project.
Inv12	I am aware that my involvement in a project plays an important role in the project succeeding.
Inv13	Projects are additional to my day-to-day work.
Inv14	It is acknowledged that working on a project will distract me from my main job.
Inv15	Extra time allowance is given to me from my day-to-day work so that I can engage in projects.
Inv16	I am prepared to put in extra effort when working on a project and be engaged as much as necessary regardless of whether I am paid more or not.
Inv17	I am committed to making the project successful.

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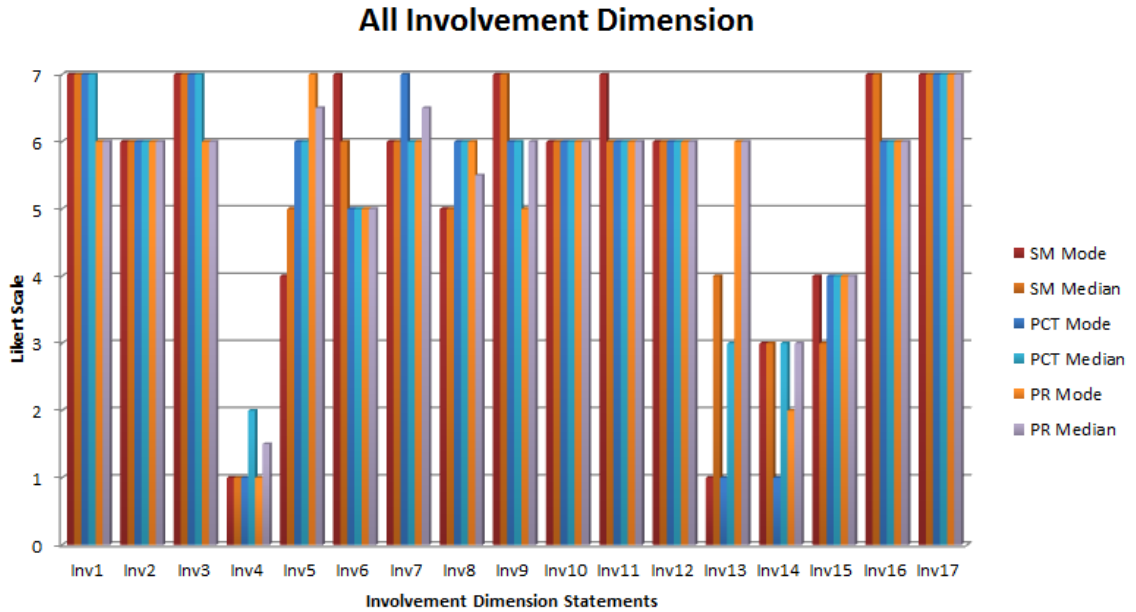
Figure 20: All Stakeholder Involvement Dimension Modes and Medians

With the exception of statements Inv1 to Inv3, the involvement dimension principally addresses the personal involvement of the respondents. Inv1 asks about qualities of the project manager, whereas Inv2 and Inv3 relate to stakeholders, identifiable stakeholder buy-in (Inv2), and clear identification of stakeholders in the project (Inv3). Statements Inv1 to Inv3 elicited an agree response, with Inv1 and Inv3 returning a strongly agree response (7 on the scale) for the SM and PCT stakeholder groups.

Of the personal responses, statement Inv17 elicited the strongest agreement response by all stakeholder groups, recording their commitment to project success. Statements Inv7, Inv9, Inv10, Inv11, Inv12, and Inv16 also returned a unanimous agree response. These focussed on questions about engagement with and practicalities of project activities. Similarly, statement Inv4 indicates that all stakeholder groups want to be involved in project work; the statement was phrased in a negative way, 'I would prefer not to be involved with project work', which is why it is recorded as strongly disagree.

There was less agreement for statements Inv5, Inv6, Inv8, Inv13, and Inv14. Statements Inv5, Inv6, and Inv8 addressed involvement with various stages of the project lifecycle. SM were fairly neutral about wanting more involvement (Inv5), which reflects their role, but the PCT and PR agree that they would like more involvement, with the PR

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group showing the strongest agreement with the statement. Similarly, the PR and PCT somewhat agree that they were involved in a project from start to end, while SM agree that they had this level of involvement (Inv6). The question on development of a project (Inv8) showed that PR and PCT agree that they were involved in developing a project, but SM only somewhat agree with this.

The greatest difference of opinion was derived from Inv13, which asked the groups to assess whether project work is additional to their day-to-day work. PR strongly agree with this statement, whereas SM and PCT disagree with the statement. Inv14 asked whether there is recognition that project work distracts from their daily jobs. The PR group disagree with this statement, as do the PCT, but the SM group only somewhat disagree.

The lack of agreement between the median and mode noted particularly in Inv13 and Inv14 is explained by the fact that two modes were shown in the data set, but the lower is selected for display. However, this would not change the result that SM and PCT do not share the view of the PR group. In contrast, all the groups were neutral about whether they received extra time allowance for project work (Inv15).

Senior management involvement dimension

The senior management involvement dimension survey statements are shown in Table 130 and median and mode data from the results in Figure 21.

Table 130: SM Involvement Dimension Key

Dimension Statement Key	Survey Statement
SMI1	Senior management are engaged and committed to the project.
SMI2	Senior management are detached from the project.
SMI3	Senior management are always accountable when they initiate the project.
SMI4	Senior management provide support for the project.
SMI5	Senior management support me by leaving me to deal with problems unless consulted.
SMI6	Senior management will be responsive to our requests for additional resources if the need arises.
SMI7	I agree with senior management on the degree of my authority and responsibility for the project.
SMI8	Senior management has granted us the necessary authority and will support our independent decisions concerning the project.

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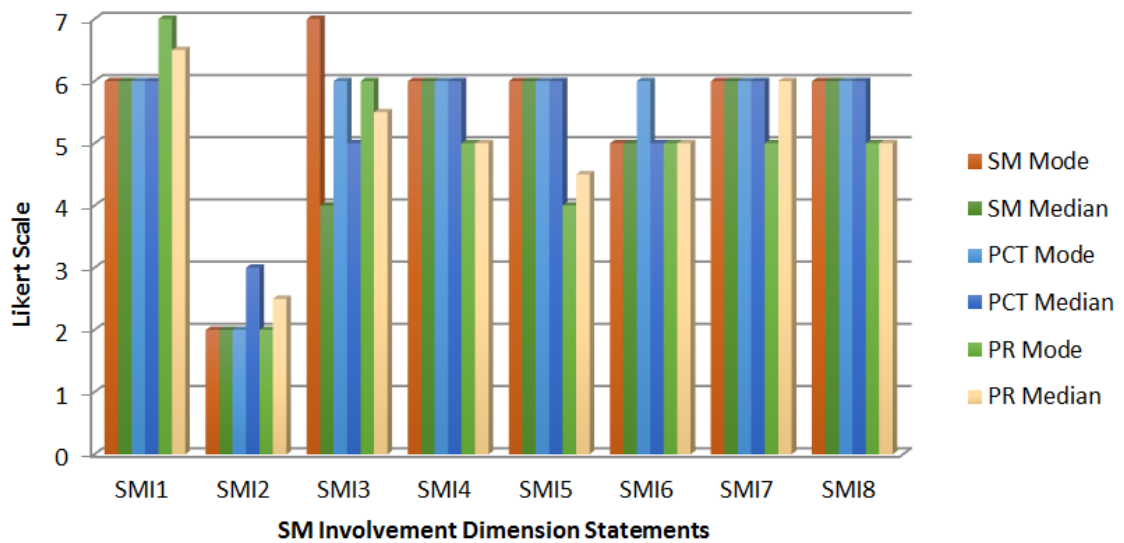
Figure 21: All Stakeholder Senior Management Involvement Dimension Modes and Medians

It could be expected that SMI1 and SMI2 would yield a mirror image response because agreement that they are engaged and committed to a project would imply that the same group would not agree that SM were detached from the project. Generally, this proved to be the case, although the PR group agree more strongly for SMI1 than the PCT and SM groups, but do not disagree strongly for SMI2. However, the two statements indicate that SM are committed and engaged with projects.

SMI4 and SMI8 are both about SM providing support, but SMI8 had a supplementary point about SM granting the authority to make independent decisions. There is an identical response to these statements, with SM and PCT strongly agreeing and the PR agreeing with the statements. SM and PCT also agree with each other on statements SMI5 and SMI7, which consider the support given by SM for independent decision making (SMI5) and whether the SM sets the degree of responsibility and authority given for the project (SMI7). The PR group were closer to neutral about these statements. There was a clear difference of opinion between the groups when considering the accountability of SM when they initiate the project (SMI3) with a noticeable difference between the mode and the median for the SM group (mode 7 – strongly agree; median 4 – neutral).

The benefit to stakeholder group dimension survey statements are shown in Table 131 and median and mode data from the results in Figure 22.

Table 131: Benefit to Stakeholder Group Dimension Key

Dimension Statement Key	Survey Statement
BTSG1	I am aware who predicts the benefits of a project.
BTSG2	The project owner/sponsor is responsible for delivering the benefits.
BTSG3	The project manager is accountable for delivering the benefits.
BTSG4	Benefits of the project are clearly defined.
BTSG5	The benefits of the project are agreed at the start of the project in the planning phase.
BTSG6	The benefits need to be measurable.
BTSG7	The benefits are tracked throughout the project.
BTSG8	The most important benefits are financial.
BTSG9	Financial benefits of the project are clearly identified.
BTSG10	The project delivers the set benefits.
BTSG11	I am aware of the benefits to the owner/sponsor of the project.
BTSG12	I am aware of the benefits to the organisation.
BTSG13	I am aware of the benefits to the people receiving the final project.
BTSG14	The project will help me to do a better job (either as a user or in future projects).
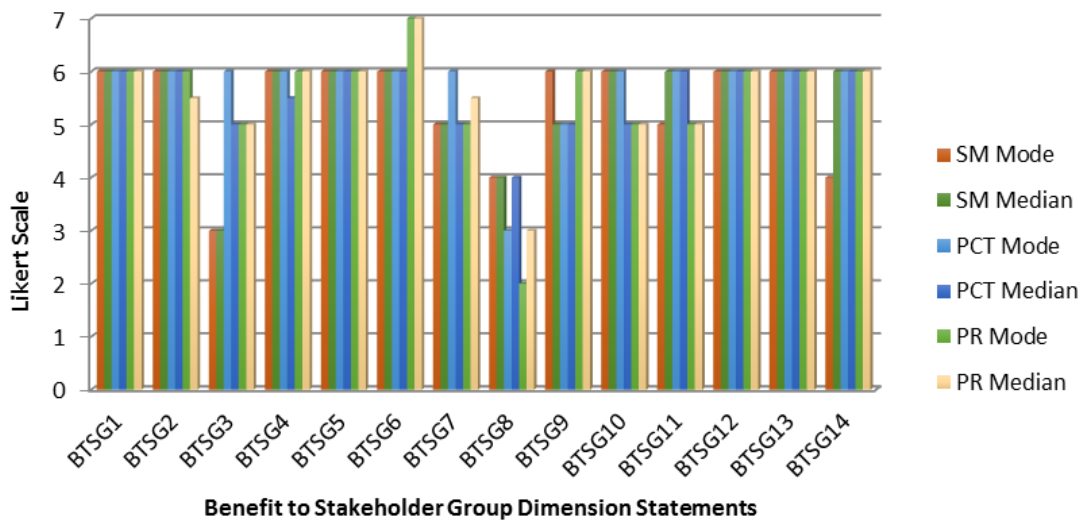
Figure 22: All Stakeholder Benefit to Stakeholder Group Dimension Modes and Medians

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The personal awareness of benefits to stakeholder groups are recorded in BTSG1 and BTSG11-14. All the groups agree that they were aware of who predicted the benefits of a project, the benefits to the organisation, and the people receiving the final project (BTSG1, BTSG12, and BTSG13). There was less agreement for BTSG11 when the benefits to the owner/sponsor of the project were considered. The PR agree somewhat, whereas the PCT agree that they knew of these benefits. The stakeholder results showed that the mode was recorded at 5 on the scale, whereas the median was recorded as 6, indicating some dissention within the group. BTSG14 asked the groups to consider whether a project would help them to do a better job either as a user or in the future. The PR and PCT groups agree with this statement, but the SM returned a response from neutral to agreement, which might reflect their seniority and/or their specific role.

All of the groups agreed that the benefits of a project were discussed in the planning stage (BTSG5). There was also broad agreement that the benefits of a project were clearly defined and that the sponsor/owner was responsible for delivering them (BTSG2 and BTSG4). However, in terms of project manager accountability (BTSG3), there was a range of response from somewhat disagree (SM group) to somewhat agree (PR and PCT, with the PCT group being more varied in their response).

Financial aspects of a project were covered in BTSG8 and BTSG9, while BTSG10 looked at set benefits, which might also include financial benefits. The SM and PCT are fairly neutral with regard to financial benefits being most important, while the PR disagree with the statement. The PCT agree somewhat that financial benefits were identified (BTSG9), but the SM and PR were more certain.

There was agreement that benefits should be measurable (BTSG6) i.e., quantitatively or qualitatively. The PR group felt strongly about this (7 on the scale) with SM, and PCT rating 6 on the scale. However, the consensus between the groups was that they only somewhat agreed that these should be tracked throughout the project (BTSG7), and this will be regarded as a shared statement view between the groups.

Balancing time, cost, and quality dimension

For this dimension, a graded response was requested from respondents (1-12, with 1 corresponding to the most common and 12 to the least common). The balancing time,

cost, and quality dimension survey statements are shown in Table 132 and mode data from the results in Figure 23.

Table 132: Balancing Time, Cost, and Quality Dimension Key

Dimension Statement Key	Survey Statement
BalTCQ1	When timescale may not be met, quality is lessened.
BalTCQ2	When timescale may not be met, more money is allocated.
BalTCQ3	When timescale may not be met, more people are allocated.
BalTCQ4	When timescale may not be met, the project is delayed.
BalTCQ5	When cost may not be met, quality is lessened.
BalTCQ6	When cost may not be met, extra time is allocated.
BalTCQ7	When cost may not be met, more money is allocated.
BalTCQ8	When quality may not be met, more money is allocated.
BalTCQ9	When quality may not be met, extra time is allocated.
BalTCQ10	When quality may not be met, quality is lessened.
BalTCQ11	Time, cost, quality, and scope must be balanced on a project; none can be sacrificed.
BalTCQ12	The balance of time, cost, quality, and scope is often changed.
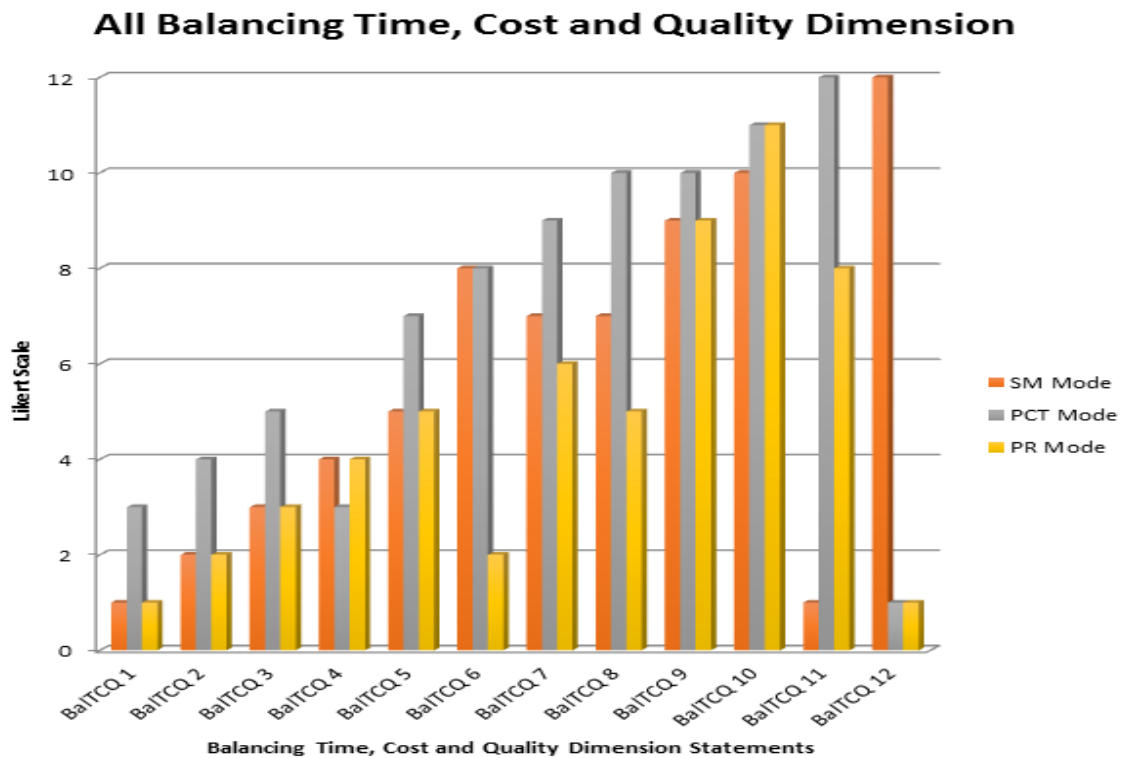
Figure 23: All Stakeholder Balancing Time, Cost, and Quality Dimension Modes

The impact of time, cost, and quality together was considered in BalTCQ11 and BalTCQ12, BalTCQ11 suggesting that 'time, quality, and costs are equally important

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and none should be sacrificed' and BalTCQ12 indicating that these elements are often changed. The results are not clear-cut for BalTCQ11. This represented the most commonly held view by SM (44% of the group), but PCT were almost equally divided between the most common (score 1, 23%) and the least common (score 12, 25% of the group). Similarly, the PR results indicate that this is relatively unimportant to them, since 18% of the group scored 11 and 12, totalling 36%. Overall, it seems that this aspect was most commonly perceived by the SM group. The SM group were alone in stating that 'changing time, cost, quality, and scope of a project occurred infrequently' (score 1, 44% of group). The PR and PCT felt that such changes were frequent (36% for each group), but 54% and 56% of the total group scored 1 and 2, respectively, adding weight to their view. For this dimension, there was a clear difference between the SM and PCT/PR groups.

Results from BalTCQ1-4 show how the timescale can affect project resources. The BalTQ3 results indicate that more people are allocated to a project if the timescale slips; 56% of SM returned a rating of 3, but if 3 and 4 are considered together, 89% of SM find this a common strategy. The same agreement was found for the PCT and PR groups, where taking the 3 and 4 ratings together gives 30% and 36% of the response by the groups, confirming the modes recorded. Only the SM group appreciated that the quality of a project was affected if the timescale might not be met, with BalTCQ1 (33% gave the most common score of 1, but 22% returned a score of 10) showing a fairly strong difference in opinion. There was a more diffuse response by PCT and PR (59% and 49%, scores 1-5, respectively), but 22% was the highest score for PR, agreeing with SM. BalTCQ2 looks at resolving timescale delays by allocating more money to the project. It was not the most commonly held view by any group (score 1), but 66% of SM, 43% of PCT, and 54% of PR scored 1 to 5. However, the PR had 0% for scores 9-12, whereas 32% of PCT and 22% of SM scored 9-12; for this reason, the PCT and SM were considered to have a shared view, since most of the scores were towards the most common side of the scale and reflects the mode for this dimension.

BalTCQ3 considers that allocating more people to a project might allow a timescale to be met. 56% of SM scored this at 3 on the scale, the highest percentage in the survey, indicating that this would be a common action taken to meet timescales. This was also

scored highly by the PCT (61%) when summing the scores returned for scores 1-5 but less highly by the PR group (51%). This does not correspond to the mode rating, where PR and SM have a similar response. However, for the current study, the SM group will be regarded as having a different response than the other groups because 89% chose 3 and 4 scores.

BalTCQ4 suggests that, if timescales might not be met, the project will be delayed. 72% of PR, 66% of SM, and 43% of PCT selected scores 1-5, showing a difference of opinion between each group on the possible delay of a project if timescales might not be met. In summary, the results indicate that human and physical resources were used to offset the possible adverse effects of not meeting present deadlines, but SM were more likely to use this approach than the other two groups.

BalTCQ5-7 consider how failure to meet budgeted costs affects the same three dimensions of quality, time, and additional funding. BalTCQ5, which looks at how quality is impacted by costs, produced a neutral response from all groups, but it was noticeable that 36% of the PR group scored at the least common end of the scale (score 11 or 12), with 27% returning a score of 5.

BalTCQ6, which examines whether failure to meet costs is counteracted by a greater time allocation, recorded 100% in the neutral to least common scores of 6-12 for SM, 45% of PR group were at the 4-6 neutral part of the scale, and 56% of PCT scored 4-7 on the scale, with 22% at 7, indicating that they were slightly less in agreement. This might be a result of the fact that allocating more time would inevitably mean allocating more money, making it more likely that budgeted costs will not be met. Overall, it is apparent that failure to meet costs does not adversely impact project delivery as judged by the fact that neither more money nor additional time would be allocated to meet deadlines. BalTCQ8-10 looks at quality, although quality specifications can vary greatly and can have a critical impact, so the response might be project dependent. However, the SM group were all in the neutral to least common scores for the allocation of more money or time or adhering to quality criteria. This was generally true for the PCT and PR groups, as the greatest percentage of the groups was in the neutral to least common

scores, but for the PCT, there was a spread of opinion for all three dimensions (BalTCQ8-10).

4.3.3 Comparison of Stakeholder Groups' Median Values

Keys for the summary tables are provided below. The full results can be found in Appendix 25.

Stakeholder Group
SM = Senior Management
PCT = Project Core Team
PR = Project Recipient

Likert Scale
1 = Strongly Disagree
2 = Disagree
3 = Somewhat Disagree
4 = Neutral
5 = Somewhat Agree
6 = Agree
7 = Strongly Agree

Project Success Dimension
CT = Cost Dimension
TM = Time Dimension
QS = Quality and Scope Dimension
Acc = Accountability Dimension
Inv = Involvement Dimension
SMI = Senior Management Involvement Dimension
BTSG = Benefit to Stakeholder Group Dimension
BalTCQ = Balancing Time, Cost, and Quality Dimension

The median values will be used in subsequent sections, and Table 133 presents all the survey statements' median values. It is acknowledged that the mode is useful for assessing the most frequently selected answer, which could be argued as the best way to choose the most popular answer. However, it is possible for the data set to have two modes, i.e., to be multimodal, and for this reason, the median values were selected. Further, the median is less influenced by outliers and skewed data, which could distort the data (Field, 2013). Note that, whilst most questions were answered on a seven-point scale, the question regarding 'balancing, time, cost, and quality' required respondents to indicate from 1 to 12 how common each of the statements happened on projects, with 1 being the most common and 12 the least common. For example, this is indicated in the tables with '1 most common'. These results have been separated for discussion later. Table 133 shows that, of the 68 statements used, only 23 of these were in agreement across all three stakeholder groups. This means that there are 45 statements whereby at least one stakeholder group did not agree. The number of survey responses is not the same in each group (PCT 119, PR 14, SM 10), which reflects the much larger number of staff member within the PCT group, but they are all included.

