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Enterprise Implementations: The Impact of Systems Implementations Using Professional

Services Consultants vs. Internal Resources and the Downstream Impact Post Implementations.

by

Yves Anthony Belmont

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree

Of

Executive Doctorate in Business

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ACCEPTANCE

This dissertation was prepared under the direction of the *YVES ANTHONY BELMONT* Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Business Administration in the J. Mack Robinson College of Business of Georgia State University.

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DEDICATION AND ACKNOWLEDGEMENTS

To Cerrette Therese Gaillou (Mother), Pierre Yvon Belmont (Father), and Carl Evans Belmont (Brother). Thank you for instilling in me the life values that fuel and steer me on my journey of life, and for illustrating, on a daily basis, what it truly means to love unconditionally as humane citizens of the world. Finally, but importantly, Isis Belmont, my spouse, life partner, and dog show ring assistant. Isis continues to love and support our union of marriage, and grow daily with me on our excursion through life. To my various show dogs and fanciers, whom I enjoy time with, both inside the AKC Exhibitor ring and out. To all humans who experience inequality and misjudgment in personal and professional spaces, stay focused on your goals, execute them daily, and ignore the naysayers.

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by

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Chair: Danny Bellenger

Major Academic Unit: Executive Doctorate in Business

Large-scale complex Information Technology (IT) Systems Implementations, such as

Enterprise Resource Planning (ERP) implementations, with significant change management,

often yield minimal return on investment (ROI); such projects often fail. This study aims to focus

on the role, impact, and value of external professional services consultants within the ecosystem

of large complex IT systems and ERP implementations. Each chapter will provide an extensive

examination of various contributing factors and possible corrective approaches, starting with the

theoretical arguments underpinning resource-based theory and its possible relationship to IT

project success, with the involvement of external Professional Services Consultants. The study

will rely on a qualitative approach to examine the attributes of successful and failed IT projects,

by comparing internal resources, external professional services consultant's, and partnership

models of project implementations.

INDEX WORDS: Professional Services Consultants, Management Consultants, IT Project

Success, Enterprise Resource Planning, Project Program Portfolio Management

I   INTRODUCTION

Information technology (IT) project success rates are increasing, as firms move toward cultivating a more modern space within their respective industries. Still, in 2015, a study showed that, overall, the situation was not optimistic, and the failure rate of IT projects remained high, outside of China. Further, the actual earnings are far below the expected returns from IT projects, (Chi et al., 2015). However, after years of stagnating IT project success rates and project failures, as Pulse of the Profession report from the Project Management Institute (PMI) shows that success rates for IT projects are finally on the rise (Florentine, 2017).

ICO reported poll results of 3,234 project management professionals, including 200 senior executives and 510 PMO directors, and separated organizations into two distinct categories, per Mark Langley, CEO and president of PMI: champions and underperformers, (Florentine, 2017). The report revealed that a significant increase in project success occurred between 2013 and 2016. The report pointed to a survey by Innotas (2016) that showed that 50% of businesses surveyed had experienced an IT project failure within the previous 12 months. Three years later, those numbers had increased; on the 2016 Innotas annual Project and Portfolio Management Survey, which polled 126 IT professionals between January and March 2015, 55% of respondents reported having had a project fail, up from 32% in 2014 (Florentine, 2017). Despite this significant increase among the polls, further review of scholarly work yielded no evidence of a comprehensive methodological approach that, if followed, could yield higher IT project success rates.

I.1   The Concept of Project Success

The abovementioned issue brings up questions about which parameters are being used to measure project management success, in general, as IT project management is a subdivision of

project management. The concept of project success has long been regarded as the ability to achieve a goal within a given time, for a certain cost, and in accordance with certain quality constraints. The "time/cost/quality triangle" or "iron triangle," or the "golden triangle," that some professionals call the "Holy Trinity" or the "triangle of virtue" long sufficed as a definition of project success (Atkinson, 1999; Hazebroucq & Badot, 1996, p. 35; Westerveld, 2003; Ika, 2017). However, time and cost adherence does not always constitute project success, as projects that do not so adhere have been considered successful, while others that have adhered have been regarded as unsuccessful. For example, the Ford Taurus car was completed on time, in 1995, but turned out to be a disappointing business experience (Ika, 2017).