Table 133: Common Dimension Statements between Stakeholder Groups

Dimension	Survey Statement	SM	PCT	PR	Stakeholder Groups
CT1	A case must be made to gain investment for a project.	7	7	7	ALL
CT2	I am aware how investment is decided for projects.	7	6	6	PCT, PR
CT3	Costs are clearly documented.	6	6	6	ALL
CT4	The clients understand the costs of each stage of the project, and invoices are clearly broken down.	6	5	6	SM, PR
CT5	The financial benefits and impact of projects have been communicated to me.	7	5	5	PCT, PR
CT6	There are procedures in place to monitor the budget.	7	6	6	PCT, PR
CT7	Overall, projects I have been involved in came in on or below budget.	4	5	4	SM, PR
CT8	Overall, projects I have been involved in made a profit post-implementation.	4	4	4	ALL
CT9	Overspends are common on a project.	6	5	6	SM, PR
CT10	There are clear consequences/penalties when the budget is exceeded.	4	4	5	SM, PCT
CT11	Meeting cost/budget is the most important factor for success.	4	4	5	SM, PCT
TM1	Milestones are clearly defined for delivering the project.	6	6	6	ALL
TM2	Deadlines set are realistic and can be met.	5	6	6	PCT, PR
TM3	Projects tend to finish before set deadlines.	3	3	4	SM, PCT
TM4	Projects often overrun on time.	5	5	5	ALL
TM5	Overall, projects I have been involved in come in on schedule.	5	5	5	ALL
TM6	There is a lack of commitment to meet deadlines by those involved.	2	3	3	PCT, PR
TM7	It is acceptable to delay a project.	5	5	4	SM, PCT
TM8	Delaying a project does not incur consequences.	3	2	3	SM, PR
TM9	Deadlines can be shortened to make resources available for other projects.	5	4	4	PCT, PR
TM10	Delivering the project on time is the most important dimension for success.	3	3	6	SM, PCT
QS1	Quality is clearly defined. (For example, the project accomplished the set requirements/standards.)	6	6	6	ALL
QS2	Quality is the most important dimension for success on a project.	5	5	5	ALL
QS3	Project scope is clearly defined.	7	6	6	PCT, PR
QS4	Project scope is the most important dimension on a project.	6	5	5	PCT, PR
Acc1	There is a clear person responsible for setting accountability on a project.	6	6	7	SM, PCT
Acc2	Accountability, roles, and responsibilities are clearly defined, acknowledged, traceable, and transparent.	6	6	7	SM, PCT
Acc3	I clearly understand what I am responsible/accountable for and my role when working on a project.	7	6	7	SM, PR
Acc4	Clear procedures are in place when accountability is not recognised.	5	5	6	SM, PCT
Inv1	The project manager should be open to ideas and comments from the team or from other stakeholders.	7	7	6	SM, PCT
Inv2	Stakeholder buy-in is clearly identifiable.	6	6	6	ALL
Inv3	Stakeholders involved in the project should be clearly identified.	7	7	6	SM, PCT
Inv4	I would prefer not to be involved with projects.	1	2	2	PCT, PR
Inv5	I would like to be more involved with projects.	5	6	7	ALL

Dimension	Survey Statement	SM	PCT	PR	Stakeholder Groups
Inv6	I am always involved from the start of the project to the end.	6	5	5	PCT, PR
Inv7	When requested to attend, I am regularly present at scheduled project meetings.	6	6	7	SM, PCT
Inv8	I am involved in developing the project.	5	6	6	PCT, PR
Inv9	If I recognise a lack of engagement, I know how to escalate this for action.	7	6	6	PCT, PR
Inv10	Being involved in a project provides a positive experience.	6	6	6	ALL
Inv11	I am aware that my input is valued and ensure that I use every opportunity to participate in all stages of the project.	6	6	6	ALL
Inv12	I am aware that my involvement in a project plays an important role in the project succeeding.	6	6	6	ALL
Inv13	Projects are additional to my day-to-day work.	4	3	6	NONE
Inv14	It is acknowledged that working on a project will distract me from my main job.	3	3	3	ALL
Inv15	Extra time allowance is given to me from my day-to-day work so that I can engage in projects.	3	4	4	PCT, PR
Inv16	I am prepared to put in extra effort when working on a project and be engaged as much as necessary regardless of whether I am paid more or not.	7	6	6	PCT, PR
Inv17	I am committed to making the project successful.	7	7	7	ALL
SMI1	Senior management are engaged and committed to the project.	6	6	7	SM, PCT
SMI2	Senior management are detached from the project.	2	3	3	PCT, PR
SMI3	Senior management are always accountable when they initiate the project.	4	5	6	NONE
SMI4	Senior management provide support for the project.	6	6	5	SM, PCT
SMI5	Senior management support me by leaving me to deal with problems unless consulted.	6	6	5	SM, PCT
SMI6	Senior management will be responsive to our requests for additional resources if the need arises.	5	5	5	ALL
SMI7	I agree with senior management on the degree of my authority and responsibility for the project.	6	6	6	ALL
SMI8	Senior management has granted us the necessary authority and will support our independent decisions concerning the project.	6	6	5	SM, PCT
BTSG1	I am aware who predicts the benefits of a project.	6	6	6	ALL
BTSG2	The project owner/sponsor is responsible for delivering the benefits.	6	6	6	ALL
BTSG3	The project manager is accountable for delivering the benefits.	3	5	5	PCT, PR
BTSG4	Benefits of the project are clearly defined.	6	6	6	ALL
BTSG5	The benefits of the project are agreed upon at the start of the project in the planning phase.	6	6	6	ALL
BTSG6	The benefits need to be measurable.	6	6	7	SM, PCT
BTSG7	The benefits are tracked throughout the project.	5	5	6	SM, PCT
BTSG8	The most important benefits are financial.	4	4	3	SM, PCT
BTSG9	Financial benefits of the project are clearly identified.	5	5	6	SM, PCT
BTSG10	The project delivers the set benefits.	6	5	5	PCT, PR
BTSG11	I am aware of the benefits to the owner/sponsor of the project.	6	6	5	SM, PCT
BTSG12	I am aware of the benefits to the organisation.	6	6	6	ALL
BTSG13	I am aware of the benefits to the people receiving the final project.	6	6	6	ALL
BTSG14	The project will help me to do a better job (either as a user or in future projects).	6	6	6	ALL

4.3.4 What the Individual Stakeholder Groups Found Important

The median and modes have been presented and discussed for the stakeholders in section 4.3.2. The following section gives reasons for the selection of the dimension statements used to create the new multiple stakeholder model. Table 134 shows the 'strongly agree' median values for the SM group. This highlights that most statements were from the involvement dimension and then the cost dimension. Scope and accountability were also recognised areas.

Table 134: Senior Management: Strongly Agree

Survey Statement	Dimension	Median
The project manager should be open to ideas and comments from the team or from other stakeholders.	Inv1	7
Stakeholders involved in the project should be clearly identified.	Inv3	7
If I recognise a lack of engagement, I know how to escalate this for action.	Inv9	7
I am prepared to put in extra effort when working on a project and be engaged as much as necessary regardless of whether I am paid more or not.	Inv16	7
I am committed to making the project successful.	Inv17	7
A case must be made to gain investment for a project.	CT1	7
I am aware how investment is decided for projects.	CT2	7
The financial benefits and impact of projects have been communicated to me.	CT5	7
There are procedures in place to monitor the budget.	CT6	7
Project scope is clearly defined.	QS3	7
I clearly understand what I am responsible/accountable for and my role when working on a project.	Acc3	7

Table 135 shows the 'disagree' median values for the SM group. This highlights that most statements were from the time dimension and then the involvement dimension. Senior management involvement and benefit to stakeholder group were also recognised areas.

Table 135: Senior Management: Disagree

Survey Statement	Dimension	Median
Projects tend to finish before set deadlines.	TM3	3
There is a lack of commitment to meet deadlines by those involved.	TM6	2
Delaying a project does not incur consequences.	TM8	3
Delivering the project on time is the most important dimension for success.	TM10	3
I would prefer not to be involved with projects.	Inv4	1
It is acknowledged that working on a project will distract me from my main job.	Inv14	3
Extra time allowance is given to me from my day-to-day work so that I can engage in projects.	Inv15	3
Senior management are detached from the project.	SMI2	2
The project manager is accountable for delivering the benefits.	BTSG3	3

Table 136 shows the 'strongly agree' median values for the PCT group. This highlights that most statements were from the involvement dimension and then the cost dimension.

Table 136: Project Core Team: Strongly Agree

Survey Statement	Dimension	Median
The project manager should be open to ideas and comments from the team or from other stakeholders.	Inv1	7
Stakeholders involved in the project should be clearly identified.	Inv3	7
I am committed to making the project successful.	Inv17	7
A case must be made to gain investment for a project.	CT1	7

Table 137 shows the 'disagree' median values for the PCT group. This highlights that most statements were from the time dimension and then the involvement dimension. Senior management involvement was also recognised.

Table 137: Project Core Team: Disagree

Survey Statement	Dimension	Median
Projects tend to finish before set deadlines.	TM3	3
There is a lack of commitment to meet deadlines by those involved.	TM6	3
Delaying a project does not incur consequences.	TM8	2
Delivering the project on time is the most important dimension for success.	TM10	3
I would prefer not to be involved with projects.	Inv4	2
Projects are additional to my day-to-day work.	Inv13	3
It is acknowledged that working on a project will distract me from my main job.	Inv14	3
Senior management are detached from the project.	SMI2	3

Table 138 shows the 'strongly agree' median values for the PR group. This highlights that most statements were from the accountability and involvement dimensions. Cost, senior management involvement, and benefit to stakeholder group were also recognised areas.

Table 138: Project Recipient: Strongly Agree

Survey Statement	Dimension	Median
A case must be made to gain investment for a project.	CT1	7
There is a clear person responsible for setting accountability on a project.	Acc1	7
Accountability, roles, and responsibilities are clearly defined, acknowledged, traceable, and transparent.	Acc2	7
I clearly understand what I am responsible/accountable for and my role when working on a project.	Acc3	7
I would like to be more involved with projects.	Inv5	7
When requested to attend, I am regularly present at scheduled project meetings.	Inv7	7
I am committed to making the project successful.	Inv17	7
Senior management are engaged and committed to the project.	SMI1	7
The benefits need to be measurable.	BTSG6	7

Table 139 shows the 'disagree' median values for the PR group. This highlights that most statements were from the time and involvement dimensions. Senior management involvement and benefit to stakeholder group were also recognised areas.

Table 139: Project Recipient: Disagree

Survey Statement	Dimension	Median
There is a lack of commitment to meet deadlines by those involved.	TM6	3
Delaying a project does not incur consequences.	TM8	3
I would prefer not to be involved with projects.	Inv4	2
It is acknowledged that working on a project will distract me from my main job.	Inv14	3
Senior management are detached from the project.	SMI2	3
The most important benefits are financial.	BTSG8	3

4.3.5 Areas of Agreement and Disagreement

Project core team and project recipient

Table 140 shows the 17 dimension statements that have an equal scale rating between the PCT and PR, excluding SM. There were 12 on the agree scale, three on the disagree scale, and two neutral responses. This indicates 51 statements where the SM group does not align with the PCT and PR view.

Table 140: Project Core Team and Project Recipient Dimension Statements in Common

Dimension	Survey Statement	SM	PCT	PR
CT2	I am aware how investment is decided for projects.	7	6	6
CT5	The financial benefits and impact of projects have been communicated to me.	7	5	5
CT6	There are procedures in place to monitor the budget.	7	6	6
TM2	Deadlines set are realistic and can be met.	5	6	6
TM6	There is a lack of commitment to meet deadlines by those involved.	2	3	3
TM9	Deadlines can be shortened to make resources available for other projects.	5	4	4
QS3	Project scope is clearly defined.	7	6	6
QS4	Project scope is the most important dimension on a project.	6	5	5
Inv4	I would prefer not to be involved with projects.	1	2	2
Inv6	I am always involved from the start of the project to the end.	6	5	5
Inv8	I am involved in developing the project.	5	6	6
Inv9	If I recognise a lack of engagement, I know how to escalate this for action.	7	6	6

Dimension	Survey Statement	SM	PCT	PR
Inv15	Extra time allowance is given to me from my day-to-day work so that I can engage in projects.	3	4	4
Inv16	I am prepared to put in extra effort when working on a project and be engaged as much as necessary regardless of whether I am paid more or not.	7	6	6
SMI2	Senior management are detached from the project.	2	3	3
BTSG3	The project manager is accountable for delivering the benefits.	3	5	5
BTSG10	The project delivers the set benefits.	6	5	5

Project core team and senior management

Table 141 presents the 20 dimension statements that have an equal scale rating between PCT and SM, excluding PR. There were 15 on the agree scale, two on the disagree scale, and three neutral responses. This indicates 48 statements where the PR group does not align with the SM and PCT and view.

Table 141: Project Core Team and Senior Management Dimension Statements in Common

Dimension	Survey Statement	SM	PCT	PR
CT10	There are clear consequences/penalties when the budget is exceeded.	4	4	5
CT11	Meeting cost/budget is the most important factor for success.	4	4	5
TM3	Projects tend to finish before set deadlines.	3	3	4
TM7	It is acceptable to delay a project.	5	5	4
TM10	Delivering the project on time is the most important dimension for success.	3	3	6
Acc1	There is a clear person responsible for setting accountability on a project.	6	6	7
Acc2	Accountability, roles, and responsibilities are clearly defined, acknowledged, traceable, and transparent.	6	6	7
Acc4	Clear procedures are in place when accountability is not recognised.	5	5	6
Inv1	The project manager should be open to ideas and comments from the team or from other stakeholders.	7	7	6
Inv3	Stakeholders involved in the project should be clearly identified.	7	7	6
Inv7	When requested to attend, I am regularly present at scheduled project meetings.	6	6	7
SMI1	Senior management are engaged and committed to the project.	6	6	7

Dimension	Survey Statement	SM	PCT	PR
SMI4	Senior management provide support for the project.	6	6	5
SMI5	Senior management support me by leaving me to deal with problems unless consulted.	6	6	5
SMI8	Senior management has granted us the necessary authority and will support our independent decisions concerning the project.	6	6	5
BTSG6	The benefits need to be measurable.	6	6	7
BTSG7	The benefits are tracked throughout the project.	5	5	6
BTSG8	The most important benefits are financial.	4	4	3
BTSG9	Financial benefits of the project are clearly identified.	5	5	6
BTSG11	I am aware of the benefits to the owner/sponsor of the project.	6	6	5

Senior management and project recipient

Table 142 highlights the five dimension statements that have an equal scale rating between PCT and SM, excluding PR. There were three on the agree scale, one on the disagree scale, and one neutral response. This indicates 63 statements where the PCT does not align with the SM and PR view.

Table 142: Senior Management and Project Recipient Dimension Statements in Common

Dimension	Survey Statement	SM	PCT	PR
CT4	The clients understand the costs of each stage of the project and invoices are clearly broken down.	6	5	6
CT7	Overall, projects I have been involved in came in on or below budget.	4	5	4
CT9	Overspends are common on a project.	6	5	6
TM8	Delaying a project does not incur consequences.	3	2	3
Acc3	I clearly understand what I am responsible/accountable for and my role when working on a project.	7	6	7

4.3.6 Comparison of Stakeholder Groups Areas of Agreement and Disagreement

Table 143 highlights the 23 dimension statements that have an equal scale rating between all three stakeholder groups. There were 21 on the agree scale, one on the disagree scale, and one neutral response. This indicates 45 statements where all three groups do not equally align in their view.

Dimension	Survey Statement	SM	PCT	PR
CT1	A case must be made to gain investment for a project.	7	7	7
CT3	Costs are clearly documented.	6	6	6
CT8	Overall, projects I have been involved in made a profit post implementation.	4	4	4
TM1	Milestones are clearly defined for delivering the project.	6	6	6
TM4	Projects often overrun on time.	5	5	5
TM5	Overall, projects I have been involved in come in on schedule.	5	5	5
QS1	Quality is clearly defined. (For example, the project accomplished the set requirements/standards.)	6	6	6
QS2	Quality is the most important dimension for success on a project.	5	5	5
Inv2	Stakeholder buy-in is clearly identifiable.	6	6	6
Inv10	Being involved in a project provides a positive experience.	6	6	6
Inv11	I am aware that my input is valued and ensure that I use every opportunity to participate in all stages of the project.	6	6	6
Inv12	I am aware that my involvement in a project plays an important role in the project succeeding.	6	6	6
Inv14	It is acknowledged that working on a project will distract me from my main job.	3	3	3
Inv17	I am committed to making the project successful.	7	7	7
SMI6	Senior management will be responsive to our requests for additional resources, if the need arises.	5	5	5
SMI7	I agree with senior management on the degree of my authority and responsibility for the project.	6	6	6
BTSG1	I am aware who predicts the benefits of a project.	6	6	6
BTSG2	The project owner/sponsor is responsible for delivering the benefits.	6	6	6
BTSG4	Benefits of the project are clearly defined.	6	6	6
BTSG5	The benefits of the project are agreed upon at the start of the project in the planning phase.	6	6	6
BTSG12	I am aware of the benefits to the organisation.	6	6	6
BTSG13	I am aware of the benefits to the people receiving the final project.	6	6	6
BTSG14	The project will help me to do a better job (either as a user or in future projects).	6	6	6

Differences in perception of dimension statements

As stated, there were only 23 identified statements in common among the three stakeholder groups. Table 144 shows 45 statements whereby at least one stakeholder group did not agree. Of these, there were three statements where all groups had unique views: 'I would like to be more involved with projects', 'projects are additional to my

day-to-day work', and 'senior management are always accountable when they initiate the project'.

Table 144: Dimension Statements Not in Common

Dimension	Survey Statement	SM	PCT	PR	Who is unique?
CT2	I am aware how investment is decided for projects.	7	6	6	SM
CT4	The clients understand the costs of each stage of the project and invoices are clearly broken down.	6	5	6	PCT
CT5	The financial benefits and impact of projects have been communicated to me.	7	5	5	SM
CT6	There are procedures in place to monitor the budget.	7	6	6	SM
CT7	Overall, projects I have been involved in came in on or below budget.	4	5	4	PCT
CT9	Overspends are common on a project.	6	5	6	PCT
CT10	There are clear consequences/penalties when the budget is exceeded.	4	4	5	PR
CT11	Meeting cost/budget is the most important factor for success.	4	4	5	PR
TM2	Deadlines set are realistic and can be met.	5	6	6	SM
TM3	Projects tend to finish before set deadlines.	3	3	4	PR
TM6	There is a lack of commitment to meet deadlines by those involved.	2	3	3	SM
TM7	It is acceptable to delay a project.	5	5	4	PR
TM8	Delaying a project does not incur consequences.	3	2	3	PCT
TM9	Deadlines can be shortened to make resources available for other projects.	5	4	4	SM
TM10	Delivering the project on time is the most important dimension for success.	3	3	6	PR
QS3	Project scope is clearly defined.	7	6	6	SM
QS4	Project scope is the most important dimension on a project.	6	5	5	SM
Acc1	There is a clear person responsible for setting accountability on a project.	6	6	7	PR
Acc2	Accountability, roles, and responsibilities are clearly defined, acknowledged, traceable, and transparent.	6	6	7	PR
Acc3	I clearly understand what I am responsible/accountable for and my role when working on a project.	7	6	7	PCT
Acc4	Clear procedures are in place when accountability is not recognised.	5	5	6	PR
Inv1	The project manager should be open to ideas and comments from the team or from other stakeholders.	7	7	6	PR
Inv3	Stakeholders involved in the project should be clearly identified.	7	7	6	PR
Inv4	I would prefer not to be involved with projects.	1	2	2	SM
Inv5	I would like to be more involved with projects.	5	6	7	ALL

Dimension	Survey Statement	SM	PCT	PR	Who is unique?
Inv6	I am always involved from the start of the project to the end.	6	5	5	SM
Inv7	When requested to attend, I am regularly present at scheduled project meetings.	6	6	7	PR
Inv8	I am involved in developing the project.	5	6	6	SM
Inv9	If I recognise a lack of engagement, I know how to escalate this for action.	7	6	6	SM
Inv13	Projects are additional to my day-to-day work.	4	3	6	ALL
Inv15	Extra time allowance is given to me from my day-to-day work so that I can engage in projects.	3	4	4	SM
Inv16	I am prepared to put in extra effort when working on a project and be engaged as much as necessary regardless of whether I am paid more or not.	7	6	6	SM
SMI1	Senior management are engaged and committed to the project.	6	6	7	PR
SMI2	Senior management are detached from the project.	2	3	3	SM
SMI3	Senior management are always accountable when they initiate the project.	4	5	6	ALL
SMI4	Senior management provide support for the project.	6	6	5	PR
SMI5	Senior management support me by leaving me to deal with problems unless consulted.	6	6	5	PR
SMI8	Senior management has granted us the necessary authority and will support our independent decisions concerning the project.	6	6	5	PR
BTSG3	The project manager is accountable for delivering the benefits.	3	5	5	SM
BTSG6	The benefits need to be measurable.	6	6	7	PR
BTSG7	The benefits are tracked throughout the project.	5	5	6	PR
BTSG8	The most important benefits are financial.	4	4	3	PR
BTSG9	Financial benefits of the project are clearly identified.	5	5	6	PR
BTSG10	The project delivers the set benefits.	6	5	5	SM
BTSG11	I am aware of the benefits to the owner/sponsor of the project.	6	6	5	PR

4.3.7 Balancing Time, Cost, and Quality Dimension

The question pertaining to 'balancing time, cost, and quality' contained a 12-point rating scale (1 being the most common and 12 the least common) and was separated from the rest of the comparison. When examining the 'mode' for this question, there were conflicting results. This is revealed in Table 145:

- SM – Statement 1 and 11 were the most common for the SM, indicating that an equal number of respondents selected both statements. The least common was statement 12.

- PCT – Statement 12 was most common; statement 11 was least common.
- PR – Statement 1 was the most common and statement 10 was the least common.

As statements 11 and 12 had conflicting responses between the stakeholder groups, these will be added to the multiple stakeholder model.

Table 145: Mode Figures for Balancing Time, Cost, and Quality

Statement	SM	PCT	PR
1 – When timescale may not be met, quality is lessened.	1	3	1
2 – When timescale may not be met, more money is allocated.	2	4	2
3 – When timescale may not be met, more people are allocated.	3	5	3
4 – When timescale may not be met, the project is delayed.	4	3	4
5 – When cost may not be met, quality is lessened.	5	7	5
6 – When cost may not be met, extra time is allocated.	8	8	2
7 – When cost may not be met, more money is allocated.	7	9	6
8 – When quality may not be met, more money is allocated.	7	10	5
9 – When quality may not be met, extra time is allocated.	9	10	9
10 – When quality may not be met, quality is lessened.	10	11	11
11 – Time, cost, quality, and scope must be balanced on a project; none can be sacrificed.	1	12	8
12 – The balance of time, cost, quality, and scope is often changed.	12	1	1

4.3.8   Summary of Survey Results

The survey results indicated a commonality between all three stakeholder groups on one statement on the disagree scale, 'it is acknowledged that working on a project will distract me from my main job', 21 statements on the agree scale, and one neutral response. This highlighted a lack of commonality with 45 statements whereby all three groups do not equally align in their view.

Table 146 summarises the number of statements in common and unique between the stakeholder groups for the seven-point Likert scale questions. This showed that the 'benefits to stakeholder group' dimension had the most aligned view (seven out of 14 statements) and 'accountability' had the least (zero out of four) for all three groups. However, this does not take into account that 'accountability' had a smaller number of items and would be less likely to be recognised across all groups.

Table 146: Summary of Statements in Common and Unique

Dimension	Total Number of Statements	IC across All Groups	UV across All Groups	PCT and PR IC	PCT and SM IC	SM and PR IC	SM UV	PCT UV	PR UV
Cost	11	3	0	3	2	3	3	3	2
Time	10	3	0	3	3	1	3	1	3
Quality and Scope	4	2	0	2	0		2	0	0
Accountability	4	0	0	0	3	1		1	3
Involvement	17	6	2	6	3	0	6	0	3
Senior Management Involvement	8	2	1	1	4	0	1	0	4
Benefits to Stakeholder Group	14	7	0	2	5	0	2	0	5
Total	**68**	**23**	**3**	**17**	**20**	**5**	**17**	**5**	**20**

* UV = Unique views
* IC = In common

The PR group had the most views (20 statements) that did not align with SM and PCT views. The SM closely followed with 17 statements not aligning with the PCT and PR views, but the PCT had only five statements that did not align with SM and PCT views. The survey results echo the systematic literature review in that there were areas of disagreement between the stakeholder groups. As stated, the main concern is the lack of commonality, highlighting the need for increased communication and collaboration, which will be discussed.

4.4 Multiple Stakeholder Model – Initial Development

Two trial multiple stakeholder models were constructed for organisational use. The aim was to help identify and manage expectations and monitor possible changing priorities of different stakeholders of success dimensions throughout the project.

The models were designed so that they would be as independent of sector, size, and complexity as possible, making it equally applicable to all projects. To fulfil this purpose, the interviewees answered the questions using both their current and previous experience, ensuring that their comments covered a broad spectrum of project types and

sectors. This is shown in Table 147. Although the sample size is small, the results show that the collective experience of the interviewees was not restricted to a single area.

Table 147: Project Type in Interviews

Project Type/Sector	Number of Interviewees	% of Interviewees
Manufacturing	1	4
Business performance improvement	1	4
Delivery projects as services	2	8
ICT or high tech	5	21
Organisation and business	6	25
Service and or finance	9	38

It was also noted that there was no one preferred administration process for projects (Table 148). Over 50% were completed within an appropriate division and the remainder either separate from the parent organisation or in a separate division devoted to projects. Clearly, each organisation will assess the most cost effective way of delivering projects, and this aspect was not explored further to see whether it impacted the success of a project. Nevertheless, the fact that data were drawn from different administration models increases the likelihood that the model will be applicable for any project.

Table 148: Administration Type in Interviews

Organisation Type	Number of Interviewees
Part of any functional division of the organisation	13
Functional division of the parent organisation (matrix form)	6
Separate from the rest of the parent organisation	4
Unknown	1

A similar strategy was used with the survey respondents, who had a varied experience of different project types, including business improvement, IS/IT, logistics, new product development, and organisational change. The survey was distributed to four different industry sectors (food service wholesale distributor, consulting, financial services, and insurance). However, the previous experience of respondents was also collated, which again increased the applicability of the responses across sectors. The industries recorded for the survey are detailed in Table 149.

Table 149: Industry Sector in Survey

Industry Sector		
Armed forces	Health	Pensions and life
Aviation	Hospitality	assurance industry
Broadcast and media	Human resources	Pharmaceutical
Construction	Insurance industry	Private
Consultancy	IT sectors	Private hospital
Defence	Large blue chip companies	Public
Distribution	Logistics company	Retail
Education	Manufacturing	Software
Energy industries	Ministry of defense	Telecom sector
Energy sectors	Mixed sectors	Telecommunications
Financial services	Mortgage sector	Transformation
FMCG sector	Navy	Transport sector
Food distribution industry	NHS	Travel
Government organisations	Oil and gas	Utilities

Thirty-one dimension statements from the survey were extracted to develop the trial models, as shown in Table 150. This was on the basis that all three groups had different views (different scores on the rating scales), the individual groups strongly agreed with the statement and therefore considered them important (rated 7 on the scale), and the individual groups disagreed with the statement and therefore had a strong opinion against them (rated 1 to 3 on the scale). It can be seen that 14 out of 31 of these statements were recognised by a single stakeholder group and over half of them (eight) were those of SM, the remaining six by the PR, and none by the PCT. This indicates that there is a distinct difference between the views of the SM and PR groups and that the PCT is more likely to share the views of both. The extracted statements were used to create trial multiple stakeholder model one (Table 151). It allows each stakeholder to state whether they agree or disagree with the statement and provides an opportunity for discussion where there are different responses.

Table 150: Dimension Statements with Stakeholder Recognition

Survey Statement	Dimension	Score	Which Stakeholder
A case must be made to gain investment for a project.	CT1	7	SM, PCT, PR
I am aware how investment is decided for projects.	CT2	7	SM
The financial benefits and impact of projects have been communicated to me.	CT5	7	SM
There are procedures in place to monitor the budget.	CT6	7	SM
Projects tend to finish before set deadlines.	TM3	3	SM, PCT
There is a lack of commitment to meet deadlines by those involved.	TM6	2, 3, 3	SM, PCT, PR
Delaying a project does not incur consequences.	TM8	3, 2, 2	SM, PCT, PR
Delivering the project on time is the most important dimension for success.	TM10	3	SM, PCT
Project scope is clearly defined.	QS3	7	SM
There is a clear person responsible for setting accountability on a project.	Acc1	7	PR
Accountability, roles, and responsibilities are clearly defined, acknowledged, traceable, and transparent.	Acc2	7	PR
I clearly understand what I am responsible/accountable for and my role when working on a project.	Acc3	7	SM, PR
The project manager should be open to ideas and comments from the team or from other stakeholders.	Inv1	7	SM, PCT
Stakeholders involved in the project should be clearly identified.	Inv3	7	SM, PCT
I would prefer not to be involved with projects.	Inv4	1, 2, 2	SM, PCT, PR
I would like to be more involved with projects.	Inv5	5, 6, 7	SM, PCT, PR
When requested to attend, I am regularly present at scheduled project meetings.	Inv7	7	PR
If I recognise a lack of engagement, I know how to escalate this for action.	Inv9	7	SM
Projects are additional to my day-to-day work.	Inv13	4, 3, 6	SM, PCT, PR
It is acknowledged that working on a project will distract me from my main job.	Inv14	3	SM, PCT, PR
Extra time allowance is given to me from my day-to-day work so that I can engage in projects.	Inv15	3	SM
I am prepared to put in extra effort when working on a project and be engaged as much as necessary regardless of whether I am paid more or not.	Inv16	7	SM
I am committed to making the project successful.	Inv17	7	SM, PCT, PR
Senior management are engaged and committed to the project.	SMI1	7	PR
Senior management are detached from the project.	SMI2	2, 3, 3	SM, PCT, PR
Senior management are always accountable when they initiate the project.	SMI3	4, 5, 6	SM, PCT, PR
The project manager is accountable for delivering the benefits.	BTSG3	3	SM
The most important benefits are financial.	BTSG8	3	PR
The benefits need to be measurable.	BTSG6	7	PR
Time, cost, quality, and scope must be balanced on a project; none can be sacrificed.	BALTCQ11	1, 12, 8	SM, PCT, PR
The balance of time, cost, quality, and scope is often changed.	BALTCQ 12	12, 1	SM, PCT

Table 151: Trial Multiple Stakeholder Model One

You are to complete this document anonymously, as it will be used for an open discussion. Please answer whether you agree or disagree with each statement. For the project you are considering, please indicate your role on the project:

- Senior management (for example, board, director, executive, executive management, investor, project executive, portfolio director, programme director, owner, senior management, sponsor, top management, or project sponsor)
- Project core team (for example, project leader, project manager, project personnel, project team leader, project team, or team member)
- Project recipient (for example, client, consumer, customer, or end user, someone who will use or have used the final output of a project, such as a new computer system)

Dimension	Survey Statement	SM Answer	PCT Answer	PR Answer
Cost	A case must be made to gain investment for a project.			
	I am aware how investment is decided for projects.			
	The financial benefits and impact of projects have been communicated to me.			
	There are procedures in place to monitor the budget.			
Time	Projects tend to finish before set deadlines.			
	There is a lack of commitment to meet deadlines by those involved.			
	Delaying a project does not incur consequences.			
	Delivering the project on time is the most important dimension for success.			
Quality and Scope	Project scope is clearly defined.			
Balancing Time, Cost, and Quality	Time, cost, quality, and scope must be balanced on a project; none can be sacrificed.			
	The balance of time, cost, quality, and scope is often changed.			
Accountability	There is a clear person responsible for setting accountability on a project.			
	Accountability, roles, and responsibilities are clearly defined, acknowledged, traceable, and transparent.			
	I clearly understand what I am responsible/accountable for and my role when working on a project.			
Involvement	The project manager should be open to ideas and comments from the team or from other stakeholders.			
	Stakeholders involved in the project should be clearly identified.			
	I would prefer not to be involved with projects.			
	I would like to be more involved with projects.			
	When requested to attend, I am regularly present at scheduled project meetings.			
	If I recognise a lack of engagement, I know how to escalate this for action.			
	It is acknowledged that working on a project will distract me from my main job.			
	Projects are additional to my day-to-day work.			
	Extra time allowance is given to me from my day-to-day work so that I can engage in projects.			
	I am prepared to put in extra effort when working on a project and be engaged as much as necessary regardless of whether I am paid more or not.			
	I am committed to making the project successful.			
Senior Management Involvement	Senior management are engaged and committed to the project.			
	Senior management are detached from the project.			
	Senior management are always accountable when they initiate the project.			
Benefit to Stakeholder Group	The project manager is accountable for delivering the benefits.			
	The most important benefits are financial.			
	The benefits need to be measurable.			

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The survey statements were also adapted into questions (Table 152) to form trial multiple stakeholder model two (Table 153) as an alternative to promote open discussion.

Table 152: Survey Statements Adapted into Questions

Extracted Survey Statement	Question Created
Delaying a project does not incur consequences.	If the project were delayed, how would this affect you?
Projects tend to finish before set deadlines.	Is the project currently on track to finish either on or ahead of the deadline?
Delivering the project on time is the most important dimension for success. Time, cost, quality, and scope must be balanced on a project; none can be sacrificed. The balance of time, cost, quality, and scope is often changed.	What is the most important aspect for you to achieve on the project?
A case must be made to gain investment for a project. I am aware how investment is decided for projects.	How has investment been gained for this project?
There are procedures in place to monitor the budget.	What are the procedures to monitor budget?
Project scope is clearly defined.	How would you define the scope of this project?
There is a clear person responsible for setting accountability on a project.	Who sets the accountabilities on the project?
Accountability, roles, and responsibilities are clearly defined, acknowledged, traceable, and transparent. Senior management are always accountable when they initiate the project. I clearly understand what I am responsible/accountable for and my role when working on a project.	What are your accountabilities on the project?
It is acknowledged that working on a project will distract me from my main job. Projects are additional to my day-to-day work. Extra time allowance is given to me from my day-to-day work so that I can engage in projects.	Have you had time allocated from your main job to work on the project?
If I recognise a lack of engagement, I know how to escalate this for action.	How would you escalate a lack of engagement?
There is a lack of commitment to meet deadlines by those involved. I am committed to making the project successful. Senior management are engaged and committed to the project. Senior management are detached from the project.	How committed to making the project successful are you?
I would prefer not to be involved with projects. I would like to be more involved with projects. When requested to attend, I am regularly present at scheduled project meetings.	How much involvement do you want in the project?
I am prepared to put in extra effort when working on a project and be engaged as much as necessary regardless of whether I am paid more or not.	Would you be willing to extra effort regardless of whether you am paid more or not?
The project manager should be open to ideas and comments from the team or from other stakeholders.	Have your ideas been taken on board for the project?
Stakeholders involved in the project should be clearly identified.	Are you aware of all the identified stakeholders on the project?
The most important benefits are financial. The benefits need to be measurable.	What are the benefits for the project and how will these be measured?
The financial benefits and impact of projects have been communicated to me.	What are, if any, the financial benefits of the project?
The project manager is accountable for delivering the benefits.	Who is accountable for ensuring delivery of the benefits?

Table 153: Trial Multiple Stakeholder Model Two

You are to complete this document anonymously, as it will be used for an open discussion. Whether your project is meeting all the set goals or not, complete the following on how working on the project affects you. For the project you are considering, please indicate your role on the project:

- Senior management (for example, board, director, executive, executive management, investor, project executive, portfolio director, programme director, owner, senior management, sponsor, top management, or project sponsor)
- Project core team (for example, project leader, project manager, project personnel, project team leader, project team, or team member)
- Project recipient (for example, client, consumer, customer, or end user, someone who will use or have used the final output of a project, such as a new computer system)

Discussion Area	SM Answer	PCT Answer	PR Answer
If the project were delayed, how would this affect you?			
Is the project currently on track to finish either on or ahead of the deadline?			
What is the most important aspect for you to achieve on the project?			
How has investment been gained for this project?			
What are the procedures to monitor budget?			
How would you define the scope of this project?			
Who sets the accountabilities on the project?			
What are your accountabilities on the project?			
Have you had time allocated from your main job to work on the project?			
How would you escalate a lack of engagement?			
How committed to making the project successful are you?			
How much involvement do you want in the project?			
Would you be willing to extra effort regardless of whether you am paid more or not?			
Have your ideas been taken on board for the project?			
Are you aware of all the identified stakeholders on the project?			
What are the benefits for the project and how will these be measured?			
What, if any, are the financial benefits of the project?			
Who is accountable for ensuring delivery of the benefits?			

Models one and two are intended to be used independently or together. The main difference is that model one is relatively quick to complete, whereas model two demands written answers and therefore takes longer.

4.4.1 Results of Industry Experts

The trial multiple stakeholder models were sent to eight industry experts on 10 December 2015 for feedback. Table 154 evidences the experience of the experts, which provides credibility with respect to their ability to critique the findings. They were asked to consider the models in the context of how they would be used in the expert's respective organisations and offer suggestions for improvement.

Table 154: Industry Expert Profiles

Job Title	Job Description
Independent Consultant	40 years industry experience. Advises major organisations, normally at a senior level, on how they should or could improve their organisations to better to deliver projects. This includes advice on organisational design, governance, standards, and how to develop people's capability for projects and programmes.
Project Consultant	30 years industry experience. The coordinating and overseeing the delivery of events and or delivering benchmarking projects.
Director of Consultancy Services	30 years industry experience. An advisor, coach, or mentor, both to teams and individuals. Gets involved in the practical organisational type issues that people in projects are involved in but largely operates with teams or individual leaders to develop their personal capacity to create success inside projects.
Director of Consultancy Firm	20 years industry experience. An experienced senior leader and innovator who has worked at all levels designing and rolling out innovative services in public and private sectors, as well as setting up new structures, policies, procedures, and strategies.
Director of Consultancy Firm	25 years industry experience. An experienced programme transformational change manager on major projects. High attention to detail on challenging projects.
Visiting Professor/ Managing Partner of Consultancy Services	50 years teaching and industry experience. Varied career as an international businessman, research scientist, and university professor. 35 years experience as an executive and non-executive director. Served on numerous national and international boards, including start-ups, SMEs, and academic in a wide range of sectors (e.g., IT, media, HR, search and selection, PR, conferences).
Visiting Professor/ Director of Consultancy Services	40 years teaching and industry experience focussing on human centred systems, working life, workplace innovation, action research, networking, quality as empowerment, creating collaborative advantage and skill, and technology. Managed UK national programmes of advanced IT. An Emeritus Professor of Corporate Responsibility and Working Life at Kingston University (UK), Professor of Skill and Technology at Linnaeus University (Sweden), and Professor of Working Life and Innovation at the University of Agder (Norway). Co-editor of the *International Journal of Action Research* and the *European Journal of Workplace Innovation* and review editor of *AI and Society*.
Systems Delivery Director	35 years industry experience. A skilled IT managing director with significant FTSE 100 Financial Services experience of successfully leading complex technology functions and delivering transformational business results. A senior executive who has managed board level stakeholders; built and directed large scale, multi-disciplinary IS and change teams; and managed major on-shore/off-shore/near-shore suppliers.

Feedback included the following:

- The models use the loaded ideological language of project management, and some of the answers may not be obvious. For example, if one asks about 'commitment to quality', one does not expect to be told about 'commitment to mediocrity'.

- There is a danger that responses will simply be platitudinous, reflecting the position of the respondent in the hierarchy. A researcher would need to take respondents away from 'the scene of the crime' into 'the real world' and elicit some honest thinking. It is also important to ask why the stakeholders responded in the way they did.

- The customer must be involved, too. A common mistake is to introduce changes without involving the customers, who are then unable to utilise the new system.

- Open and honest communications are key.

- The key aspect is measurement and the ability to quantify the actions. Constant review and readjustment of the tasks, activities, and goals are needed. Key performance indicators (KPIs) should be created for each grouping. Preference is always for a small number of KPIs/metrics that focus on the key issues. Financial measures alone should not be used. A balanced picture of business performance, internal and external enablers and drivers, and staff and customer issues should be measured. Measures should be quantitative and simple. Constant assessment of project performance against the measurements/benefits should be done.

- Stakeholders' feelings are rarely considered. A project may be on track and meeting the criteria, but the team can be disgruntled and demotivated. Trial multiple stakeholder model two could be adapted for this.

Taking on board the feedback, instructions will accompany the models to suggest that they are completed anonymously without consultation with other stakeholders. The stakeholder would be asked how they are involved in the current project to determine whether they are SM, PCT, or PR. This would allow the stakeholders to provide their honest thoughts, which would be collected anonymously and then used to facilitate open discussions on points of agreement and disagreement. This would eradicate issues associated with blame and conflict. An extra column has been added to ask why the

stakeholders responded in the way they did to determine the reasons for the answers and make the open discussions more focussed and productive.

The other main feedback point was to have KPIs so that each discussion area has a measurable outcome. Parker (2014, p.2) offered the KPIs listed in Table 155. The KPIs have been numbered so that model one could be adapted to ask which KPI the stakeholder considers important to each dimension. Table 155 (Parker, 2014) could accompany model one, and stakeholders would be asked to write the corresponding KPI and number that they consider important. For example, FP2 is 'Financial Performance – Net Profit Margin'. Adapted trial model one was sent for feedback to the industry experts, and a completed example is provided in Table 156. The last feedback point was that stakeholder feelings are often not taken into account. Trial model two was adapted to ask anonymously how the stakeholder is feeling about working on the project. This could be collected and used to facilitate an open discussion. This is important, as the stakeholders' behaviour and attitude towards a project can be a major factor in whether the project is considered a success or a failure. Adapted model two was sent for feedback to the industry experts, and a completed example is provided in Table 157.

Table 155: Key Performance Indicators

Financial Performance (FP)	Operational Performance (OP)
1. Net Profit	1. Six Sigma Level
2. Net Profit Margin	2. Capacity Utilisation Rate (CUR)
3. Gross Profit Margin	3. Process Waste Level
4. Operating Profit Margin	4. Order Fulfilment Cycle Time
5. EBITDA	5. Delivery In Full, On Time (DIFOT) Rate
6. Revenue Growth Rate	6. Inventory Shrinkage Rate (ISR)
7. Total Shareholder Return (TSR)	7. Project Schedule Variance (PSV)
8. Economic Value Added (EVA)	8. Project Cost Variance (PCV)
9. Return on Investment (ROI)	9. Earned Value (EV) Metric
10. Return on Capital Employed (ROCE)	10. Innovation Pipeline Strength (IPS)
11. Return on Assets (ROA)	11. Return on Innovation Investment (ROI2)
12. Return on Equity (ROE)	12. Time to Market
13. Debt-to-Equity (D/E) Ratio	13. First Pass Yield (FPY)
14. Cash Conversion Cycle (CCC)	14. Rework Level
15. Working Capital Ratio	15. Quality Index
16. Operating Expense Ratio (OER)	16. Overall Equipment Effectiveness (OEE)
17. CAPEX to Sales Ratio	17. Process or Machine Downtime Level
18. Price Earnings Ratio (P/E Ratio)	18. First Contact Resolution (FCR)

Table 155: Key Performance Indicators Continued

Employees and Their Performance (EP)	Market and Marketing Efforts (ME)	Customers (CU)
1. Human Capital Value Added (HCVA)	1. Market Growth Rate	1. Net Promoter Score (NPS)
2. Revenue per Employee	2. Market Share	2. Customer Retention Rate
3. Employee Satisfaction Index	3. Brand Equity	3. Customer Satisfaction Index
4. Employee Engagement Level	4. Cost per Lead	4. Customer Profitability Score
5. Staff Advocacy Score	5. Conversion Rate	5. Customer Lifetime Value
6. Employee Churn Rate	6. Search Engine Rankings (by Keyword) and Click-through Rate	6. Customer Turnover Rate
7. Average Employee Tenure	7. Page Views and Bounce Rate	7. Customer Engagement
8. Absenteeism Bradford Factor	8. Customer Online Engagement Level	8. Customer Complaints
9. 360-Degree Feedback Score	9. Online Share of Voice (OSOV)	
10. Salary Competitiveness Ratio (SCR)	10. Social Networking Footprint	
11. Time to Hire	11. Klout Score	
12. Training Return on Investment		

Table 156: Completed Trial Multiple Stakeholder Model One – Mapped to KPIs

You are to complete this anonymously, as it will be used for an open discussion. Please answer:

- Whether you agree or disagree with each statement in the Agree/Disagree column.
- Provide a reason why you answered agree or disagree in the Why? column.
- Provide which key performance indicator (KPI) you would want to measure each dimension using the attached KPI list. For example, if you would use return on investment to measure cost, you would write FP9 in the KPI box next to cost.

For the project you are considering, please indicate your role on the project:

- Senior management (for example, board, director, executive, executive management, investor, project executive, portfolio director, programme director, owner, senior management, sponsor, top management, or project sponsor)
- Project core team (for example, project leader, project manager, project personnel, project team leader, project team, or team member)
- Project recipient (for example, client, consumer, customer, or end users, someone who will use or have used the final output of a project, such as a new computer system)

Dimension	KPIs	Survey Statement	Agree/ Disagree	Why?
Cost	FP2	A case must be made to gain investment for a project.	Agree	I had to put together a business case for my boss.
		I am aware how investment is decided for projects.	Agree	I had to put together a business case for my boss.
		The financial benefits and impact of projects have been communicated to me.	Disagree	I haven't been told how or whether the project will benefit me financially.
		There are procedures in place to monitor the budget.	Agree	Standard procedures are in the project management office handbook.
Time	OP12	Projects tend to finish before set deadlines.	Disagree	They tend to finish late.
		There is a lack of commitment to meet deadlines by those involved.	Agree	It is extra work for some people and there is no incentive for them to work to our deadlines. It is very annoying.
		Delaying a project does not incur consequences.	Agree	No one gets in trouble when we keep delaying the project, so there is little motivation to meet the deadlines.
		Delivering the project on time is the most important dimension for success.	Disagree	It is more important to deliver a good quality product.
Quality and Scope	ME8	Project scope is clearly defined.	Disagree	The scope keeps changing and it gets confusing when things are continually added or deleted.
Accountability	EP4	There is a clear person responsible for setting accountability on a project.	Disagree	The project manager tried setting the accountability, but SM keeps contradicting him.
		Accountability, roles, and responsibilities are clearly defined, acknowledged, traceable, and transparent.	Disagree	It is not clear whether I go to the project manager or senior manager for this information.
		I clearly understand what I am responsible/accountable for and my role when working on a project.	Agree	I have a defined role, but I don't know how this fits with everyone else.