Project success generally falls into one of the following categories, depending on the study: either they deal with project success criteria (or dimensions) or they examine critical success factors (CSFs). Hence, the "triangle of virtue": time, cost, and quality as criteria for measuring success. Some writers maintain that the quality criterion involves meeting functional and technical specifications (Ika, 2017). Given the uniqueness of projects and their temporary nature, research on CSFs will also take the project life cycle into account (Pinto & Slevin, 1988b; Ika, 2017). During project execution, the key factors are project mission, characteristics of the project team leader, troubleshooting, project schedules/plan, technical tasks, and client consultation (Ika, 2017). Although these elements are important to project success that relates to firm capacity building and competitive advantage, one must consider the overall strategic plan of a company. Hence, it is necessary to clarify project success criteria, select project CSFs at the beginning of a project, and ensure that all stakeholders agree with their definition (Wateridge, 1995; Ika, 2017).

Engaged Scholarship Component	Research Component
Area of Concern (A)	Enterprise implementations: The impact of systems implementations using professional services consultants vs. international resources and the downstream impact post implementation in organizations.
Real Problem Setting (P)	What drives relative success of IT projects that involve professional services consultants?
Framework (F)	resource-based theory
Research Method (M)	Qualitative method with in-depth interviews 18 IT professionals with footprint complex IT implementations.
Research Question(s) (RQ)	1) Does the use of consultants vs. internal resources impact the success of the implementation? 2) What are the existing Enterprise implementation strategies? 3) What are the downstream impacts post implementation in organizations? What are the best IT project approaches for project success?
Contribution (C)	**Contribution to Theory** Linkage from prior literature to extend further exploration in the project management and management disciplines, using complex IT systems implementations as a focal point to further enhance the end-to-end project experience. Net results will yield improved quality across the enterprise, with a positive impact to the balance sheets for year-over-year growth of said firms. **Contribution to Practice** Enhanced executive insight of essential attributes, mechanisms and techniques required to increase probability of successful IT Implementations.
Note: Format adopted from (Mathiassen, 2017)	

I.2   The Value of IT Project Success to Enterprises

The rapid evolution of technology is a constant in which new technology (software) are labeled as outdated at a faster rate. The high technological turnover requires firms to share a similar momentum in acquiring information systems (IS) that revival their market competition; here is where most IT projects are conceptualized. Like other project management areas IT projects also focus on the six main features of a project in order to meet the main goal which are; planning and scheduling, team collaboration, time tracking, reporting, budgeting, billing, and quotes as well as training, all of which is needed for the successful implementation of enterprise IT systems.

Many organizations recognize the value of project management practices as an effective means to structure tasks to convert resources to new products, develop services for internal and

external clients, and implement organizational change (Jiang & Klein, 2014). IT project

management strategy selection is paramount in the implementation of information systems, as

ultimately, project success should lead to product success. The tools and management practices

are identified as appropriate for specific projects, based on the experiences of an organization

and the context of the project being undertaken (Jiang & Klein, 2014). However, most

information systems (IS) projects are not successful; the IT/IS projects are still experiencing

failure (Nguyen et al., 2016). Projects often come at a high cost to companies, which are required

to dispense funds to supplement all areas of a project, including high consultant rates. From the

work titled '*Project success: a multidimensional strategic concept,'* Shenhar and Dvir found that

more than 60% of Information Systems (IS) projects come in with a late deadline or over budget

(Nguyen et al., 2016), which will lead to the failure of any project, irrespective of its scope. This

is further supported by reports by CIO, IDG Communication, Florentine, 2017 that states:

> Champions are those organizations that see 80 percent or more of projects being
> completed on-time, on-budget and meeting original goals and business intent, and that
> have high benefits realization maturity. In other words, the projects deliver the promised
> business outcomes, according to the research.