Dimension	KPIs	Survey Statement	Agree/ Disagree	Why?
Involvement	EP4	The project manager should be open to ideas and comments from the team or from other stakeholders.	Agree	The project manager is good at listening to ideas, but doesn't actually use them.
		Stakeholders involved in the project should be clearly identified.	Agree	It would be good to know who is doing what.
		I would prefer not to be involved with projects.	Disagree	I love being involved with projects. I just want to be involved in more stages than just my own.
		I would like to be more involved with projects.	Agree	Projects are my job.
		When requested to attend, I am regularly present at scheduled project meetings.	Agree	I have to or I won't know what is going on!
		If I recognise a lack of engagement, I know how to escalate this for action.	Agree	There are procedures in place, but I may escalate it, but the person doesn't get removed.
		It is acknowledged that working on a project will distract me from my main job.	Agree	N/A as projects are my job.
		Projects are additional to my day-to-day work.	Disagree	Projects are my job.
		Extra time allowance is given to me from my day-to-day work so that I can engage in projects.	Disagree	Projects are my job.
		I am prepared to put in extra effort when working on a project and be engaged as much as necessary regardless of whether I am paid more or not.	Agree	I love being involved with projects.
		I am committed to making the project successful.	Agree	I love being involved with projects.
SM Involvement	EP4	Senior management are engaged and committed to the project.	Disagree	It depends on what is in it for them.
		Senior management are detached from the project.	Agree	It depends on what is in it for them. If they don't get anything out of it, they don't care.
		Senior management are always accountable when they initiate the project.	Disagree	When this project started going wrong, the senior manager passed it onto someone else to sidestep it looking bad on them. Now it's going well, they have suddenly appeared again.
Benefit to Stakeholder Group	CU4	The project manager is accountable for delivering the benefits.	Disagree	This is the project owner.
		The most important benefits are financial.	Disagree	All my boss cares about is money, but I believe that the customer actually using the output of the project is more important.
		The benefits need to be measurable.	Agree	It can be tricky setting them, but I can use the KPI sheet that same with this now!

Table 157: Completed Trial Multiple Stakeholder Model Two

You are to complete this anonymously, as it will be used for an open discussion. Whether your project is meeting all the set goals or not, complete the following on how you feel working on the project and how each question would affect you personally. For the project you are considering, please indicate your role on the project:

- SM (for example, board, director, executive, executive management, investor, project executive, portfolio director, programme director, owner, SM, sponsor, top management, or project sponsor)
- PCT (for example, project leader, project manager, project personnel, project team leader, project team, or team member)
- PR (for example, client, consumer, customer, or end user, someone who will use or have used the final output of a project, such as a new computer system)

Discussion Area	Answer
If the project were delayed, how would this affect you? How would you feel about this?	It would mean I wouldn't get my bonus, so I would be frustrated.
Is the project currently on track to finish either on or ahead of the deadline?	Yes, but the team needs to be more committed to meet them.
What is the most important aspect for you to achieve on the project and why is this?	Deadline to get my bonus.
How has investment been gained for this project?	Yes, I have allocated budget to it.
What are the procedures to monitor budget and how do you feel when this changes?	We use a traffic light system, so if I get a report and it is red in the cost section, it means I need to look at it. If it is green, I often don't bother as I don't have the time. I am frustrated when it changes but would rather meet the deadline.
Is scope important to you on this project and how would you define it?	There is a lot in the scope and I feel disillusioned that we may not meet the deadline. Scope is all the things we need to deliver.
Who sets the accountabilities on the project and how do you feel about this?	I do, but often people don't listen and think they have a bigger role than they should. This is frustrating as I then need to discipline people.
What are your accountabilities on the project and how do you feel about this?	To make sure people are meeting the time and sign off on progress reports. I don't like micro-managing.
Have you had time allocated from your main job to work on the project and how do you feel about this?	No, it is frustrating, especially when people don't listen and it wastes my time going over things.
How would you escalate a lack of engagement?	People escalate it to me and I call a meeting.
How do you feel about your level of commitment to making the project successful?	Very committed as I get a bonus if it's delivered on time.
How much involvement do you want in the project and why?	As little as possible as I have too much work. I just want it delivered to deadline.
Would you be willing to extra effort regardless of whether you am paid more or not, why is this?	No, this was dumped on me, but I have been given the incentive of a bonus to meet the deadline, so I have some motivation.
Are your ideas taken on board for the project and why do you think this is?	Yes, they have to because I'm their manager.
Are you aware of all the identified stakeholders on the project and why do you think this is?	I think I am, but who knows as new people keep popping up. Communication is bad.
What are the benefits for the project and how will these be measured?	Currently, all I care about is meeting the deadline so I can get my financial benefit.
What, if any, are the financial benefits of the project?	Bonus.
Who is accountable for ensuring delivery of the benefits and are they achieving this?	Project manager overseen by me.
How do you feel about the project in general?	Frustrated as I want to get it finished, but things keep getting in the way.

4.4.2 Focus Group to Establish Practicality of Use

After the initial feedback was collated, a focus group was employed with the eight industry experts on 21 December 2015 (as detailed in Table 154) to ascertain potential barriers to implementation for the model and develop an adapted model based on the feedback.

The literature suggests an ideal focus group size of six to eight (Ritchie and Lewis, 2010), six to ten (Morgan, 1998), and six to 12 (Bryman and Bell, 2015). Focus groups facilitate the in-depth exploration of a specific theme to gauge people's responses to each other's views, building a view of the group interaction (Bryman and Bell, 2015). Disadvantages cited in the literature include a lack of applicability compared to methods such as experiments and surveys and lack of consistency/confirmability with interpretation of transcripts, and in-depth interviews are preferable to focus groups, as it is easier to probe issues further (Ritchie and Lewis, 2010). As this method was used after in-depth interviews and a survey, the issues are minimised.

The focus group was asked to examine both trial multiple stakeholder models one and two and to create one model (multiple stakeholder model three – Table 158), which they believed would be beneficial in their organisations to facilitate discussion. The main discussion point on the day was to take stakeholders' feelings into account. It was felt that a project could be meeting all the major milestones, such as being on time or to cost, but if the stakeholders were unhappy or disillusioned, then the project would fail at some point. The resulting single multiple stakeholder model (Table 158) is intended to manage the expectations of different stakeholders throughout the project by identifying success dimensions at each stage for each group. This is a completely new approach, and although it is recognised that the process is time consuming, the knowledge that organisations will gain should enable consistent successful project delivery.

Table 158: Multiple Stakeholder Model Three

You are to complete this anonymously, as it will be used for an open discussion. Whether your project is meeting all the set goals or not, complete the following on how you feel working on the project and how each question would affect you personally. For the project you are considering, please indicate your role on the project:

- Senior management (for example, board, director, executive, executive management, investor, project executive, portfolio director, programme director, owner, senior management, sponsor, top management, or project sponsor)
- Project core team (for example, project leader, project manager, project personnel, project team leader, project team, or team member)
- Project recipient (for example, client, consumer, customer, or end user, someone who will use or have used the final output of a project, such as a new computer system)

Dimensions	Statement	Answer
LEADERSHIP	There is consistent consensus on how to judge the project's success.	
	I trust the project's sponsor and leadership team to create the conditions for the project's success.	
	I am confident that the project will be successful.	
	During the good and bad times ahead, I trust the project's leaders to listen to me and keep me informed.	
	I am motivated to make this project a success and to go the 'extra mile' when necessary.	
	When something goes wrong, I am blamed.	
	Senior leaders have taken ownership of the project's risks and accepted ultimate accountability for its outcome.	
	This project's stakeholders have been correctly identified, prioritised, and engaged.	
	I agree with the way the status of the project is being reported.	
	Leaders react effectively to changes in the project's status and circumstances.	
ORGANISATION	The owning organisation is responsive to the project's customer needs and expectations.	
	The organisation has the capability to successfully execute a project of this type and complexity.	
	The project's objectives are aligned with the organisation's strategy.	
	The project's objectives are realistic given current and foreseeable operational pressures and constraints.	
	The organisation's processes and systems adequately support the project's reasonable needs.	
	HR's performance management and reward/recognition processes ensure that the success of the project is good for me.	
	I trust the project's management team and associated line managers to collaborate to resolve inevitable problems and setbacks.	
	Third-party groups and suppliers are engaged and ready to support the project's success.	
TEAM	The project team has a common sense of purpose and is focused on the project's objectives.	
	The project team have been fully consulted during the definition, planning, and estimating of this project.	
	The project team are trusted and empowered to get the job done.	
	Morale is generally high across the project team.	
	The project team is energised and working effectively.	
PROJECT MANAGEMENT ESSENTIALS	An independent expert has reviewed the way the project is organised, planned, monitored, and controlled. Corrective and improvement action is taken as a result.	

Multiple stakeholder model three was sent to six participants (two members from each stakeholder group) from Organisation One to see how it would be answered in practice. The participants were all working on the same project and in the initiation project phase. A full completed example is provided in Table 159. This allowed key issues from each group to be highlighted and used for further discussion. Table 160 presents the collated results from the six stakeholders, which will be discussed with the table. The results show the disparity in stakeholder views and indicate that the model will be a successful tool to create a focus on what success dimensions the organisation needs to concentrate on throughout the project for each stakeholder group. This provides organisations with the knowledge necessary to structure and reconcile different stakeholder views to ensure that all stakeholder groups are in agreement and ultimately aid in successful project delivery.

Table 159: Completed Multiple Stakeholder Model Three

You are to complete this anonymously, as it will be used for an open discussion. Whether your project is meeting all the set goals or not, complete the following on how you feel working on the project and how each question would affect you personally.

For the project you are considering, please indicate your role on the project:

- Senior management (for example, board, director, executive, executive management, investor, project executive, portfolio director, programme director, owner, senior management, sponsor, top management, or project sponsor)
- Project core team (for example, project leader, project manager, project personnel, project team leader, project team, or team member)
- Project recipient (for example, client, consumer, customer, or end user, someone who will use or have used the final output of a project, such as a new computer system)

Dimensions	Statement	Answer
LEADERSHIP	There is consistent consensus on how to judge the project's success.	Yes, I have been involved the whole way through and know what is going on.
	I trust the project's sponsor and leadership team to create the conditions for this project's success.	I trust the leadership team, but I don't know who the sponsor is.
	I am confident that the project will be successful.	Yes, if they keep involving the customers it shouldn't fail as they will give us what we want.
	During the good and bad times ahead, I trust the project's leaders to listen to me and keep me informed.	Yes, the project leader is very open.
	I am motivated to make the project a success and to go the 'extra mile' when necessary.	I will help where I can, but I do have a job and my own duties.
	When something goes wrong, I am blamed.	No, I will receive the project output; it's not my responsibility to make sure it goes right.

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Dimensions	Statement	Answer
LEADERSHIP	Senior leaders have taken ownership of the project's risks and accepted ultimate accountability for its outcome.	The leadership team keep me informed of any problems, so I assume they take accountability.
	The project's stakeholders have been correctly identified, prioritised, and engaged.	They have identified me and my team as getting the final output but don't tell me who the other stakeholders are.
	I agree with the way the status of the project is being reported.	Yes, I receive regular updates.
	Leaders react effectively to changes in the project's status and circumstances.	Yes, I receive updates when things change.
ORGANISATION	The owning organisation is responsive to the project's customer needs and expectations.	They have had some meetings I have gone to and provided input, but they don't take everything on board.
	The organisation has the capability to successfully execute a project of this type and complexity.	Yes, as long as the right people stay on the project.
	The project's objectives are aligned with the organisation's strategy.	I have no clue!
	The project's objectives are realistic given current and foreseeable operational pressures and constraints.	Yes, but it is the unforeseeable ones that I worry about. Good people get poached onto other projects.
	The organisation's processes and systems adequately support the project's reasonable needs.	Sometimes the systems break and we don't have the right processes to deal with it.
	HR's performance management and reward/recognition processes ensure that the success of the project is good for me.	Yes, the project output should increase how quickly I work and I will meet my targets faster, which mean a good bonus!
	I trust the project's management team and associated line managers to collaborate to resolve inevitable problems and setbacks.	This is where problems and arguments start. They can be unprofessional sometimes.
	Third-party groups and suppliers are engaged and ready to support the project's success.	The third party groups just supply us with what we need and only care about their bottom line and sales.
TEAM	The project team has a common sense of purpose and is focused on the project's objectives.	Yes, the current team is very good and approachable.
	The project team have been fully consulted during the definition, planning, and estimating of this project.	I sat in on a planning meeting and the project team was consulted.
	The project team are trusted and empowered to get the job done.	Yes, as long as they don't change.
	Morale is generally high across the project team.	Across most of it, some people are eternal pessimists and there is no pleasing them.
	The project team is energised and working effectively.	Most of them; I avoid the moaning people in the team.
PROJECT MANAGEMENT ESSENTIALS	An independent expert has reviewed the way this project is organised, planned, monitored, and controlled. Corrective and improvement action is taken as a result.	We get audited, but this isn't usually until the end of the project, which is a bit pointless if it fails!

Table 160 presents the collated results from the six stakeholders; note that PR1 is the summarised version of the results from Table 159. This shows that, within the same project, there are differences of opinion. For example, discussion points to come out of the results are as follows:

- Both SM1 and SM2 believe that they are ultimately accountable for the project meeting its objectives.

- SM2 believes that he/she is not kept informed of problems.

- SM2 acknowledges the risks but puts the responsibility onto the PCT.

- SM2 wants to be kept more informed.

- SM2 believes that the reward is not enough.

- SM2 realised that he/she does not know about the team morale and would check this.

- PCT2 does not trust the project sponsor.

- PCT1 takes accountability. PCT2 puts it onto the sponsor.

- PCT2 does not have belief in the sponsor.

- PCT2 is having resource issues.

- PR1 feels engaged and PR2 feels uninvolved, e.g., they do not know who the sponsor is.

- Both PR1 and PR2 do not know whether the project's objectives are aligned with the organisation's strategy.

- Both PR1 and PR2 feel that there are morale problems with the PCT.

Table 161 contains the stakeholders' answers, categorised as 'yes', 'no', or 'undecided', to aid in comparing the results. This clearly highlights that there were no dimension statements with common agreement in any of the statements. For example, the statement 'there is consistent consensus on how to judge the project's success' had two SM respondents in agreement, but only one PCT and one PR respondent. The remaining PCT and PR stakeholders were undecided and answered no in their responses. There were 12 statements where at least one from each of the three groups agreed and 12 statements whereby one group disagreed with the other two. This creates a clear basis for discussion to rectify miscommunication when working on a project.

Table 160: Collated Stakeholder Results from Multiple Stakeholder Model Three

Dimension	Statement	SM1	SM2	PCT1	PCT2	PR1	PR2
LEADERSHIP	There is consistent consensus on how to judge the project's success.	Yes, I sit in on the meetings.	Yes, we use KPIs.	Yes, we benchmark against other project metrics.	I think it is judged on meeting the deadline date.	Yes, I have been involved the whole way through and know what is going on.	I wouldn't know; no one tells me anything.
	I trust the project's sponsor and leadership team to create the conditions for the project's success.	Yes, I oversee them.	Yes, I am a sponsor on some projects.	Sometimes; it depends on who the sponsor is.	No, they are slippery.	I trust the leadership team, but I don't know who the sponsor is.	I have met the leadership team; I didn't know there was a sponsor.
	I am confident that the project will be successful.	Yes.	Yes, as long as the team stays on track.	Yes, at the moment we are on track.	I was at the start, but things are starting to slip.	Yes, if they keep involving the customers it shouldn't fail as they will give us what we want.	Not sure; if they do what I need, then it will succeed.
	During the good and bad times ahead, I trust the project's leaders to listen to me and keep me informed.	Yes.	Most of the time; sometimes they won't come to me with problems if they can solve them.	Yes, we have good communication.	Yes, we all talk and sort out problems.	Yes, the project leader is very open.	No, they don't tell me anything.
	I am motivated to make this project a success and to go the 'extra mile' when necessary.	Yes.	Yes, but it depends on what that means!	Yes as I get a bonus!	Yes, of course.	I will help where I can, but I do have a job and my own duties.	Yes, I want to have more involvement but don't know how to.
	When something goes wrong, I am blamed.	Yes, I am responsible.	No, it is the project teams fault.	Yes, this is why I keep everyone in close communication.	It's the sponsor's end responsibility.	No, I will receive the project output; it's not my responsibility to make sure it goes right.	No, as it's not my fault.
	Senior leaders have taken ownership of the project's risks and accepted ultimate accountability for its outcome.	Yes.	I know the risks, but the project team must deal with them.	I have taken the accountability.	It's the sponsors end responsibility.	The leadership team keep me informed of any problems, so I assume they take accountability.	I don't know.

Table 160: Collated Stakeholder Results from Multiple Stakeholder Model Three Continued

Dimension	Statement	SM1	SM2	PCT1	PCT2	PR1	PR2
LEADERSHIP	The project's stakeholders have been correctly identified, prioritised, and engaged.	Yes.	Yes, we use stakeholder analysis maps.	Yes, and we know who to avoid and who to treat with 'kid gloves'.	I hope so, but some may crawl out of the woodwork.	They have identified me and my team as getting the final output but don't tell me who the other stakeholders are.	No, if they have, I am very low to no priority to keep engaged.
	I agree with the way the status of the project is being reported.	Yes.	I would like to be reported to more often.	Yes, we all stay in communication.	Yes, we all talk and sort out problems.	Yes, I receive regular updates.	No, they don't update me.
	Leaders react effectively to changes in the project's status and circumstances.	Yes.	It depends on whether it impacts cost.	Yes, as long as I put in a change request report.	The sponsor sometimes doesn't react well.	Yes, I receive updates when things change.	I don't know.
ORGANISATION	The owning organisation is responsive to the project's customer needs and expectations.	Yes.	It depends whether the needs are realistic and achievable.	We talk to the customer and see how much we can meet what they need. We are realistic.	It is more about meeting the project objectives and not pleasing the customer.	They have had some meetings I have gone to and provided input, but they don't take everything on board.	No, as they don't listen.
	The organisation has the capability to successfully execute a project of this type and complexity.	Yes.	Yes, the capabilities are excellent. We detail what makes it complex.	Yes, the people in the team can deal with complexity.	Some people on the team are less engaged than others making problems.	Yes, as long as the right people stay on the project.	Yes, we have skilled people.
	The project's objectives are aligned to the organisation's strategy.	Yes.	Yes, we map these closely.	Of course; why wouldn't they be?	I haven't checked this yet; I set the objectives first.	I have no clue!	I don't know.
	The project's objectives are realistic given current and foreseeable operational pressures and constraints.	I hope so!	Yes, but new operational constraints may change this.	Yes, we assessed the risks and pressures.	There are some people about to leave the project, so we have run into difficulties.	Yes, but it is the unforeseeable ones that I worry about. Good people get poached onto other projects.	It would have been nice to see if they are the same as what I want.

Table 160: Collated Stakeholder Results from Multiple Stakeholder Model Three Continued

Dimension	Statement	SM1	SM2	PCT1	PCT2	PR1	PR2
ORGANISATION	The organisation's processes and systems adequately support the project's reasonable needs.	Yes.	Yes, we map these closely.	Yes, we put in change requests and get things done.	In the most part, but we have to keep lazy people and the good ones get stolen.	Sometimes the systems break and we don't have the right processes to deal with it.	The processes are unclear.
	HR's performance management and reward/recognition processes ensure that the success of the project is good for me.	Yes.	No, the reward does not reflect the effort.	Yes, I get a bonus.	No, it is just a thank you.	Yes, the project output should increase how quickly I work and I will meet my targets faster, which mean a good bonus!	If it does what I need, it should make my life easier.
	I trust the project's management team and associated line managers to collaborate to resolve inevitable problems and setbacks.	Yes.	Yes, but they hold back sometimes in telling me when they need help.	Yes, problem resolution is good.	Sometimes problems are swept under the carpet.	This is where problems and arguments start. They can be unprofessional sometimes.	I don't know.
	Third-party groups and suppliers are engaged and ready to support the project's success.	Yes.	I don't deal with them; this is the project manager's job.	Yes, we make sure that the solution is correct for the project.	They are engaged, but I'm not sure about support.	The third party groups just supply us with what we need and only care about their bottom line and sales.	The software company are always here trying to sell us extra things, so yes.
TEAM	The project team has a common sense of purpose and is focused on the project's objectives.	Yes.	Yes, they work well together.	Yes, totally.	Yes, we all talk regularly.	Yes, the current team is very good and approachable.	I have met the team and find them very closed.
	The project team have been fully consulted during the definition, planning, and estimating of this project.	Yes.	Yes, they work well together.	Yes, of course.	Yes, we needed to set the project out.	I sat in on a planning meeting and the project team was consulted.	They consult with each other, I think.

Dimension	Statement	SM1	SM2	PCT1	PCT2	PR1	PR2
TEAM	The project team are trusted and empowered to get the job done.	Yes.	I trust them in the most part but am always concerned when problems come out of nowhere.	Yes.	Yes, in the most part, but sometimes we need to get permission to make changes.	Yes, as long as they don't change.	They are well known, so yes.
	Morale is generally high across the project team.	Yes.	I haven't checked this; maybe I should!	Yes, I hope so!	Mine is, but I don't think all would agree in the team.	Across most of it; some people are eternal pessimists and there is no pleasing them.	Within the team, yes; outside of it, no.
	The project team is energised and working effectively.	Yes.	Again, I don't know how they feel and will ask.	Yes.	I am, but some of the team are lazy.	Most of them; I avoid the moaning people in the team.	It looks like they work well together.
PROJECT MANAGEMENT ESSENTIALS	An independent expert has reviewed the way this project is organised, planned, monitored, and controlled. Corrective and improvement action is taken as a result.	Yes.	Yes, we are audited at our request.	Not yet; we aren't ready for that.	This happens at the end.	We get audited, but this isn't usually until the end of the project, which is a bit pointless if it fails!	This is done after the project finishes normally.

Table 161: Summarised Multiple Stakeholder Model Three Results

Dimensions	Statement	SM1	SM2	PCT1	PCT2	PR1	PR2	Summary
LEADERSHIP	There is consistent consensus on how to judge the project's success.	Yes	Yes	Yes	Undecided	Yes	No	SM = Y PCT = Y/U PR = Y/N
	I trust the project's sponsor and leadership team to create the conditions for the project's success.	Yes	Yes	Undecided	Yes	Yes	Undecided	SM = Y PCT = U/U PR =Y/U
	I am confident that the project will be successful.	Yes	Yes	Yes	No	Yes	Undecided	SM = Y PCT = Y/N PR =Y/U
	During the good and bad times ahead, I trust the project's leaders to listen to me and keep me informed.	Yes	No	Yes	Yes	Yes	No	SM = Y/N PCT = Y PR =Y/N
	I am motivated to make the project a success and to go the 'extra mile' when necessary.	Yes	Yes	Yes	Yes	Undecided	Yes	SM = Y PCT = Y PR = U/Y
	When something goes wrong, I am blamed.	Yes	No	Yes	No	No	No	SM = Y/N PCT = Y/N PR = N
	Senior leaders have taken ownership of the project's risks and accepted ultimate accountability for its outcome.	Yes	No	Yes	Yes	Undecided	Undecided	SM = Y/N PCT = Y PR = U
	The project's stakeholders have been correctly identified, prioritised and engaged.	Yes	Yes	Yes	Undecided	No	No	SM = Y PCT = Y/U PR = N
	I agree with the way the status of the project is being reported.	Yes	No	Yes	Yes	Yes	No	SM = Y/N PCT = Y PR =Y/N
	Leaders react effectively to changes in the project's status and circumstances.	Yes	Undecided	Yes	No	Yes	Undecided	SM = Y/U PCT = U/N PR =Y/U

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Dimensions	Statement	SM1	SM2	PCT1	PCT2	PR1	PR2	Summary
ORGANISATION	The owning organisation is responsive to the project's customer needs and expectations.	Yes	Undecided	Yes	No	No	No	SM = Y/U PCT = Y/N PR = N
	The organisation has the capability to successfully execute a project of the type and complexity.	Yes	Yes	Yes	Undecided	Yes	Yes	SM = Y PCT = Y/U PR = Y
	The project's objectives are aligned with the organisation's strategy.	Yes	Yes	Yes	Undecided	Undecided	Undecided	SM = Y PCT = Y/U PR = U
	The project's objectives are realistic given current and foreseeable operational pressures and constraints.	Yes	Yes	Yes	No	Yes	Undecided	SM = Y PCT = Y/N PR = Y/U
	The organisation's processes and systems adequately support the project's reasonable needs.	Yes	Yes	Yes	Undecided	No	No	SM = Y PCT = Y/U PR = N
	HR's performance management and reward/recognition processes ensure that the success of the project is good for me.	Yes	No	Yes	No	Yes	Yes	SM = Y/N PCT = Y/N PR =Y
	I trust the project's management team and associated line managers to collaborate to resolve inevitable problems and setbacks.	Yes	Yes	Yes	No	No	Undecided	SM = Y PCT = Y/N PR = N/U
	Third-party groups and suppliers are engaged and ready to support the project's success.	Yes	Undecided	Yes	Undecided	No	Yes	SM = Y/U PCT = Y/U PR = N/Y

Table 161: Summarised Multiple Stakeholder Model Three Results Continued

Dimensions	Statement	SM1	SM2	PCT1	PCT2	PR1	PR2	Summary
TEAM	The project team has a common sense of purpose and is focused on the project's objectives.	Yes	Yes	Yes	Yes	Yes	No	SM = Y PCT = Y PR = Y/N
	The project team have been fully consulted during the definition, planning, and estimating of this project.	Yes	Yes	Yes	Yes	Yes	Undecided	SM = Y PCT = Y PR = Y/U
	The project team are trusted and empowered to get the job done.	Yes	Undecided	Yes	Yes	Yes	Yes	SM = Y/U PCT = Y PR = Y
	Morale is generally high across the project team.	Yes	Undecided	Yes	Undecided	Undecided	Undecided	SM = Y/U PCT = Y/U PR = U
	The project team is energised and working effectively.	Yes	Undecided	Yes	Undecided	Undecided	Yes	SM = Y/U PCT = Y/U PR = U/Y
PROJECT MANAGEMENT ESSENTIALS	An independent expert has reviewed the way the project is organised, planned, monitored, and controlled. Corrective and improvement action is taken as a result.	Yes	Yes	No	No	No	No	SM = Y PCT = N PR = N

4.5 Summary of Results

Table 162 compares the different aspects of each results section. This highlights that, throughout the study, stakeholders have unique views, and this supports the need for a tool to align stakeholder views to strive for project success.

Table 162: Comparison of Study Results

Comparison	Literature	Interview	Survey	Multiple Stakeholder Model
Number of items	10 themes	52 questions	8 dimensions 80 statements	4 dimensions 24 statements
Stakeholder same view – all groups	All agree on 2 success dimensions	All agree on 8 sub-themes	All agree on 23 statements	12 statements
Stakeholder same view – PCT and PR	5 success dimensions in common	2 sub-themes in common	17 statements in common	Not separated out as conflicting views within the same stakeholder group.
Stakeholder same view – SM and PCT	6 success dimensions in common	None in common	20 statements in common	
Stakeholder same view – SM and PR	2 success dimensions in common	2 sub-themes in common	5 statements in common	
Stakeholder unique view – all groups		Views separated into groups	3 across all groups	12 statements
Stakeholder unique view – PCT and PR		SM 7 sub-themes unique to PCT and PR group. 2 unique sub-themes recognised in PCT and PR but not SM.	SM 17 statements unique to PCT and PR group	
Stakeholder unique view – SM and PCT	10 dimensions identified for testing	PR 4 sub-themes unique to SM and PCT. 22 unique sub-themes recognised in SM and PCT but not PR.	PR 20 statements unique to SM and PCT views	Not separated out as conflicting views within the same stakeholder group.
Stakeholder unique view – SM and PR		PCT 7 sub-themes to unique SM and PR. 5 unique sub-themes recognised in SM and PR but not in PCT.	PCT 5 statements unique to SM and PCT views	

5 Discussion and Conclusions

The overall purpose of the current study was to achieve a greater understanding of how the SM, PCT, and PR stakeholder groups perceive project success. It has identified a possible model, based on multiple stakeholder views, that has the potential to be used for any project to achieve a higher probability of success than the most frequently used diagnostic instrument of Pinto and Slevin (1987). The current study sought to answer three research questions:

Research Question 1: What are the parameters and methods used to assess and analyse project success, and do they meet the needs of modern project management?

Research Question 2: Which stakeholders are influential in the determination of project success, and do they recognise the same success dimensions for a project?

Research Question 3: If the stakeholders do not share the same success dimensions, how can their views be reconciled throughout the project lifecycle?

Answering these questions allows the construction of a multiple stakeholder model to judge project success. The proposed model comprises three stages: 1) the use of key questions covering three new dimensions that are answered anonymously by each stakeholder group involved in the project, 2) collation of the results by a neutral administrator, and 3) implementation of the findings by the project manager to devise the dimensions used for success that can be altered to meet changing priorities throughout the project lifecycle.

5.1 Systematic Literature Review

The first research question was answered through a systematic literature review that used a keyword search using Web of Science combined with data analysis using Bibexcel and NVivo. A subsequent coding framework was developed and thematic charts created to construct themes for further consideration. The techniques used to select the literature for review were based on well-established web-based search engines. Further, the papers were systematically identified, selected, and subjected to an inductive thematic analysis that minimised human bias (details found in section 3.5.2).

The methodology has been published as part of a preliminary work that reviewed key literature on the development of project success and identified that SM, PCT, and PR stakeholders did not use the same dimensions when defining project success (Davis, 2014a, 2016). The advantage of this approach is that every article used to collate the evidence is recorded and categorised and can be instantly retrieved, as the only human intervention is naming the categories and allocating specific sections of the articles to them. Moreover, it is a much quicker method than those conventionally used.

This study is underpinned by Dubin's (1978) post-positivist approach in that the methodology for the systematic literature review and the dimensions chosen for the proposed multiple stakeholder model would be able to forecast project results in similar settings. There is some non-documented evidence to support this suggestion in relation to the systematic literature review methodology that has been used for different topics (Davis, 2015). However, for the proposed multiple stakeholder model, the assertion of applicability to forecast project results remains untested but is suggested for future work.

The systematic literature review did not discriminate between project or organisation types. They included appliance development, construction, defence development, engineering, functional, investment, IS/IT, large scale public development projects, new capital assets, new product development, organisational change, private finance initiatives, product development, research and development, social projects, and technological innovation. The projects were from a mixture of public, private, and non-profit organisations. Therefore, it is not unreasonable to conclude that the findings from the systematic literature review should be applicable to any project. However, this needs to be verified through further research.

It was concluded from the systematic literature review that there was a case for empirical research, which could provide further support for the use of multiple stakeholders to judge project success and explore dimensions for success that had not previously been used. Pinto and Slevin's (1987) 'diagnostic behavioural instrument' was identified as the most frequently used to measure perceptions of project success.

Identified limitations in the instrument were identified to investigate 'benefit to the stakeholder group', 'client/customer specific issues', and 'time, cost, and quality' themes and warranted further investigation.

The selection of stakeholders: SM, PCT, and PR was based on those that were involved throughout the project lifecycle to ensure that measurements were taken at each stage. Different stakeholders that might impact on the perception of project success e.g., organisation (internal business departments) and external stakeholders were considered but added a complexity that was outside the scope of the current study.

The need for a different model to judge project success was clearly indicated. This potential model should reflect the views of multiple stakeholders since the extant literature indicates this has not been the subject of systematic research. The model would be applicable to any project because the literature review was inclusive for all project types and industry sectors.

5.2   Interviews

Three pilot interviews with industry experts were structured to pre-test the interview stage of the research to increase the likelihood of the success of the interviews in guiding development of the survey. Developing a research plan in this way extends the results from the systematic literature review. It also ensured that practising stakeholders in project management agreed that the ten themes identified from the systematic literature review were relevant to project success. Interviews for the next stage would reflect their comments and ensure as much as possible that the interview results would provide further evidence to answer research question two. The results from the pilot interviews confirmed that all ten themes were relevant and believed to impact project success. These were used for the stakeholder interviews, as detailed in sections 3.5.3 and 4.2. It could be argued that there should have been a greater number of interviews in the pilot study to test the feasibility of the proposed interviews and possibly with each stakeholder group being represented. However, the experience of the industry experts (Table 18) was judged to overcome this aspect and provided credibility regarding their ability to critique the findings. The decision was taken to use the information to inform

the next interview stage comprising 24 interviews and eight stakeholders from each group.

The results from the 24 stakeholder interviews highlighted the disparity between different stakeholder groups, supporting the premise that project success did not mean the same to each group. For example, the interview analysis revealed the results in Table 116, which showed that there were eight sub-themes that were common to all three stakeholder groups. There were only two sub-themes in common between PCT and PR and between SM and PR and none in common with just SM and PCT. The PR noted the importance of change and testing a new system, where SM and PCT did not. The PCT recognised a need for support from senior management, whereas SM and PR did not. This indicated that there were few themes in agreement between the stakeholder groups, which was indicated in the literature findings. This was further confirmed by the results in Table 118, which showed that seven unique themes were recognised as important by only PCT, seven by only SM, and four by only PR.

Table 118 also showed that 47 main themes were identified as possible question topics, and just under a third of these (15) were connected with the main theme 'personnel skill/issues', of which 12 concerned 'skills and qualities'. This indicated that 'personnel skills/issues' were recognised as important by all groups but that each individual stakeholder group thought that different skills were important; e.g., the PCT were the only group to consider that networking and the ability to influence and negotiate are important, whereas SM thought that passion, belief, or resistance to a project are vital for success. The PR group did not identify unique personnel skills or issues. In contrast, the PR group recognised two out of four sub-themes concerned with customer specific issues that were not recognised by the other groups, namely customer acceptance and appreciation.

The interviews also emphasised that stakeholder engagement with a project is crucial and that this is influenced by their recruitment method: specific and negotiated recruitment or simple allocation to a project without discussion (Table 40). Lack of engagement was partially explained by the appointment of staff with the incorrect skillset and qualities. Experience, trustworthiness, and the ability to communicate and

organise in a logical way were essential attributes. However, it is noteworthy that, even if personnel with the right skills were appointed, if they were unwilling participants, a project was more likely to fail (Table 71).

The interview results call into question whether the sub-themes were too detailed. For example, the difference between a client and a customer is difficult to define. If they were viewed as the same, then SM would agree with PR that customer/client appreciation is important. Separating them into different groups might have created disagreement when essentially there is none. Therefore, the 'client/customer specific issues' theme was absorbed into other sub-themes, such as 'communication', 'monitoring and feedback', 'unexpected problems', 'systems', and 'post-project'. Further, this would not affect the main findings from the interviews with regard to the conclusion that each stakeholder group did not use the same dimensions to judge project success.

Interpretation of the results was also affected by the fact that not all the interviewees in each stakeholder group responded to each theme. This raises the question of whether the themes used were sufficiently distinct to promote a clear response. It was apparent that confusion arose between themes. For example, in the interviews, communication was an essential skill (within the 'skills and qualities' sub-theme and the main 'personnel skills/issues' theme) necessary to work on a project; however, only two SM participants (out of eight) and five PR participants (out of eight) recognised this, whereas the PCT did not recognise communication at all. However, in the 'communication' theme, seven SM, eight PCT, and seven PR participants recognised 'cooperation collaboration' as essential to project success, which implies necessary communication skills. This could indicate either that the groups are not communicating with each other, providing a reason for project failure, or that they used different terms to describe communication. An example of the latter is that PCT recognised the themes 'networking' and 'influence, persuasion, negotiation' but not communication. Further work is proposed to ensure that the themes are unambiguous, and a N/A response should be included to help support the conclusions from the current study.

A different aspect that emerged from the interviews was that parameters to measure project success were controlled and enforced from top-down management, which effectively limited the involvement, participation, or engagement of individual stakeholders (Tables 60 and 107).

Finally, it was confirmed that PR were often not involved in developing a project but were highly influential in judging the success of a project (Velayudhan and Thomas, 2016). This was explained by the fact that it is their decision whether to use the project output or not. This could be viewed as a key reason for project failure when the judgement is made solely after project completion, supporting the need to measure success at key stages of the project. The interviews supported the findings from the systematic literature review in that the themes identified were agreed upon by the interviewees but showed that three new areas, 'time, cost, and quality', 'accountability', and 'benefit to the stakeholder group', were considered important to project success.

It was strongly suggested by the literature (Turner, 2014a, 2014b; Turner *et al.,* 2009; Turner and Zolin, 2012) and interviews (Table 80) that project failure was related to the project groups selected to judge success, usually involving only one stakeholder group. Hence, it was reasonable to infer that more than one stakeholder group should be used throughout the project cycle and not different stakeholder groups for each project stage. Further, staff who were determined to make a project succeed were far more likely to engage with the project and ensure successful delivery.

The conclusions from the interviews were that three dimensions, 'time, cost, and quality', 'accountability', and 'benefit to the stakeholder group' were revealed as 'new' to judge project success. It is believed that the structure of the interview questions based on the systematic literature review promoted their discovery. This was a different approach to that used by Pinto and Slevin (1987) in that it used two methods, a systematic literature review and structured interviews, to identify the dimensions, rather than one that relied on written questioning of practising project managers.

It would have been interesting to look at the data in terms of project complexity or sector to see whether these factors influenced the opinions of stakeholders. For example, megaprojects involving multiple teams and very large infrastructure investments

influence issues such as accountability (Bruzeliusa *et al.*, 2002). However, this was beyond the scope of the current work.

The interview methodology resulted in a qualitative assessment of success parameters, which was judged to be sufficiently robust to inform the structure and content of the survey. The survey was distributed to larger numbers of each stakeholder group and designed to quantitatively confirm the most appropriate success dimensions to ensure project success.

5.3 Survey Parameters

The survey provided quantitative evidence to answer research question two from the three selected stakeholder groups. Surveys are the most frequently used method to evaluate project success in the literature (Belassi and Tukel, 1996; Kerzner, 1987; Müller and Turner, 2007a; Müller and Turner, 2007b; Tishler *et al.*, 1996; Toor and Ogunlana, 2010; Tukel and Rom, 2001; Turner *et al.*, 2009; Wateridge, 1998) and was the method employed by Pinto and Slevin (1987). Like their 'diagnostic behavioural instrument', the survey employed in the current work used a series of dimensions that gave the stakeholder group the option of agreeing or disagreeing with the dimension using a seven-point Likert scale. However, the dimensions used in the current study survey were not used by Pinto and Slevin (1987), and it was distributed to three stakeholder groups, which yielded new data to evaluate project success.

The construction of the survey is arguably the most important part of the study, since it underpins the design of the multiple stakeholder model to predict project success. It is also the only research carried out in the study that yields quantitative data. There is no denying that self-completion surveys produce vast amounts of quantitative data from closed questions that have no interviewer bias. They are also advantageous in that they increase access to a larger sample size, do not put the respondent under pressure to answer questions within a fixed time frame, and can be anonymous, which increases openness (Blumberg *et al.,* 2011). However, they do not guarantee the honesty of answers, frequently have a low response rate, and can restrict the quality of the responses, and the questions can be misinterpreted, all of which decrease credibility (Ghauri and Grønhaug, 2010).

The reliability of the scale was tested using Cronbach's alpha (section 3.6). According to Pallant (2010, 2013), the ideal Cronbach's alpha coefficient is above 0.7. Pinto and Prescott (1990) tested the project success items from the 'diagnostic behavioural instrument' of Pinto and Slevin (1987) and received above acceptable levels, with the overall project success scale achieving an alpha of 0.87. Pinto *et al.* (2009) further tested the instrument based on a study of 150 respondents using the same seven-point Likert scale (strongly agree to strongly disagree) as in this study, and the alpha score was 0.86. As the scale in this study contained two scale types, two tests for reliability were conducted. When reliability was tested on the items based on the seven-point Likert scale, the alpha was 0.90 and therefore comparable with Pinto and Slevin's (1987) instrument. When the test included the seven-point Likert scale and the 1-12 ranking scale, the alpha was 0.78, which is within an acceptable range. Therefore, it can be concluded that the results from the survey are representative of the sample.

Although rigorous statistical analysis was not possible, the median and mode measurements were calculated and used to measure the central tendency of the results. This was justified because the survey results were used only to identify which interview statements were the most relevant from those indicated by the interview data.

A pilot survey was distributed to three industry experts and four academics who were subsequently interviewed. This helped to devise both clear, standardised questions and the survey structure, resulting in increased consistency/confirmability, as noted by Saunders *et al.* (2012). This is in line with the post-positivist/critical multiplist approach, as interrogation through open scrutiny of the survey by industry and academic experts increases objectivity.

The pilot survey included questions from Pinto and Slevin's (1987) instrument, in addition to those arising from the interviews and systematic literature review and for this reason was too long and risked non-completion (Ghauri and Grønhaug, 2010). Since the original strategy was to confirm the findings of Pinto and Slevin (1987) and show how using different stakeholder groups might change the results, the risk had to be mitigated. Based on the results from the systematic literature review and the interviews that revealed different dimensions that might influence project success, the decision was

taken to exclude questions relating to the work of Pinto and Slevin (1987). Results from the survey could then be used either alone or in conjunction with Pinto and Slevin's instrument. Distributing Pinto and Slevin's questions in a separate survey might have been a better approach to confirm that the interpretation of their questions had not changed over time. However, the pilot survey indicated that it would be advisable to test the new dimensions to enhance Pinto and Slevin's, and this was not the case. Moreover, there was a limit to the amount of time that respondents could be requested to complete questionnaires by the organisations taking part.

Results from the pilot enabled the development of the final survey format and required the sample size to be devised. Any study involving surveys is limited by the sample size and the clarity of the questions. Tabachnick and Fidell (2007, cited in Pallant, 2010) stated that a sample size of at least 300 is ideal, but 150 is adequate when conducting a survey. However, Nunnally (1978, cited in Pallant, 2010) noted a ten to one ratio for every question; this was further confirmed by Hair *et al.* (2010). There were eight questions in the survey (with two additional background questions) for analysis in total, meaning that a desirable response size is 80 (Hair *et al.,* 2010). Three hundred copies of the survey were distributed, which should have been sufficient to have a reasonable certainty that the results could be confirmed by independent researchers. Table 122 showed that this survey returned 143 responses, giving a 48% response rate, indicating an overall position of ninth in the range of listed surveys (Table 121).

The organisational response was different, ranging from 15% (Organisation Four) to 91% (Organisation One). However, the usable response rate was highest from Organisation Two (100%). Although the wide variation in response is not desirable, as stated above, the overall survey sample is acceptable. The statistical analysis of the survey responses was affected by the fact that two of the organisations withdrew full access for distribution because of restructuring.

The response rate from each stakeholder group was quite different. While every effort was made to optimise the sample size in each group, the survey was distributed by the organisations themselves, which resulted in far more PCT respondents than SM and PR respondents (Table 123). On reflection, this is not surprising since the number of SM

and PR are inevitably fewer than the members of the PCT. However, it is recognised that a consequence of this variation is that disagreement within a small sample size might skew the results, leading to inconclusive data (Fleming, 2007). Moreover, Table 123 showed that the PR group came from only one organisation, raising a question about whether the results were representative within the organisations. However, nonresponse bias is a common issue in surveys where the population sample is unwilling or unable to participate (Berg, 2005), and the researcher understands that the results may exhibit bias (Rogelberg and Stanton, 2007). Therefore, the trend for the stakeholder group is valid, but conclusions are not possible. Similarly, the largest common respondent group, the PCT, was approximately ten times the size of the other stakeholder groups, and this could also create bias. In view of the way the survey was distributed within individual organisations, it is unknown whether every stakeholder group had an opportunity to complete the survey or whether the PR were external to the organisation. For this reason, conclusions from the survey results must be viewed with caution. However, the purpose of the survey was to produce data that indicate disagreement among stakeholder groups about success dimensions, and these views were further tested. Therefore, the organisational bias was viewed as acceptable.

The survey did not take into account whether the respondents had a bad experience with their last project, possibly skewing their results. Another survey could be performed asking for details of the project they are considering when answering the survey. This would mean that the results could be analysed with respect to those with a positive or negative project experience. Possible conflicts in organisational information and comments can be found in Table 22. The complexity of a project will clearly have the potential to impact its perceived success, which is probably more critical if the project extends over a long period or involves multiple teams where communication barriers might be increased. An idea of the variation between the projects surveyed was obtained by looking at the number of activities in a project, its duration, and the number of people involved. The results showed no clear pattern/trend between these dimensions and therefore can be ignored for the purpose of the current study. However, exploring this aspect in detail might be interesting to pursue in future surveys.

5.3.1 Survey Analysis

A surprising result from the survey was that the results did not agree with those from the systematic literature review. This could be explained by the different time periods for each analysis, indicating that there might have been a change in the parameters that today's project stakeholders use compared with those used by project stakeholders in the past. Alternatively, it could simply be that results identified in the literature were confined to either one stakeholder group or a single project type. The most striking difference was the importance of a new dimension, 'accountability', which was revealed by the interviews, the survey, and later work with practising project experts. All the stakeholders considered it important to define the roles and responsibilities of each group, since this provided a mechanism to track progress at any project stage. The survey results indicated a commonality between all stakeholder groups on one statement on the disagree scale, 'it is acknowledged that working on a project will distract me from my main job', 21 statements on the agree scale, and one neutral response (Table 143). This highlighted a lack of commonality with 45 statements whereby all three groups did not equally align in their view. Table 163 summarises the number of statements in common and unique between the stakeholder groups. The PR group had the most views (20 statements) that did not align with SM and PCT views, but this might be because they had an organisational bias. The SM closely followed with 17 statements not aligning with the PCT and PR groups, but the PCT had only five statements that did not align with SM and PCT views. It was concluded from the results that all stakeholders (SM, PCT, and PR) had the same view about half of the 'benefits to stakeholder group' dimension statements (seven out of 14). In contrast, the 'accountability' dimension had no common statements, implying that issues around accountability have the potential to influence project success. A clear understanding of accountability by all stakeholders prevents confusion about who is responsible for specific actions, sets standards, and helps teamwork between the groups to achieve their common goal. The use of this dimension, not considered before in the context of project success or failure, might make a major difference if included in success judgements. Cost, time, quality, and scope dimensions were recognised by all groups as important, but they had few views in common (three statements in common for cost and time and

two for quality and scope), again indicating that ensuring that each stakeholder group had the same view might positively influence the overall outcome of a project. There was limited agreement among all three groups, and the fact that only about a third of all the statements were shared among the stakeholder groups is clear evidence that there are differences of opinion between groups, which showed that stakeholders do not share the same views when evaluating projects (research question two).