With the abovementioned pitfalls associated with delayed timing at the start of a project,

coupled with an excessive budget, projects geared toward enhancing a business face other factors

that impact the outcome. Timoschenko's (2015) study looked at the importance of strategic

management being aligned across different horizons of the organizational decision-making

process. The three critical levels of decision making have been identified: business strategy (BS),

information systems (ISS) strategy, and information technology strategy (ITS; Timoschenko,

2015). While it is advantageous for companies to possess a complementary staff to carry out

their daily tasks it is also important to recognize that a given company's external environment

and its changes also influence the operating process. In fact, the ability to rapidly recognize and adapt to external changes is said to be the leading path to a firm's long term competitive advantage (Timoschenko, 2015). There is growing recognition of the indispensability of information technology (IT) and its impact on the creation of business value. Kellerman and Löfgren (2008) argue that "businesses are critically dependent on their information systems, not only for success (competitive advantage)," but foremost, for survival (Timoschenko, 2015). The interdependent relation among the three critical components of achieving a sustained competitive advantage is demonstrated in diagram 2 (Fig 1. from Timoschenko, 2015), below:
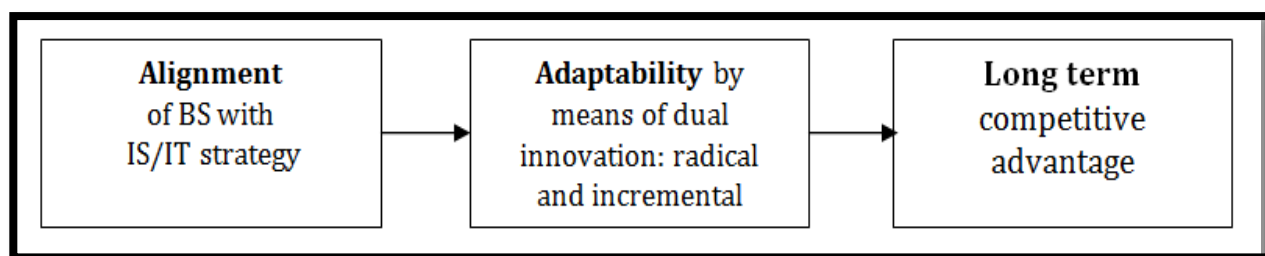
Figure 1 Relationships predicted

An IT project that is not in line with business demands will not generate business value even if implemented "correctly". Thus, an application that is not in alignment with the overall needs of the business needs will have immense consequences, in terms of financial costs, restructuring, and finally, switching costs once executed (Timoschenko, 2015). Hence, alignment of strategies should be chief among the priorities of any business and the selection of the model they intend to use to gain and maintain competitive advantage. However, companies that align their business strategy and IS/IT strategy may still fail to realize a positive return on investment (ROI) or a strong competitive advantage over its competitors. This is due, in part, to a lack of adoption of IT/IS systems in which decision makers who find themselves in this predicament,

missed to undertake a crucial consideration when committing themselves to project

(Timoschenko, 2015).

      In their study, Nguyen et al. (2016) looked at the relationships between three levels of

enterprise implementation, namely, IT adoption, IS success, and project success, which are

demonstrated in the diagram below. The study looked at the effectiveness of the technology

acceptance model (TAM) in determining IS system success, as TAM is widely used to explain

the intention and behavior to use IT/IS, but lacks practical demonstration, explanation, and

predictive accuracy (Nguyen et al., 2016).
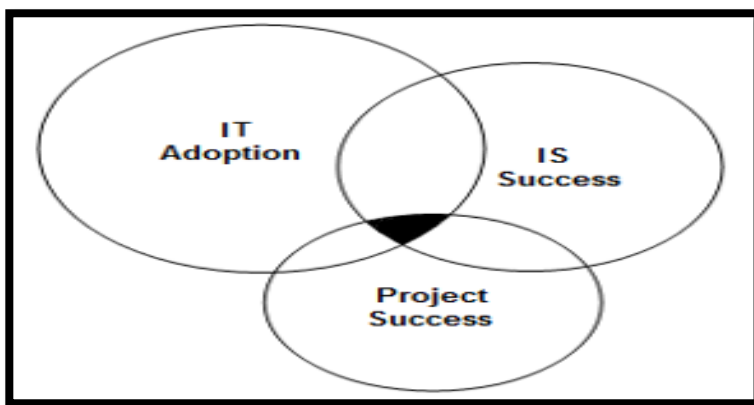
      The study examined 200 papers, published between 1992 and 2016, inclusive, including