Table 163: Summary of Statements in Common and Unique

Dimension	Total Number of Statements	IC across All Groups	UV across All Groups	PCT and PR IC	PCT and SM IC	SM and PR IC	SM UV	PCT UV	PR UV
Cost	11	3	0	3	2	3	3	3	2
Time	10	3	0	3	3	1	3	1	3
Quality and Scope	4	2	0	2	0		2	0	0
Accountability	4	0	0	0	3	1		1	3
Involvement	17	6	2	6	3	0	6	0	3
Senior Management Involvement	8	2	1	1	4	0	1	0	4
Benefits to Stakeholder Group	14	7	0	2	5	0	2	0	5
Total	**68**	**23**	**3**	**17**	**20**	**5**	**17**	**5**	**20**

* UV = Unique views
* IC = In common

Results from the empirical work indicate the limitations of relying on a single stakeholder group and led to the formulation of a multiple stakeholder model, which could increase the likelihood of all stakeholders agreeing on the parameters that constitute the success of a project.

5.4 Multiple Stakeholder Model

The results (Tables 159 to 161) demonstrate supporting evidence that the proposed multiple stakeholder model requires input from all stakeholders to determine the final success dimensions to judge their project more effectively. It could be argued that this flatter approach dilutes strong leadership, which has been claimed to be essential to project success (Basu, 2014; Turner and Müller, 2005) and could delay the start of a project and hence the final deadline. However, the proposed model allows for the

collation and negotiation of stakeholder views by the project manager and the increased likelihood of success, justifying the additional time taken using a qualitative approach.

The results from the interviews raised questions about the consistency/confirmability of using Pinto and Slevin's (1987) 'diagnostic behavioural instrument' that takes the view of the project team, since clear differences of opinion between the PCT and the other stakeholder groups were revealed. This further supported the need for a new multiple stakeholder model.

A possible alternative solution to recognise and deal with stakeholder interests is to offer project management planning and control tools to provide insight into how to adjust a project and provide valuable lessons for the organisation (Thamhain, 2014). Authors have written extensively about the fundamental importance of collecting data to record the potential lessons (Dalkir, 2013; Easterby-Smith and Lyles, 2011; Fuller, 2012; Hislop, 2013). Stakeholders must have the opportunity to voice, clarify, evaluate, and verify their requirements (Lindahl and Ryd, 2007; Pemsel and Müller, 2012). The importance of coordinating stakeholder requirements, organisation strategy within the project, and project evaluation through lessons learned reports has been reported extensively (see Bryde and Moores, 2003, for a review of the literature; Mir and Pinnington, 2014). These reports create an opportunity for stakeholders to communicate, capture, monitor, and learn from differing priorities along the project.

Meng (2012) noted that mutual objectives must be achieved between all parties to create a focus for project success. This echoes Donaldson and Preston's (1995, p.67) managerial approach to stakeholder management, which aims to facilitate *"simultaneous attention to the legitimate interests of all appropriate stakeholders"* for 'case-by-case decision making'. The current study concurs and recognises the need for a collaborative approach to define the dimensions of project success (Eisenhardt and Martin, 2000). This would address issues noted by Mitchell *et al.* (1997) whereby all stakeholder groups have the potential to have equal power, legitimacy, and urgency 'to attend to and give priority to that stakeholder's claim'.

The difference between this approach and the proposed multiple stakeholder model is that a tool is provided that recognises the importance of stakeholders but does not

involve lengthy research to evaluate previous lessons learnt. Hence, it has the potential to be both time and cost effective whilst increasing the chances of success.

The findings from both the qualitative and quantitative studies confirmed that stakeholders do not share the same success dimensions (research question three) and indicated that the new success dimensions used for the survey had the potential to minimise the risk of project failure. The dimensions were 'time, cost, and quality', 'accountability', and 'benefit to the stakeholder group'. Trial multiple stakeholder models one and two were constructed using these dimensions and given to the three stakeholder groups (SM, PCT, PR) that influence project success throughout the project lifecycle to complete and promote discussion.

Different approaches were used for the first two trials of the multiple stakeholder model. Both models were completed anonymously, but trial model one (Table 151) was limited to closed questions, whereas trial model two (Table 153) asked for responses using a descriptive approach to capture stakeholder feelings. This is a new area for measurement of project success, possibly because this type of data is more difficult to analyse. It was included because, even if a project meets all the set goals, it can be considered a failure by individual stakeholders if they are disillusioned by their experience.

The modifications made to the models from this process were asking for specific reasons behind answers so that the view was clearly understood, making the survey completely anonymous to increase honesty of answers and providing measurable parameters by which they could judge project success.

Further refinement to the models was sought via a focus group. Focus groups facilitate the in-depth exploration of a specific theme to gauge people's responses to each other's views, building a view of the group interaction (Bryman and Bell, 2015). The disadvantages of focus groups include lack of applicability compared to methods such as experiments and surveys and a lack of consistency/confirmability with the interpretation of transcripts (Ritchie and Lewis, 2010), as in-depth interviews are preferable, as it is easier to probe issues further (Ritchie and Lewis, 2010). The

disadvantages to the current study were minimised because both in-depth interviews and a survey were used in the earlier stages of model development.

The focus group members (eight industry experts) were drawn from different organisations. They concluded that the new model would best be served by the use of a single document with open questions as opposed to closed questions (Table 158). The main discussion areas were limited to four: 'leadership', 'accountability of the organisation', 'team', and 'project management essentials' (such as having the necessary resources). These evolved from 'time, cost, and quality', 'accountability', and 'benefits to the stakeholder group'. The areas were held together through the concept of trust, monitored by analysing both the mood of the team in terms of effective work practice and evidence that assurance actions had taken place.

It was suggested that this document could be used in conjunction with KPIs. Perception of mood and ability to promote trust between stakeholders are skills that are not usually sought in project managers. This is perhaps the first multiple stakeholder model designed to address people management skills with a structured methodology.

The final multiple stakeholder model was tested with six stakeholders (two from each group) from the same organisation, and the results supported the previous disparity noted in stakeholder views within and between stakeholder groups (Tables 159 to 161). This can be taken as very good evidence that stakeholders do hold different ideas of project success and answers research question two.

Research question three poses the question of how this model might be used to reconcile stakeholder views. From the testing of the models, it would seem that using the third model iteratively throughout the project would give the capacity for stakeholder views to be to aligned. It allows the project manager to monitor performance and identify changing priorities throughout the project. Although this does not conclusively answer research question three, it does provide a realistic and achievable mechanism to implement the multiple stakeholder model. Its strength is that it asks a limited number of questions, implying that it is not time consuming and that it can be honestly answered in a qualitative way. This means that the likelihood of project success can be more consistently achieved, but further testing is needed to prove the

point. However, it can be concluded that the model provides the means for organisations to be more precise in their choice of success dimensions used to judge project success.

No model will find general acceptance unless it is widely applicable within the field of project management. While there is no rigorous testing of this model, the research attempts to ensure that the model would be applicable to a wider range of project types by not omitting any of the research papers from the systematic literature review on the basis of project type. Further, the study collated the experiences of interviewees over a broad range of projects, making it more likely that aspects of different organisations and project types were included.

Support for the claim of applicability of the model is provided by the selection and analysis of the interviewees and respondents for the survey (Tables 147 to 149), which shows their depth and range of experience in project management. The models were reviewed by eight industry experts for their applicability to projects taking place in their organisations. Applicability is important for any proposed model (Noble and Smith, 2015) and agreement within this group about modifications to the model gives some evidence to support the broader applicability to a wider range of project types. This approach is well established to determine applicability and was used by Pinto and Slevin (1988b) to ensure that their measurement scale was applicable to a 'wide range of measures of project success' and to different types of projects, although the number involved in their study was larger (409 projects). Further work to address this aspect, such as analysis of industry sectors to reveal similarities and differences, would be required to completely justify the indication (Turner and Zolin, 2012).

Table 164 compares Pinto and Slevin's (1987) instrument to the multiple stakeholder model created in the current study. It shows that the new model is potentially appropriate for use with a wider range of stakeholder groups by using different dimensions to judge success. Both Pinto and Slevin's (1987) instrument and the new model use a survey to gather data and statistical analysis, but the new model is to be used to facilitate two-way communication and is supported by additional qualitative data that are used to explore the feelings of stakeholder groups. It is suggested in the literature that canvassing multiple stakeholders' opinions is important for decision

making (Turner and Zolin, 2012) and that doing this will lead to employee motivation, the ability to prioritise resources, and a productive organisational culture.

Table 164: Comparison of the Instrument and the Multiple Stakeholder Model

Comparison	Pinto and Slevin (1987)	New Multiple Stakeholder Model
Applicable to different project types	Yes	Yes
Focus	Success factors	Stakeholder centred
Applicability to stakeholders	Project team	Senior management, project core team, project recipients
Factors/dimensions	1. Project mission 2. Top management support 3. Schedule and plans 4. Client consultation 5. Personnel 6. Technical tasks 7. Client acceptance 8. Monitoring and feedback 9. Communication 10. Trouble-shooting	Trial models one and two: 1. Cost 2. Time 3. Quality and scope 4. Balancing time, cost, and quality 5. Accountability 6. Involvement (stakeholder) 7. Senior management involvement 8. Benefits to stakeholder group Model three – refined into: 1. Leadership 2. Organisation 3. Team 4. Project management essentials
Type	One directional survey	Survey and a tool for two-way discussion
Results	Statistical data	• Statistical data • Qualitative data – used to discuss and resolve issues

This research is consistent with the major findings from the systematic literature review in Chapter 2, whereby stakeholders have different perceptions of success criteria and factors (Turner and Zolin, 2012), and these influence whether a project is perceived as a success or failure (Qureshi *et al.,* 2009; Serrador and Turner, 2015; Turner *et al.,* 2009; Turner and Zolin, 2012). The definition of project success from this study goes beyond the technical definitions offered by the reviewed literature. This aids in better understanding, conceptualising, and diagnosing the manner in which a project can be judged a success. Furthermore, the current study addressed a gap that the reviewed literature demonstrated was lacking in that empirical research comparing multiple

stakeholder groups (categorised into SM, PCT, and PR) taking account of differing points of view to improve mutual understanding was rare (Turner *et al.*, 2009; Turner, 2014a, 2014b).

5.5   Academic Implications

The current study was based on contingency and stakeholder theory, which acknowledge that there is more than one approach to managing a project (Anbari, 1985; Bredillet, 2007; Söderlund, 2002) and stress the importance of meeting stakeholder needs (Harrison *et al.,* 2010; Leisyte and Westerheijden, 2014). Project managers adopting contingency theory have to deal with multiple conflicting stakeholder inputs, which may contribute to the perception of project failure.

A new multiple stakeholder theoretical model that has stakeholder opinion at its centre has emerged from the current study. Previously unconsidered dimensions are used to judge project success that evolved from the views of experts and practitioners. The model relies on anonymity, which avoids conflict between stakeholders but allows their personal view to be put forward and considered for the best project outcome. The collation of these views by a neutral person permits agreement of the success dimensions to be used for specific projects. Hence, the model uses dimensions that all stakeholders recognise as key to project success rather than dimensions elicited from a single stakeholder group, justifying the claim that it is stakeholder centred.

This process, in turn, enhances the dynamic engagement of stakeholders and the ability to respond to possible changing priorities of different stakeholders by altering success dimensions. It is believed that this is the first report of a model that incorporates individual views of the appropriateness of success dimensions to their roles. The multiple stakeholder model is underpinned by post-positivism but adds a new facet to it, as the social world is studied through a scientific method (technological solutions) to attain objectivity and develop theory. The methodology used for the study has been accepted by the academic community and published (Davis, 2014a, 2016).

Through use of the model, organisations can be more precise in their choice of success dimensions used to judge project success, leading to more informed decision making

and subsequent motivation of employees and therefore a more productive organisational culture, which will ultimately aid in successful project delivery.

Currently, there is no recorded model within the project management literature that is stakeholder centred. This model allows the proven differing views from multiple stakeholders to be included when formulating KPIs to ensure that success dimensions are met.

The current study contributes to the project management literature by providing a systematic technological solution (see section 3.5) to improve the rigour of project management research. It demonstrates the effective identification of limitations in the project management research literature by showing that multiple stakeholder views have rarely been used to assess project success.

The study devised a methodology to design a survey that yielded qualitative and quantitative data centred on stakeholder views (SM, PCT, and PR), which culminated in a multiple stakeholder model for project success. Preliminary testing suggests that the model in this study is more likely than that of Pinto and Slevin (1987) to predict project success, but it would have been impractical to develop the new model in this way without their extensive studies. The major difference is the facilitation of collecting and collating stakeholder views at different stages in a project to ensure stakeholder consensus to define project success.

5.6   Practical Implications

This study uses contingency theory to explain that successful project management is dependent on the recognition that both internal and external factors will influence the final outcome and that these might change throughout the project lifecycle. The theory suggests that effective project managers use their people skills and provide structure together with accountability for the stakeholders concerned. While this will not necessarily guarantee success, the findings from this study identified apparent discrepancies in the perceptions of success between senior management, project core team and project recipient stakeholder groups. Results from both qualitative and quantitative studies indicate that each stakeholder group gave priority to different

project performance attributes. This substantiated commonly held views among practitioners and led to the creation of a multiple stakeholder theoretical model founded on the project success dimensions revealed from empirical data. The model has been used to design a tool that gives an opportunity for stakeholders to collaborate and capture and manage expectations, thus retaining their engagement and allowing the monitoring of each stakeholder group priorities. Early testing data suggests that use throughout the project lifecycle will increase the consensus of project success as opposed to failure.

The model is currently being tested in Organisation One. Preliminary results from one project demonstrated a clear difference in opinion within and between stakeholder groups, reinforcing the data used to create the model. This model has been tested a second time within the same organisation with similar results supporting the need to recognise the importance of shared multiple stakeholder perception of project success. Future work to continue to test the model with this organisation is proposed to show that alignment of stakeholder perceptions can be correlated to sustainable project success.

The possibility that the documents arising from the model could be applied to projects from any field has not been overlooked but testing this assumption is beyond the scope of this work. However, the model enables organisations to choose success dimensions that are most pertinent to the judgement of project success and suggests that applicability to different sectors is likely.

5.7   Conceptual Framework

The findings and results confirm the original framework (Figure 15) on which the study was based. The focus of the research was not entirely new in that stakeholder perception had been reported in the literature and practitioners in project management had surmised that stakeholder perception is key to success. However, the systematic literature review has been investigated in a new and original way that showed the key success dimensions used when managing projects. Combining the results with extensive interviews to determine multiple stakeholder views is a different approach to previous research and indeed revealed success dimensions that had not been considered before.

Analysis of the survey presented a challenge since the sample population was skewed. However, a qualitative and quantitative analysis was possible, although not the same as was originally set out in the conceptual framework, which was appropriate to a normally distributed population. The unevenness of the sample size is recognised as an issue and a suggested topic for further work. Nevertheless, unequivocal evidence is presented that stakeholder views do influence the perception of success and that different stakeholders have different perceptions of success.

5.8   Directions for Future Research

Future research investigations that would refine the proposed multiple stakeholder model and confirm its broader applicability are as follows:

- Extension of the systematic literature review to encompass a wider context of issues affecting project success, such as the emerging conceptualisations of projects as networks, power relations, globalisation, instability, corporate social responsibility, and changing forms of work organisation.

- Comparison with other models, such as Morris' (1997) 'management of projects', which explores a single stakeholder view at defined project lifecycle stages and practitioner best practice guides such as Managing Successful Programmes (Cabinet Office, 2011). The first could either highlight the advantage of using multiple stakeholder views at the same stages or confirm that a single stakeholder group is sufficient to judge project success. The latter would indicate that the project lifecycle stage when judgements are made is more critical than the use of multiple stakeholders. The second will show the differences and similarities in the success dimensions used to measure project and programme success raising the possibility that the multiple stakeholder model would be applicable to projects and programmes.

- Comparison with other models, such as Morris' (1997) 'management of projects', which explores a single stakeholder view at defined project lifecycle stages. This could either possibly highlight the advantage of using multiple stakeholder views at the same stages or confirm his results.

- Exploration of the reasons that the selected dimensions for the new model are important to each stakeholder group in both private and public organisations. This would show whether there are differences in stakeholder views between private and public organisations and give further empirical evidence that selected themes are unambiguous. It could be achieved by conducting in-depth interviews with stakeholders that include questions about issues that cause disengagement.

- Ensuring that the themes used in the model are scrutinised closely to eliminate possible overlap and ambiguity.

- Testing the applicability of the model to specific project types. This might be resolved by conducting a survey with stakeholders of more project types to see whether there are variations in the perception of success with project type.

- Potentially increasing the sample size of SM and PR in the survey in line with those of the PCT, which could lead to further statistical analyses. In general, an increase would confirm whether the skewed population results shown in the current study are typical for this kind of survey or that the population tends towards a normal distribution at higher sample sizes. If the population does have a normal distribution, different statistical analysis would be required, e.g., ANOVA.

- Testing the model at different stages of a project lifecycle to provide evidence of changing stakeholder views and possible reasons that it changes; e.g., when their involvement became more peripheral, their interest is decreased, resulting in disengagement and motivation to meet success dimensions.

5.9 Limitations

The current study has offered a different way to make judgements about project success using multiple stakeholder views. It is the first new multiple stakeholder model that has been put forward to address the growing academic literature, which has shown a trend towards a greater number of projects perceived to have failed. The identification of the themes used in the model has been published (Davis, 2014a, 2016).

The research was limited by time constraints, unpredicted organisation issues, and sample numbers in both the interview and survey stages of the work. However, a potential new multiple stakeholder model has been put forward as a tool to ensure project success based on the research carried out.

An unavoidable limitation was the time period between the survey distribution and results collection; almost two years elapsed before the results were analysed. To mitigate this limitation, trends from the analysis were discussed in the light of any new work in the literature that may have impacted the results (section 2.5).

Every effort was made to ensure that the sample numbers for the interviews and survey would yield meaningful information, but this aspect was limited in that two of the organisations underwent restructuring exercises during the research period, which limited the sample size for the survey.

The interviews used to inform the survey structure were limited to 24. It would be interesting to look at the impact of increasing this number by interviewing stakeholders from more organisations. This might be particularly relevant to the PR group, which came from a single organisation.

The 143 survey responses qualified as relevant as a consistent sample size with other studies in this field (Table 121). However, the sample sizes of both the SM and PR groups were about ten times smaller than the PCT. A more equal sample size in each group might reveal different views that could be used to refine the model.

The empirical data were collected from three public organisations and one private organisation on a convenience basis. This could potentially skew the results, but there

was a close correlation between the results. This justifies the conclusions drawn from the research; however, it would be desirable to collect more data from private organisations for further comparison.

5.10 Final Conclusion

A new multiple stakeholder centred model has been proposed that relies on a series of questions that have been tested by stakeholder groups (SM, PCT, and PR). The methodology is based on asking stakeholders to answer the questions anonymously to facilitate honest answers that enable project managers to negotiate agreed-upon success parameters for individual projects.

The current study has added to the academic literature by providing further understanding of the dimensions used to identify project success and has shown that reconciliation of stakeholder views throughout the project lifecycle might well influence the final project outcome. The multiple stakeholder model is a qualitative instrument put forward as an alternative to the well-established work of Pinto and Slevin (1987). The model supports the work of Pinto and Slevin but also extends it by using dimensions identified by the systematic literature review, creating a stakeholder centred approach and widening the stakeholder group to include SM and PR as well as the PCT.

Data were collected from multiple project types, which implies that the model can be applied to any project regardless of success or complexity, but this requires further testing. The study has provided a much-needed answer to the increasing number of projects that have been deemed to fail, which, at its worst, impacts future investment in these organisations. Evidence to support their view is submitted, and the model provides the starting point for a new approach to the evaluation of project success. Extrapolation of the initial results predicts a positive change in the number of projects reported as successful in academic and industrial publications.

References

Adinyira, E., Botchway, E. and Kwofie, T. (2012) 'Determining critical project success criteria for public housing building projects (PHBPS) in Ghana', *Engineering Management Research,* 1 (12), pp. 122-132.

Agassi, J. (1975) *Science in flux. Boston studies in the philosophy of science.* Vol. XXVIII. Holland/Boston: D. Reidel Publishing Company.

Ahmed, A. and Younis, M. S. (2014) 'Preliminary study of the impact of critical success factors on project success in Pakistan', *Journal of Management Information,* 4 (1), pp. 24-34.

Aloini, D., Dulmin, R. and Mininno, V. (2007) 'Risk management in ERP project introduction: Review of the literature', *Information & Management,* 44, pp. 547-567.

Al-Tmeemy, S. M., Abdul-Rahman, H. and Harun, Z. (2011) 'Future criteria for success of building projects in Malaysia', *International Journal of Project Management,* 29 (3), pp. 337-348.

Anbari, F. (1985) 'A systems approach to project evaluation', *Project Management Journal,* 16 (3), pp. 21-26.

Anbari, F. T., Bredillet, C. N. and Turner, J. R. (2008) *Perspectives on research in project management. Paper presented in the best papers proceedings, Academy of Management 2008 meeting [CD]*. Anaheim, CA: Academy of Management.

Andersen, E. S., Grude, K. V. and Haug, T. (2004) *Goal directed project management.* London: Kogan Page.

APM (2014) *The APM body of knowledge (5th edition).* Available at: http://www.apm.org.uk/sites/default/files/Bok%205%20Definitions.pdf (Accessed: 11/27).

Aragón-Correa, J. A. and Sharma, S. (2003) 'A contingent resource-based view of proactive corporate environmental strategy', *Academy of Management Review,* 28 (1), pp. 71-88.

Atkinson, R. (1999) 'Project management: Cost, time and quality, two best guesses and a phenomenon, it's time to accept other success criteria', *International Journal of Project Management,* 17 (6), pp. 337-343.

AXELOS (2016) *ITIL Practitioner Guidance.* The Stationery Office.

AXELOS (2016) *P3M3®.* The Stationery Office.

AXELOS (2015) *RESILIA(TM) Pocketbook: Cyber Resilience Best Practice.* The Stationery Office.

Ayer, A. J. (1966) *Logical positivism (The library of philosophical movements).* New York: Free Press.

Azzopardi, S. (2015) *Exploring trends and developments in project management today.* Available at: https://www.projectsmart.co.uk/evolution-of-project-management.php (Accessed: 09/11).

Barclay, C. and Osei-Bryson, K. (2009) 'Project performance development framework: An approach for developing performance criteria and measures for information systems (IS) project', *International Journal of Production Economics,* 124, pp. 272-292.

Barnes, M. (1969) 'Email dated 14/12/2005 and interview Jan. 2006. Quoted in Weaver, Patrick. (2007) 'The origins of modern project management'', *In Fourth Annual PMI College of Scheduling Conference,* pp. 15-18.

Baron, D. P. (2004) 'Private politics, corporate social responsibility, and integrated strategy', *Journal of Economics & Management Strategy,* 10 (1), pp. 7-45.

Basamh, S. S., Huq, M. N. and Dahlan, A. R. (2013) 'Empirical research on project implementation success and change management practices in Malaysian government-linked companies (GLCs)', *International Journal of Information and Communication Technology Research,* 3 (5), pp. 174-180.

Basu, R. (2014) 'Managing quality in projects: An empirical study', *International Journal of Project Management,* 32, pp. 178-187.

BBC (2005) *Intelligence system faces delays.* Available at: http://newsvote.bbc.co.uk/mpapps/pagetools/print/news.bbc.co.uk/1/hi/uk/4421341.stm (Accessed: 05/26).

Belassi, W. and Tukel, O. I. (1996) 'A new framework for determining critical success/failure factors in projects', *International Journal of Project Management,* 14 (3), pp. 141-152.

Berg, B. L. (2009) *Qualitative research methods: For the social sciences.* 7th edn. Boston: Pearson Education Limited.

Berg, N. (2005) *Encyclopaedia of Social Measurement.* Vol. 2. London: Academic Press.

Blattberg, C. (2004) *Welfare: Towards the patriotic corporation. From pluralist to patriotic politics: Putting practice first.* New York: Oxford University Press.

Blumberg, B., Cooper, D. R. and Schindler, P. S. (2008) *Business research methods.* 2nd edn. Berkshire: McGraw-Hill Higher Education.

Blumberg, B., Cooper, D. R. and Schindler, P. S. (2011) *Business research methods.* 3rd edn. Berkshire: McGraw-Hill Higher Education.

Blumer, M. (1984) *The Chicago school of sociology: Institutionalization, diversity, and the rise of sociological research.* Chicago: University of Chicago Press.

Bounds, G. (1998) 'The last word on project management', *Institute of Industrial Engineers Solutions,* 30 (11), pp. 41-43.

Brady, T. and Davies, A. (2010b) 'From hero to hubris: Reconsidering the project management of Heathrow's Terminal 5', *International Journal of Project Management,* 28 (2), pp. 151-157.

Brady, T. and Davies, A. (2010a) *Learning to deliver a mega-project: The case of Heathrow Terminal 5 in procuring complex performance: Studies of innovation in product-service management.* New York: Routledge.

Brady, T. and Davies, A. (2009) *They think it's all over, it is now: Heathrow Terminal 5.* Liverpool, UK. Liverpool, UK: EURAM 2009.

Brady, T. and Maylor, H. (2010) 'The improvement paradox in project contexts: A clue to the way forward?', *International Journal of Project Management,* 28 (8), pp. 787-795.

Brech, E. F. L. (1953) *The principles and practice of management.* London: Longman's.

Bredillet, C. N. (2010) 'Mapping the dynamics of the project management field: Project management in action (part 5)', *Project Management Journal,* 41 (1), pp. 2-4.

Bredillet, C. N. (2007) 'Exploring research in project management – Nine schools of project management research (part 1)', *Project Management Journal,* 38 (2), pp. 3-4.

Bronte-Stewart, M. (2005) 'Developing a risk estimation model from IT project failure research', *Computing and Information Systems,* 9 (3), pp. 8-31.

Brown, S. L. and Eisenhardt, K. M. (1997) 'The art of continuous change: Linking complexity theory and time-paced evolution in relentlessly shifting organizations', *Administrative Science Quarterly,* 42 (1), pp. 1-34.

Bruzeliusa, N., Flyvbjergb, B. and Rothengatterc, W. (2002) 'Big decisions, big risks. Improving accountability in mega projects', *Transport Policy,* 9 (1), pp. 143-154.

Bryde, D., Broquetas, M. and Volm, J. (2013) 'The project benefits of building information modelling (BIM)', *International Journal of Project Management,* 31 (7), pp. 971-980.

Bryde, D. J. and Moores, J. (2003) 'Project management concepts, methods and application', *International Journal of Operations and Production Management,* 23 (7), pp. 775-793.

Bryde, D. J. and Robinson, L. (2005) 'Client versus contractor perspectives on project success criteria', *International Journal of Project Management,* 23, pp. 622-629.

Bryman, A. (2012) *Social research methods.* 5th edn. Oxford: Oxford University Press.

Bryman, A. and Bell, E. (2003) *Business research methods.* Oxford: Oxford University Press.

Bryman, A. and Bell, E. (2007) *Business research methods.* 2nd edn. Oxford: Oxford University Press.

Bryman, A. and Bell, E. (2011) *Business research methods.* 3rd edn. Oxford: Oxford University Press.

Bryman, A. and Bell, E. (2015) *Business research methods.* 4th edn. New York: Oxford University Press.

Burke, R. (2013) *Project management: Planning and control techniques.* 5th edn. Chichester: John Wiley & Sons.

Cabinet Office (2011) *Managing Successful Programmes 2011 Edition.* The Stationery Office.

Caldicott, C. V., Dunn, K. A. and Frankel, R. M. (2005) 'Can patients tell when they are unwanted? "Turfing" in residential training', *Patient Education and Counselling,* 56, pp. 104-111.

Cameron, R., Sankaran, S. and Scales, J. (2015) 'Mixed methods use in project management research', *Project Management Journal,* 46 (2), pp. 90-104.

Cantamessa, M. (2003) 'An empirical perspective upon design research', *Journal of Engineering Design,* 14 (1), pp. 1-15.

Carrillo, P., Harding, J. and Choudhary, A. (2011) 'Knowledge discovery from post-project reviews', *Construction Management and Economics,* 29 (7), pp. 713-723.

Chang, A. (2015) *Computer program to calculate sample size adjustments for 2 groups with unequal size.* Available at: https://www.statstodo.com/SSizUnequal_Pgm.php (Accessed: 06/29).

Chen, L. (2010) 'Business–IT alignment maturity of companies in China', *Information and Management,* 47, pp. 9-16.

Christensen, L. B., Johnson, R. B. and Turner, L. A. (2011) *Research methods, design, and analysis.* 11th edn. New Jersey: Pearson.

Chung, T. R., Liang, T. P., Peng, C. H. and Chen, D. N. (2013) *How knowledge creation capabilities lead to competitive advantage. Knowledge management and competitive advantage: Issues and potential solutions.* USA: IGI Global.

Cicmil, S. J. K. (1997) 'Critical factors of effective project management', *The TQM Magazine,* 9 (6), pp. 390-396.

Cicmil, S., Williams, T., Thomas, J. and Hodgson, D. (2006) 'Rethinking project management: researching the actuality of projects', *International Journal of Project Management,* 24 (8), pp. 675-686.

Cicourel, A. V. (1964) *Method and measurement in sociology.* New York: Free Press.

Clark, A. M. (1998) 'The qualitative-quantitative debate: Moving from positivism and confrontation to post-positivism and reconciliation', *Journal of Advanced Nursing,* 27, pp. 1242-1249.

Clarke, A. (1999) 'A practical use of key success factors to improve the effectiveness of project management', *International Journal of Project Management,* 17 (3), pp. 139-145.

Cleland, D. I. and Ireland, L. (2002) *Project management: Strategic design and implementation.* 4th edn. New York: McGraw-Hill.

Cobo, M. J., López-Herrera, A. G., Herrera-Viedma, E. and Herrera, F. (2011) 'Science mapping software tools: Review, analysis, and cooperative study among tools', *Journal of the American Society for Information Science and Technology,* 67 (7), pp. 1382-1402.

Coff, R. W. (1999) 'When competitive advantage doesn't lead to performance: The resource-based view and stakeholder bargaining power', *Organization Science,* 10 (2), pp. 119-133.

Computing (1997) *Project failure.* Available at: http://www.computing.co.uk. (Accessed: 02/06).

Comte, A. (1988) *Introduction to positive philosophy.* Paperback Reprint edn. Cambridge: Hackett Publishing Company.

Cook, T. (1985) Postpositivist critical multiplism. In *Social science and social policy.* Shotland, R. & Mark, M., eds. California: Sage.

Cook, T. and Campbell, D. (1979) *Quasi-experimentation: Design and analysis issues for field settings.* Boston: Houghton Mifflin.

Cooke-Davies, T. (2002) 'The 'real' success factors on projects', *International Journal of Project Management,* 20, pp. 185-190.

Cooke-Davies, T. (1990) 'Return of the project managers', *Management Today, Business Information Management,* May, pp. 119-121.

Crawford, L., Pollack, J. and England, D. (2005) 'Uncovering the trends in project management: Journal emphases over the last 10 years', *International Journal of Project Management,* 24 (2), pp. 175-184.

Cross, N. (2006) *Designerly ways of knowing.* London: Springer-Verlag.

Dalcher, D. (2012) 'The nature of project management', *International Journal of Managing Projects in Business,* 5 (4), pp. 643-660.

Dalcher, D. and Drevin, L. (2003) Learning from information systems failures by using narrative and ante-narrative methods. Proceedings of SAICSIT.

Dalkir, K. (2013) *Knowledge management in theory and practice.* London: Routledge.

Davis, K. (2016) 'Identifying an appropriate measurement method for the perception of project success of different stakeholder groups', *International Journal of Project Management,* 34 (3), pp. 480-493.

Davis, K. (2015) *Applying a post-positivist methodology to literature searches,* [Seminar to MSc Business Information Technology], *research methods.* [Kingston University London]. 14 December.

Davis, K. (2014b) *Survey on project success.* London: Kingston University.

Davis, K. (2014a) 'Different stakeholder groups and their perceptions of project success', *International Journal of Project Management,* 32 (2), pp. 189-201.

Denzin, N. (1970) *The research act: A theoretical introduction to sociological methods.* Chicago: Aldine.

DeWitt, A. (1998) 'Measurement of project management success', *International Journal of Project Management,* 6 (3), pp. 164-170.

Donaldson, T. and Preston, L. E. (1995) 'The stakeholder theory of the corporation: Concepts, evidence, and implications', *Academy of Management Review,* 20 (1), pp. 65-91.

Dooley, L., Lupton, G. and O'Sullivan, D. (2005) 'Multiple project management: A modern competitive necessity', *Journal of Manufacturing Technology Management,* 16 (5), pp. 466-482.

Dooley, L. and O'Sullivan, D. (2003) 'Developing a software infrastructure to support systemic innovation through effective management', *The International Journal of Technological Innovation and Entrepreneurship (Technovation),* 23 (8), pp. 689-704.

Dosani, F. (2001) 'Quoted by Robert Scheier in stabilizing your risk', *Computer World Magazine,* May, pp. 5-7.

Driscoll, D. L., Appiah-Yeboah, A., Salib, P. and Rupert, D. J. (2007) 'Merging qualitative and quantitative data in mixed methods research: How to and why not', *Ecological and Environmental Anthropology,* 3 (1), pp. 19-28.

DSDM Consortium (2010) *Agile Project Management Handbook v2.0.* DSDM Consortium.

Dubin, R. (1978) *Theory building.* New York: Free Press.

Easterby-Smith, M. and Lyles, M. A. (2011) *Handbook of organizational learning and knowledge management.* 2nd edn. Chichester: John Wiley & Sons.

Eisenhardt, K. M. and Martin, J. A. (2000) 'Dynamic capabilities: What are they', *Strategic Management Journal,* 21 (10-11), pp. 1105-1121.

El-Sabaa, S. (2001) 'The skills and career path of an effective project manager', *International Journal of Project Management,* 19 (1), pp. 1-7.

Fan, Y., Thomas, M. and Anantatmula, V. (2014) 'A longitudinal study of the required skills of project managers', *The Journal of Modern Project Management,* 1 (3).

Fayol, H. (1949) *General and industrial management.* London: Pitman.

Feld, C. S. and Stoddard, D. B. (2004) 'Getting IT right', *Harvard Business Review,* February, pp. 25-28.

Feyerabend, P. (1962) Explanation, reduction and empiricism. In H. Feigl and G. Maxwell (ed), *Scientific explanation, space, and time (Minnesota Studies in the Philosophy of Science, Volume III).* Minneapolis: University of Minneapolis Press.

Field, A. (2009) *Discovering statistics using SPSS.* 3rd edn. London: Sage Publications Ltd.

Field, A. (2013) *Discovering statistics using IMB SPSS statistics.* 4th edn. London: Sage.

Fielding, R. (2002) *IT projects doomed to failure.* Available at: http://www.vnunet.com/vnunet/news/2120858/projects-doomed-failure (Accessed: 03/22).

Fleming, K., G. (2007) 'We're skewed – The bias in small samples from skewed distributions', *Casualty Actuarial Society Forum,* Spring, pp. 1-28.

Forbes, D., King, K., and Kushner, K. (1999) 'Warrantable evidence in nursing science', *Journal of Advanced Nursing,* 29 (2), pp. 373-379.

Fortune, J. and Peters, G. (2005) *Information systems: Achieving success by avoiding failure.* Chichester: Wiley.

Fortune, J. and White, D. (2006) 'Framing of project critical success factors by a systems model', *International Journal of Project Management,* 24, pp. 53-65.

Freeman, M. and Beale, P. (1992) 'Measuring project success', *Project Management Journal,* 23 (1), pp. 8-18.

Freeman, R. E. (1984) *Strategic management: A stakeholder approach.* Boston: Pitman.

Freeman, R., Harrison, J., Wicks, A., Parmar, B. and de Colle, S. (2010) *Stakeholder theory: The state of the art.* Cambridge: Cambridge University Press.

Fristedt, S. and Ryd, N. (2003) *The former the better, briefing in the early phase of the design and construction process.* Stockholm: The Swedish Association of Local Authorities and Regions.

Frith, H. and Gleeson, K. (2004) 'Clothing and embodiment: Men managing body image and appearance', *Psychology of Men and Masculinity,* 5, pp. 40-48.

Fuller, S. (2012) *Knowledge management foundations.* London: Routledge.

Galbraith, J. R. (1974) 'Organization design: An information processing view', *Interfaces,* 4, pp. 28-36.

Garfinkel, H. (1967) *Enthnomethodology.* New Jersey: Prentice-Hall.

Gash, S. (2000) *Effective literature searching for research.* 2nd edn. Aldershot: Gower.

Gazeley, I. (2008) 'Women's pay in British industry during the Second World War', *Economic History Review,* pp. 651-671.

Ghauri, P. and Grønhaug, K. (2010) *Research methods in business studies.* 4th edn. Harlow: Pearson Education Limited.

Gido, J. and Clements, J. (2014) *Successful project management.* Boston: Cengage Learning.

Gourlay, S. (2010) *Preparing to review the literature systematically. Working with bibliographic records to plan your literature review.* v. 3.1 May. Kingston Business School.

Green, G., Kennedy, P. and McGown, A. (2002) 'Management of multi-method engineering design research: A case study', *Journal of Engineering Technology Management,* 19, pp. 131-140.

Greene, J. (1990) *Three views on the nature and role of knowledge in social science. The paradigm dialogue.* Guba, E. (ed). California: Sage.

Guba, E. (1990) The alternative paradigm dialog. In *The paradigm dialog.* Guba, E. (ed). California: Sage.

Guba, G. and Lincoln, E. (1994) Competing paradigms in qualitative research. In *Handbook of qualitative research.* Denzin, N. K. & Lincoln, Y. S. (ed). California: Sage.

Gulick, L. and Urwick, L. (1937) *Papers on the science of administration.* New York: Columbia University Institute of Public Administration.

Hair, F. J., Black, C. W., Babin, J. B. and Anderson, R. E. (2010) *Multivariate data analysis.* 7th edn. New Jersey: Pearson Prentice Hall.

Hanisch, B. and Wald, A. (2012) 'A bibliometric view on the use of contingency theory in project management research', *Project Management Journal,* 43 (3), pp. 4-23.

Harrison, J., Wicks, A., Parmar, B. and de Colle, S. (2010) *Stakeholder theory. State of the art.* Cambridge: Cambridge University Press.

Hart, C. (1998) *Doing a literature review: Releasing the social science research imagination.* London: Sage Publications.

Harvey, L. (2015) *Social research glossary.* Available at: http://www.qualityresearchinternational.com/socialresearch (Accessed: 12/08).

Harzing, A. (2008) *Reflections on the h-index.* Available at: http://www.harzing.com/pop_hindex.htm (Accessed: 04/14).

Hayes, R. H., Wheelwright, S. C. and Clarke, K. B. (1988) *Dynamic manufacturing: Creating the learning organization.* New York: The Free Press.

Hemingway, P. and Brereton, N. (2009) *What is a systematic review?* University of Sheffield: Hayward Medical Communications.

Hempel, C. (1966) *Philosophy of natural science.* New Jersey: Prentice Hall.

Herbsleb, J., Zubrow, D., Goldenson, D., Hayes, W. and Paulk, M. C. (1997) 'Software quality and the capability maturity model', *Communications of the ACM,* 40 (6), pp. 30-40.

Herther, N. (2008) *Web-based tools for citation data management.* Available at: http://www.allbusiness.com/company-activities-management/business-climate/10594253-1.html#ixzz1mMi1Fosk (Accessed: 02/14).

Hislop, D. (2013) *Knowledge management in organizations: A critical introduction.* Oxford: Oxford University Press.

Hong, J., Kianto, A. and Kylaheiko, K. (2008) 'Moving cultures and the creation of new knowledge and dynamic capabilities in emerging markets', *Knowledge and Process Management,* 15 (3), pp. 196-202.

Houts, A., Cook, T. and Shadish, W. (1986) 'The person-situation debate: A critical multiplist perspective', *Journal of Personality,* 54 (1), pp. 52-105.

Howe, K. (1985) 'Two dogmas of educational research', *Educational Researcher,* 14 (8), pp. 10-18.

Ihuah, P. W., Kakulu, I. I. and Eaton, D. (2014) 'A review of critical project management success factors (CPMSF) for sustainable social housing in Nigeria', *International Journal of Sustainable Built Environment,* 3 (1), pp. 62-71.

International Project Leadership Academy (2015) *Why projects fail.* Available at: http://calleam.com/WTPF/?page_id=3 (Accessed: 10/15).

Jaques, R. (2004) *UK wasting billions on IT projects.* Available at: www.computing.co.uk/vnunet/news/2124833/uk-wasting-billions-projects (Accessed: 06/28).

Jensen, L. and Allen, M. (1996) 'Meta-synthesis of qualitative findings', *Qualitative Health Research,* 6, pp. 553-560.

Johansen, A., Eik-Andresen, P. and Ekambaram, A. (2014) 'Stakeholder benefit assessment – Project success through management of stakeholders', *Procedia – Social and Behavioral Sciences,* 119, pp. 581-590.

Jonas, D., Kock, A. and Gemunden, H. G. (2013) 'Predicting project portfolio success by measuring management quality – A longitudinal study', *IEEE Transactions on Engineering Management,* 60 (2), p. 215.

Jugdev, K. and Müller, R. (2005) 'A retrospective look at our evolving understanding of project success', *Project Management Journal,* 36 (4), pp. 19-31.

Jugdev, K. and Thomas, J. (2002) 'Project management maturity models: The silver bullets of competitive advantage?', *Project Management Journal,* 33 (4), pp. 4-14.

Juran, J. M. (1988) *Juran on planning for quality.* New York: The Free Press.

Kerzner, H. (2013) *Project management: A systems approach to planning, scheduling, and controlling.* 11th edn. West Sussex: John Wiley & Sons.

Kerzner, H. (1987) 'In search of excellence in project management', *Journal of Systems Management,* 38 (2), pp. 30-40.

Key, S. (1999) 'Toward a new theory of the firm: a critique of stakeholder "theory"', *Management Decision,* 37 (4), pp. 317-328.

Kimchi, J., Polivika, B. and Stevenson, J. (1991) 'Triangulation: Operational definitions', *Nursing Research,* 40, pp. 364-366.

Kingston University (2011) *E-resources.* Available at: http://student.kingston.ac.uk/C2/E-Resources/default.aspx (Accessed: 06/30).

Kotnour, T. (2000) 'Organizational learning practices in the project management environment', *International Journal of Quality & Reliability Management,* 17, pp. 393-406.

KPMG (1997) *Project management survey report.* Canada: KPMG.

KPMG (2013) *Project management survey report.* New Zealand: KPMG.

Kuhn, T. (1962) *The structure of scientific revolutions.* Chicago: University of Chicago Press.

Kuhn, T. (1970) *The structure of scientific revolutions.* 2nd edn. Chicago: University of Chicago Press.

Kwak, Y. and Anbari, F. (2009) 'Analyzing project management research: Perspectives from top management journals', *International Journal of Project Management,* 27 (5), pp. 435-446.

Labrosse, M. (2007) 'The evolution of project management', *Employment Relations Today,* 34 (1), pp. 97-104.

Lakatos, I. (1970) *Criticism and the growth of knowledge.* Cambridge: Cambridge University Press.

Laplume, A., Sonpar, K. and Litz, R. (2008) 'Stakeholder theory: Reviewing a theory that moves us', *Journal of Management,* 34 (6), pp. 1152-1189.

Lather, P. (1992) 'Critical frames in educational research: Feminist and post-structural perspectives', *Theory into Practice,* 31 (2), pp. 87-99.

Laudan, L. (1977) *Progress and its problems.* Berkeley: University of California Press.

Laursen, M. and Svejvig, P. (2015) 'Taking stock of project value creation: A structured literature review with future directions for research and practice', *International Journal of Project Management,* in press, p. 12.

Lawrence, P. and Lorsch, J. (1967) 'Differentiation and integration in complex organizations', *Administrative Science Quarterly,* 12, pp. 1-30.

Lech, P. (2013) 'Time, budget, and functionality? IT project success criteria revised', *Information Systems Management,* 30 (3), pp. 263-275.

Leisyte, I. and Westerheijden, D. F. (2014) Stakeholders and quality assurance in education. In Eggins, H., *Drivers and barriers to achieving quality in higher education.* p. 84. London: Sense Publishers.

Lester, D. H. (1998) 'Critical success factors for new product development', *Research Technology Management,* 41 (1), pp. 36-43.

Letourneau, N. and Allen, M. (1999) 'Post-positivistic critical multiplism: A beginning dialogue', *Journal of Advanced Nursing,* 30 (3), pp. 623-630.

Levy, Y. and Ellis, T. J. (2006) 'A systems approach to conduct an effective literature review in support of information systems research', *Informing Science Journal,* 9, pp. 181-212.

Liebowitz, J. (1999) 'Information systems: Success or failure?', *Journal of Computer Information Systems,* 40 (1), pp. 17-26.

Lim, C. S. and Mohamed, M. Z. (1999) 'Criteria of project success: An exploratory re-examination', *International Journal of Project Management,* 17 (4), pp. 243-248.

Lindahl, G. and Ryd, N. (2007) 'Clients' goals and the construction project management process', *Facilities,* 25 (3/4), pp. 147-156.

Lindner, F. and Wald, A. (2011) 'Success factors of knowledge management in temporary organizations', *International Journal of Project Management,* 29 (7), pp. 877-888.

Locatelli, G., Mancini, M. and Romano, E. (2014) 'Systems engineering to improve the governance in complex project environments', *International Journal of Project Management,* 32 (8), pp. 1395-1410.

Long, T. and Johnson, M. (2000) 'Rigour, reliability and validity in qualitative research', *Clinical Effectiveness in Nursing,* 4, pp. 30-37.

Loo, R. (2003) 'A multi-level causal model for best practices in project management', 10 (1), pp. 29-36.

Loo, R. (2002) 'Working towards best practices in project management: A Canadian study', *International Journal of Project Management,* 20, pp. 93-98.

Lucas, S. R. (2014) *Beyond the existence proof: Ontological conditions, epistemological implications, and in-depth interview research.* Berkeley: Springer.

Lutz, F. (1988) *The courage to be creative. Paper presented at the Annual Meeting of the American Educational Research Association.* New Orleans. ERIC Document Reproduction Service ED.

Malinowski, B. (1967) *A diary in the strict sense of the term.* New York: Harcourt, Brace & World.