top journal publications, international conferences, and academic conferences. It is imperative to

note that the studies related to IS project success are limited by the relationship of these elements

to the output criteria; not only have they not completed a mutual relationship, but they have also

failed to point out the effects of all factors. Although the three streams of research are distinct

from each other, they rely on some interelated conceptual constructs. This may create

opportunities for new research avenues (Nguyen et al., 2016).

II   LITERATURE REVIEW

II.1   Theoretical Framework

II.1.1   *Resource-Based Theory*

The success of a firm or project is based on having a clear and focused strategic intent through the mobilization of resources both internally and externally. Resource-based theory (RBT) or resource-based view (RBV), drawn from the world of business management, primarily refers to use of the internal features of an organization or system to increase firm performance. The aim is to create sustainable competitive advantage (SCA) within an industry. There are four main components of the achievement of SCA:

- Assets
- Capabilities
- Competencies
- Competitive Advantage

Assets can be intangible or tangible elements, such as human resources (e.g. knowledge), physical resources (e.g. location), and organizational resources (e.g. culture). A combination of all three asset produces capabilities that derive from the strengths within each, along with their applicability to the process. Through the harnessing of capabilities, core and distinctive competencies often emerge, and are used as central elements to formulate a strategic plan, aimed at firm or project success.

The resource-based theory/view (RBT/RBV) emphasizes the firm's resources as the fundamental determinants of competitive advantage and performance. It adopts two assumptions in analyzing sources of competitive advantage. First, this model assumes that firms within an industry (or a strategic group) may be heterogeneous, with respect to the bundle of resources that

they control. Second, it assumes that resource heterogeneity may persist over time, because the resources used to implement firms' strategies are not consistent across firms (Bridoux, 2004).

Bridoux (2004), a proponent of the theory, presents a critique of the expansive work put forth through the work of Peteraf's (1993) paper, which presents four conditions underlying sustained competitive advantage: superior resources (heterogeneity within an industry), ex post limit to competition, imperfect resource mobility, and ex ante limits to competition. Peteraf and Barney (2003) explicitly note that Barney's (1991) and Peteraf's (1993) frameworks are consistent, once some terms are unambiguously defined.

Bridoux also mentions Foss (1998), who states that the resource-based perspective does not escape the general problem of determining the appropriate unit of analysis. Most contributions to the RBV literature regard the individual resource as the relevant unit of analysis to study competitive advantage. However, Foss points out that this choice may only be legitimated if the relevant resources are sufficiently well-defined and free-standing (Bridoux, 2004).

Bridoux also presents a comparative and significantly complementary theory, Porter's five forces model, which was introduced prior to Barney's theory, in the 1980s, in a book, titled *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. Essentially, this paradigm reflects the conception of the firm's performance in the marketplace as critically dependent on the characteristics of the industry in which it competes (Bridoux, 2004). Porter identifies five basic competitive forces regarded as threats to the firm profits: threat of entry, threat of substitution, bargaining power of buyers, bargaining power of suppliers, and rivalry among current competitors (Porter, 1980). The similarities of the two theories are unpacked in Spanos and Lioukas (2001), who state these the two similarities: (a) the RBV perspective and

Porter's (1980) framework share the view that persistent above-normal returns are possible; and (b) both perspectives seek to explain the same phenomenon of interest (i.e., sustained competitive advantage).

Resource-based theory (RBT) has evolved from a nascent, upstart perspective to become one of the most prominent and powerful theories aimed at understanding organizations. Indeed, 20 years after its landmark birth, RBT appears to have reached maturity as a theory (Wright, 2011). Nonetheless, the theory has had its share of criticisms over the years that often hit at the applicability in real-time concept to the usefulness to firms and their ability to secure an advantageous spot within their respective industries.