Mansell, S. (2013) *Capitalism, corporations and the social contract: A critique of stakeholder theory.* Cambridge: Cambridge University Press.

Maylor, H. (2005) *Project management.* Third edn with CD Microsoft Project. London: Prentice Hall.

Maylor, H. and Blackmon, K. (2005) *Research business and management.* Hampshire: Palgrave Macmillan.

Mazur, A., Pisarski, A., Chang, A. and Ashkanasy, N. (2014) 'Rating defence major project success: The role of personal attributes and stakeholder relationships', *International Journal of Project Management,* 32 (6), pp. 944-957.

McCue, A. (2002) 'Treasury warns of over-optimistic IT projects', *Accountancy Age,* July, pp. 38–43.

McKenna, A. and Baume, G. (2015) 'Complex project conceptualization and the linguistic turn; the case of a small Australian construction company', *International Journal of Project Management,* 33 (7), pp. 1476-1478.

McLeod, L., Doolin, B. and MacDonell, S. G. (2012) 'A perspective-based understanding of project success', *Project Management Journal,* 43 (5), pp. 68-86.

Meng, X. (2012) 'The effect of relationship management on project performance in construction', *International Journal of Project Management,* 30 (2), pp. 188-198.

Metcalfe, M. and Sastrowardoyo, S. (2013) 'Complex project conceptualisation and argument mapping', *International Journal of Project Management,* 31 (8), pp. 1129-1138.

Miles, M. B. and Huberman, M. A. (1994) *Qualitative data analysis: An expanded sourcebook.* 2nd edn. Beverly Hills: Sage.

Miles, M. B. and Huberman, M. A. (1984) *Qualitative data analysis: A sourcebook of new methods.* California: Sage Publications.

Mir, F. A. and Pinnington, A. H. (2014) 'Exploring the value of project management: Linking project management performance and project success', 32 (2), pp. 202-217.

Missonier, S. and Loufrani-Fedida, S. (2014) 'Stakeholder analysis and engagement in projects: From stakeholder relational perspective to stakeholder relational ontology', *International Journal of Project Management,* 32 (7), pp. 1108-1122.

Mitchell, R. K., Agle, B. R. and Wood, D. J. (1997) 'Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts', *Academy of Management Review,* 22 (4), pp. 853-886.

Moher, D., Liberati, A., Tetzlaff, J. and Altman, D. G. (2009) 'The PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement', *PLoS Med,* 6 (7), pp. 264-269.

Mooney, J. D. and Reiley, A. C. (1939) *The principles of organization.* New York: Harper.

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Morgan, D. L. (1998) *Planning focus groups.* Thousand Oaks, CA: Sage.

Morris, P. W. G. (1997) *The management of projects.* 2nd edn. London: Thomas Telford.

Morris, P. W. G. and Hough, G. H. (1987) *The anatomy of major projects: A study of the reality of project management.* Chichester: John Wiley & Sons.

Morris, P. W. G., Pinto, J. K. and Söderlund, J. (2011) *The Oxford handbook of project management.* Oxford: Oxford Handbooks Online.

Müller, R. (2003) *Communication of IT project sponsors and managers in buyer-seller relationships.* Unpublished DBA.

Müller, R. and Judgev, K. (2012) 'Critical success factors in projects, Pinto, Slevin, and Prescott − The elucidation of project success', *International Journal of Managing Projects in Business*, 5 (4), pp. 757-775.

Müller, R., Sankaran, S. and Droiun, N. (2013) Introduction. In N. Droiun, R. Müller, & S. Sankaran (eds.), *Novel approaches to organisational project management research,* pp. 19-30. Copenhagen, Denmark: Copenhagen Business School Press.

Müller, R. and Turner, J. R. (2007b) 'Matching the project manager's leadership style to project type', *International Journal of Project Management,* 25, pp. 21-32.

Müller, R. and Turner, R. (2007a) 'The influence of project managers on project success criteria and project success by type of project', *European Management Journal,* 25 (4), pp. 298-309.

Munns, A. K. and Bjeirmi, B. F. (1996) 'The role of project management in achieving project success', *International Journal of Project Management,* 14 (2), pp. 81-88.

Myers, M. D. (2013) *Qualitative research in business and management.* 2nd edn. London: Sage Publications Ltd.

Narin, F. and Olivastro, D. (1994) 'Bibliometrics/theory, practice, and problems', *Evaluation Review,* 18, pp. 65-76.

Neuman, W. L. (2011) *Social research methods.* 6th edn. Boston: Pearson Education Limited.

Nixon, P., Harrington, M. and Parker, D. (2012) 'Leadership performance is significant to project success or failure: A critical analysis', *International Journal of Productivity and Performance Management,* 61 (2), pp. 204-216.

Noble, H. and Smith, J. (2015) ' Issues of validity and reliability in qualitative research', *Evidenced Based Nursing,* 18 (2), pp. 34-35.

Nour, M. A. and Mouakket, S. (2011) 'A classification framework of critical success factors for ERP systems implementation: A multi-stakeholder perspective', *International Journal of Enterprise Information Systems,* 7 (1), pp. 56-71.

Nunnally, J. C. (1978) *Psychometric theory.* 2nd edn. New York: McGraw-Hill.

OASIG (1996) *The performance of information technology and the role of human and organisational factors.* Available at: http://www.shef.ac.uk/~iwp/publications/reports/itperf.html (Accessed: 02/10).

Office of Government Commerce (2013) *Portfolio, Programme and Project Offices: P3O - 2013 Edition.* The Stationery Office.

Office of Government and Commerce (2011) *Management of Portfolios.* The Stationary Office.

Office of Government Commerce (2010b) *Management of Value.* The Stationary Office.

Office of Government and Commerce (2010a) *Management of Risk: Guidance for Practitioners.* 3rd edn. The Stationary Office.

Office of Government Commerce (2009b) *PRINCE2.* The Stationery Office.

Office of Government Commerce (2009a) *Managing successful projects with PRINCE2: 2009.* Office of Government Commerce.

Ojiako, U., Chipulu, M., Gardiner, P., Williams, T., Anantatmula, V., Mota, C., Maguire, S., Shou, Y., Nwilo, P. and Peansupap, V. (2012) *Cultural imperatives in perception of project failure.* Newtown Square: Project Management Institute Publishing.

O'Neill, R. (2006) *The advantages and disadvantages of qualitative and quantitative research methods.* Available at: http://ww2.roboneill.co.uk/ (Accessed: 05/29).

Orwig, R. A. and Brennan, L. L. (2000) 'An integrated view of project and quality management for project-based organization', *International Journal of Quality & Reliability Management,* 17 (4/5), pp. 351-363.

Oxford Dictionary (2015) *Oxford advanced learner's dictionary.* UK: Oxford University Press.

Pallant, J. (2013) *SPSS survival manual.* 5th edn. England: Open University Press.

Pallant, J. (2010) *SPSS survival manual: A step by step guide to data analysis using SPSS for Windows.* 4th edn. Maidenhead: Open University Press.

Papke-Shields, K. E., Beise, C. and Quan, J. (2010) 'Do project managers practice what they preach, and does it matter to project success?', 28, pp. 650-662.

Parker, J. (2014) *Measuring project success using business KPIs.* Available at: http://www.projecttimes.com/articles/measuring-project-success-using-business-kpis.html (Accessed: 12/16).

Pava, C. (1983) *Managing new office technology: An organizational strategy.* New York: The Free Press.

Pemsel, S. and Müller, R. (2012) 'The governance of knowledge in project-based organizations', *International Journal of Project Management,* 30 (8), pp. 865-876.

Pemsel, S. and Wiewiora, A. (2013) 'Project management office a knowledge broker in project-based organisations', *International Journal of Project Management,* 31 (1), pp. 31-42.

Peters, L. A. and Homer, J. (1996) 'Learning to lead, to create quality, to influence change in projects', *Project Management Journal,* 27 (1), pp. 5-11.

Phillips, D. (1992) *The social scientist's bestiary. A guide to fabled threats to, and defences of, naturalistic social science.* New York: Pergamon Press.

Phillips, D. (1990b) Subjectivity and objectivity: An objective inquiry. In *Qualitative inquiry in education: The continuing debate.* Eisner, E. & Peshkin, A. (eds). New York: Teachers College Press.

Phillips, D. (1990a) Postpositivistic science: myths and realities. In *The paradigm dialogue.* Guba, E. (ed). California: Sage.

Phillips, D. C. (1987) *Philosophy, science and social inquiry: Contemporary methodological controversies in social science and related applied fields of research.* XIII edn. New York: Pergamon Press.

Pinto, J. K. and Prescott, J. E. (1990) 'Planning and tactical factors in project implementation success', *The Journal of Management Studies,* 27 (3), pp. 305-328.

Pinto, J. K. and Slevin, D. P. (1987) 'Critical factors in successful project implementation', *IEEE Transactions on Engineering Management,* 34 (1), pp. 22-28.

Pinto, J. K. and Slevin, D. P. (1988a) 'Critical success factors across the project life cycle', *Project Management Journal,* 19 (3), pp. 67-75.

Pinto, J. K. and Slevin, D. P. (1988b) 'Project success: Definitions and measurement techniques', *Project Management Journal,* 19 (1), pp. 67-73.

Pinto, J. K. and Slevin, D. P. (1989) 'Critical success factors in R&D projects', *Research Technology Management,* 32 (1), pp. 31-36.

Pinto, J. K., Slevin, D. P. and English, B. (2009) 'Trust in projects: An empirical assessment of owner/contractor relationships', *International Journal of Project Management,* 27, pp. 638–648.

Pinto, J. K. and Slevin, D. P. (1997) *Project implementation profile.* 4th edn. USA: XICOM.

PMI (2014) *PMBOK® guide (5th edition).* Available at: http://www.pmi.org (Accessed: 11/27).

PMI (2013) *Project Management Institute. 2013 annual report.* Pennsylvania: Project Management Institute.

Project Management Institute (2013) *Project Management Body of Knowledge.* Project Management Institute.

Popper, K. (1968) *Conjectures and refutations: The growth of scientific knowledge.* New York: Harper and Row.

Pritchard, A. (1969) 'Statistical bibliography or bibliometrics', *Journal of Documentation,* 25 (4), pp. 348-349.

Purser, R. E., Pasmore, W. A. and Tenkasi, R. V. (1992) 'The influence of deliberations on learning in new product development', *Journal of Engineering and Technology Management,* 9, pp. 1-28.

Qureshi, T. M., Warraich, A. S. and Hijazi, S. T. (2009) 'Significance of project management performance assessment (PMPA) model', *International Journal of Project Management,* 27, pp. 378-388.

Ritchie, J. and Lewis, J. (2010) *Qualitative research practice: A guide for social science students and researchers.* 3rd edn. London: Sage.

Roberts, J. and Furlonger, J. (2000) *Successful IS project management.* Stamford, CT: Gartner Inc.

Rogelberg, S. G. and Stanton, J. M. (2007) 'Understanding and dealing with organizational survey nonresponse', *Organizational Research Methods,* 10 (2), pp. 195-209.

Rolfe, G. (2006) 'Validity, trustworthiness and rigour: quality and the idea of qualitative research', *Journal of Advanced Nursing,* 53, pp. 3043-10.

Rollinson, D. (2008) *Organisational behaviour and analysis. An integrated approach.* 4th edn. Essex: Pearson Education Limited.

Sandelowski, M. (1993) 'Rigor or rigor mortis: The problem of rigor in qualitative research revisited', *Advances in Nursing Science,* 16, pp. 1-8.

Saunders, M., Lewis, P. and Thornhill, A. (2009) *Research methods for business students.* 5th edn. Harlow: Financial Times/Prentice Hall.

Saunders, M., Lewis, P. and Thornhill, A. (2012) *Research methods for business students.* 6th edn. Harlow: Financial Times/Prentice Hall.

Sauro, J. (2010) *Should you use 5 or 7 point scales?* Available at: http://www.measuringu.com/blog/scale-points.php (Accessed: 02/15).

Savill, R. and Millward, D. (2009) *Thousands stranded by Heathrow Terminal 5 baggage failure.* Available at: http://www.telegraph.co.uk/travel/travelnews/5676256/Thousands-stranded-by-Heathrow-Terminal-5-baggage-failure.html (Accessed: 02/09).

Schindler, M. and Eppler, M. (2003) 'Harvesting project knowledge: A review of project learning methods and success factors', *International Journal of Project Management,* 21 (3), pp. 219-228.

Schumacher, K. and Gortner, S. (1992) '(Mis) conceptions and reconceptions about traditional science', *Advances in Nursing Science,* 14 (4), pp. 1-11.

Schutz, A. (1962) 'Collect Papers: *See in particular*: 'Commonsense and scientific interpretations of human action' pp. 3-47; 'Concept and theory formation in the social sciences' pp. 48-66; 'On multiple realities' pp. 207-259.', *The Hague, Martinus Nijhoff,* 1.

Schwalbe, K. (2009) *An introduction to project management.* London: Cengage Learning.

Scrum Alliance (2016) *What is Scrum? An Agile Framework for Completing Complex Projects - Scrum Alliance.* Scrum Alliance.

Seepersad, C. C., Pedersen, K., Emblemsvag, J., Bailey, R., Allen, J. K. and Mistree, F. (2006) 'The validation square: How does one verify and validate a design method?' In *Decision making in engineering design,* K.E. Lewis, W. Chen and L. Schmidt (eds). New York: ASME Press.

Serrador, P. and Turner, R. (2015) 'The relationship between project success and project efficiency', *Project Management Journal,* 46 (1), pp. 30-39.

Shadish, W. (1993) 'Critical multiplism: A research strategy and its attendant tactics', *New Directions for Program Evaluation,* 60, pp. 13-57.

Shane, B. and Schumacher, T. (1996) 'Capturing intellectual assets in a project management organization', *Project Management Journal,* 27 (4), pp. 3-11.

Shaul, L. and Tauber, D. (2012) 'CSFs along ERP life-cycle in SMEs: A field study', *Industrial Management & Data Systems,* 112 (3), pp. 360-384.

Shenhar, A. J. and Dvir, D. (1996) 'Toward a typology theory of project management', *Research Policy,* 25 (4), pp. 607-632.

Shenhar, A. J., Levy, O. and Dvir, D. (1997) 'Mapping the dimensions of project success', *Project Management Journal,* 28 (2), pp. 5-13.

Shenhar, A. J. and Dvir, D. (2007) 'Project management research: The challenge and opportunity', *Project Management Journal,* 3 (2), pp. 93-99.

Shields, P. and Rangarjan, N. (2013) *A playbook for research methods: Integrating conceptual frameworks and project management.* Stillwater, OK: New Forums Press.

Slevin, D. P. and Pinto, J. K. (1986) 'The project implementation profile: New tools for project managers', *Project Management Journal,* XVII (4), pp. 57-70.

Slevin, D. P. and Pinto, J. K. (1987) 'Balancing strategy and tactics in project implementation.', *Sloan Management Review,* 29 (1), pp. 33-41.

Smith, G. F. (1994) 'Quality problem solving: Scope and prospects', *Quality Management Journal,* 2 (1), pp. 25-40.

Smith, J. (1990) *Goodness criteria: Alternative research paradigms and the problem of criteria. In The Paradigm Dialogue.* Guba, E. (ed). California: Sage.

Smith, J. (1983) 'Quantitative versus qualitative research: An attempt to clarify the issue', *Educational Researcher,* 12 (3), pp. 6-13.

Smith-Doerr, L., Manev, I. M. and Rizova, P. (2004) 'The meaning of success: Network position and the social construction of project. Outcomes in an R&D lab', *Journal of Engineering and Technology Management,* 21, pp. 51-81.

Söderlund, J. (2004) 'Building theories of project management: Past research, questions for the future', *International Journal of Project Management,* 22 (3), pp. 183-191.

Söderlund, J. (2002) 'On the development of project management research: Schools of thought and critique', *International Journal of Project Management,* 8 (1), pp. 20-31.

Standish Group International (2001) *CHAOS 2001: A recipe for success.* Massachusetts: Standish Group International Inc.

Stanleigh, M. (2006) 'From crisis to control: New standards for project management', *Ivey Business Journal,* April, pp. 1-4.

Stasiowski, F. and Burstein, D. (1994) *Total quality project management for the design firm.* New York: John Wiley & Sons.

Suen, H. K. and Ary, D. (2014) *Analyzing quantitative behavioral observation data.* New York: Psychology Press.

Tabachnick, B. G. and Fidell, L. S. (2007) *Using multivariate statistics.* 5th edn. Boston: Pearson.

Taylor, F. W. (1911) *The principles of scientific management.* New York: Harper Bros.

Teegavarapu, S. and Summers, J. D. (2008) 'Case study method for design research'. *In Proceedings of International Design Engineering Technical Conferences and*

Computers and Information in Engineering Conference. August 3-6, New York city, New York, USA, pp. 1-9.

Thamhain, H. J. (2014) *Managing technology-based projects: Tools, techniques, people and business processes.* New Jersey: John Wiley & Sons.

The Performance Institute (2002) *The Robbins-Gioia survey 2001.* Virginia: The Performance Institute.

The Standish Group (1995) *CHAOS.* Boston: The Standish Group International.

The Standish Group (2009) *CHAOS summary 2009.* Boston: The Standish Group International.

The Standish Group (2012) *CHAOS manifesto 2012.* Boston: The Standish Group International.

The Standish Group (2015) *CHAOS summary 2015.* Boston: The Standish Group International.

Thomson, D. (2011) 'A pilot study of client complexity, emergent requirements and stakeholder perceptions of project success', *Construction Management and Economics,* 29 (1), p. 69.

Thurow, L. C. (1999) *Building wealth: The new rules for individuals, companies, and nations in the knowledge-based economy.* New York: Harper Collins.

Tishler, A., Dvir, D., Shenhar, A. and Lipovetsky, S. (1996) 'Identifying critical success factors in defense development projects: A multivariate analysis', *Technological Forecasting and Social Change,* 51, pp. 151-171.

Toor, S. and Ogunlana, S. O. (2010) 'Beyond the 'iron triangle': Stakeholder perception of key performance indicators (KPIs) for large-scale public sector development projects', *International Journal of Project Management,* 28, pp. 228-236.

Tukel, O. I. and Rom, W. O. (2001) 'An empirical investigation of project evaluation criteria', *International Journal of Operations & Production Management,* 21 (3), pp. 400-416.

Turner, J. R. (2014b) *The handbook of project-based management.* Berkshire: McGraw-Hill.

Turner, J. R. (2014a) *Gower handbook of project management.* 5th edn. Gower Publishing Ltd.

Turner, J. R. (2010) 'Evolution of project management research as evidenced by papers published in the International Journal of Project Management', *International Journal of Project Management,* 28 (1), pp. 1-6.

Turner, J. R. (2004) 'Five conditions for project success', *International Journal of Project Management,* 22 (5), pp. 349-350.

Turner, J. R. (1999) *The handbook of project-based management: Improving the processes for achieving strategic objectives.* 2nd edn. London: McGraw-Hill Publishing Co.

Turner, J. R. and Müller, R. (2006) *Choosing appropriate project managers: Matching their leadership style to the type of project.* Pennsylvania: Project Management Institute.

Turner, J. R. and Müller, R. (2012) *Project-oriented leadership.* Surrey, UK: Gower Publishing Ltd.

Turner, J. R. and Müller, R. (2005) 'The project manager's leadership style as a success factor on projects: A review', *Project Management Journal,* 36 (2), pp. 49-61.

Turner, J. R., Zolin, R. and Remington, K. (2009) *Modelling success on complex projects: Multiple perspectives over multiple time frames.* Berlin.

Turner, J. R. and Zolin, R. (2012) 'Forecasting success on large projects: Developing reliable scales to predict multiple perspectives by multiple stakeholders over multiple time frames', *Project Management Journal,* 43 (5), pp. 87-99.

Turner, R. (2015) *Re: project success and stakeholders.* [Email sent to Kate Davis, 11th March 2015].

Turner, R., Huemann, M., Anbari, F. and Bredillet, C. (2010) *Perspectives on projects.* New York: Routledge.

Turner, R., Pinto, J. K. and Bredillet, C. (2011) The evolution of project management research. In Morris, P. W. G. & Pinto, J. K. (eds). *The Oxford handbook of project management,* pp. 65-106. Oxford, England: Oxford University Press.

Van Aken, E., Monetta, D. J. and Sink, D. S. (1994) 'Affinity groups: The missing link in employee involvement', *Organizational Dynamics,* Spring, pp. 38-53.

Velayudhan, D. P. and Thomas, S. (2016) 'Measuring Project Success: Emergence of Dimensions', *The International Journal of Business & Management,* 4 (4), pp. 48-53.

Vickers, G. (1981) *Some implications of system thinking.* London: Harper and Row.

Victor, L. (2008) 'Systematic reviewing', *Social research update,* 54, pp. 1-3.

Wang, X. and Huang, J. (2006) 'The relationships between key stakeholders project performance and project success: Perceptions of Chinese construction supervising engineers', *International Journal of Project Management,* 24, pp. 253-260.

Wateridge, J. (1998) 'How can IS/IT projects be measured for success? ', *International Journal of Project Management,* 16 (1), pp. 59-63.

Wateridge, J. (1995) 'IT projects: A basis for success', *International Journal of Project Management,* 13 (3), pp. 169-172.

Web of Science (2011) *Database information.* Available at: http://student.kingston.ac.uk/C2/E-Resources/Document%20Library/Alphabetical%20List.aspx (Accessed: 07/04).

Web of Science (2012) *Calculating the h-index value.* Available at: http://images.webofknowledge.com/WOK45/help/WOS/h_citationrpt.html (Accessed: 06/26).

Webster, J. and Watson, R. T. (2002) 'Analyzing the past to prepare for the future: Writing a literature review', *MIS Quarterly,* 26 (2), pp. 13-23.

Wenger, E. (2011) *Communities of practice: A brief introduction.* USA: University of Oregon.

Westerveld, E. (2003) 'The project excellence model: Linking success criteria and critical success factors', *International Journal of Project Management,* 21, pp. 411-418.

White, D. and Fortune, J. (2002) 'Current practice in project management – An empirical study', *International Journal of Project Management,* 20, pp. 1-11.

Whittemore, R. and Knafl, K. (2005) 'The integrative review: Updated methodology', *Journal of Advanced Nursing,* 52 (5), pp. 546-553.

Wiewiora, A., Murphy, G., Trigunarsyah, B. and Brown, K. (2014) 'Interactions between organizational culture, trustworthiness, and mechanisms for inter-project knowledge sharing', *Project Management Journal,* 45 (2), pp. 48-65.

Wildemuth, B. (1993) 'Post-positivist research: Two examples of methodological pluralism', *Library Quarterly,* 63, pp. 450-468.

Xue, Y. (2009) *A results-based monitoring and evaluation system for key infrastructure projects.* Unpublished PhD thesis. France: Lille School of Management.

Yang, L., Huang, C. and Wu, K. (2011) 'The association among project manager's leadership style, teamwork and project success', *International Journal of Project Management,* 29 (3), pp. 258-267.

Yin, R. (2013) *Case study research: Design and methods (applied social research methods).* 5th edn. London: Sage Publications.

Zack, J. G. (2004) 'Project management in crisis', *The ICEC Cost Management Journal,* 1, pp. 55-7.

Zanjirchi, S. M. (2012) 'Construction project success analysis from stakeholders' theory perspective', *African Journal of Business Management,* 6 (15), pp. 5218-5225.