II.1.2 *History of Resource-Based Theory*

There has been great debate over the emergence of the resource-based theory, and some scholars situate the theory's origins in the 1930s. The resource-based view can be positioned in relation to at least three theoretical traditions: SCP-based theories of industry determinants of firm performance, neo-classical microeconomics, and evolutionary economics (Barney, 2001). However, most associate the theory with Jay Barney's 1991 article, "Firm Resources and Sustained Competitive Advantage," in which Barney explains how firms gain a competitive advantage by the implementing strategies that exploit their internal strengths, by responding to environmental opportunities, while neutralizing external threats and avoiding internal weakness (Barney, 1991). Barney used the following diagram to illustrate the epistemology of the theory:

Internal Analysis   **External Analysis**

Strengths	**Opportunities**
⇕	⇕
Weaknesses	**Threats**

Resource Based Model   **Environmental models of**

Competitive Advantage
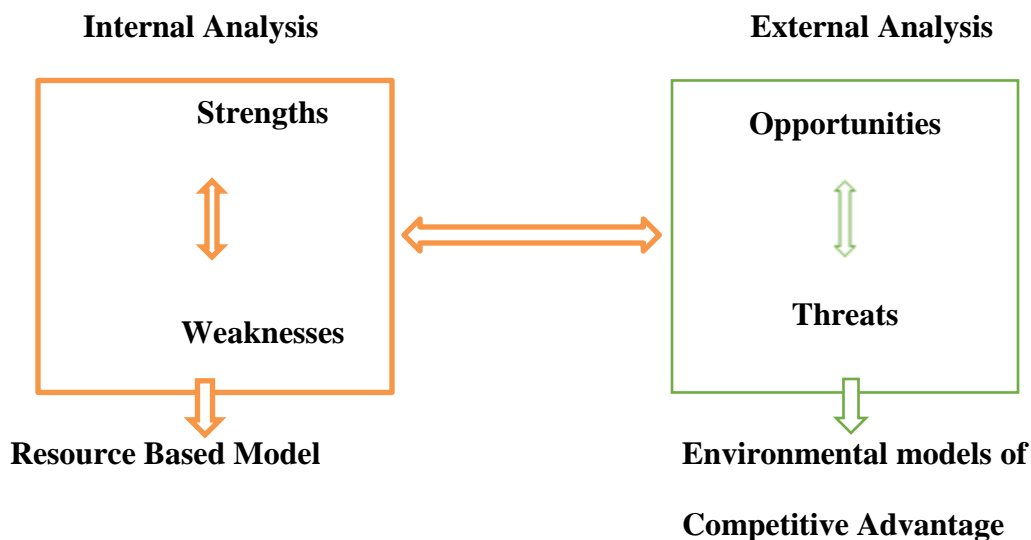
The theory assumes that all firms within an industry are operating on a level playing field, in terms of their strategically relevant resources, as well as the high level of application. Barney describes firm resources as assets, capabilities, organizational processes, resources information, and knowledge, among other attributes. However, in a discussion of the applicability of the theory, Barney expressed the importance of internal resources being fundamentally valuable, imitable, and void of easy substitution (Barney, 1991), all of which lends a sustainable competitive advantage. Barney regarded all resources as permissible to the cause.

II.1.3 *Limitations of Resource-Based Theory*

A limitation of the theory relates to the suggestion that managers are skilled at manipulating all the attributes and characteristics of their firm (Barney, 1991). This was further highlighted by Priem and Butler (2001), who described the lack of managerial implications or operational validity. Though it is worth noting the potential of harnessing of internal resources, the theory lacks a method of directing managers to the most effective way to do so. Another noteworthy limitation involves the inability to avoid substitution of a capability by another firm

and, even more significant, the prevention of having such a substitute become superior in application. Concerning the usefulness of RBT for strategic management, a new perspective tends to be more suitable for answering some issues, rather than others (Priem & Butler, 2001).

Another limitation is the lack of applicability to smaller firms. Kraaijenbrink et al. (2010) points to "Miller (2003), who argues that the resources a firm needs to generate a sustained competitive advantage are precisely those resources that are hard to acquire in the first place." Miller's critical observation also inadvertently highlights another limitation, which is the impossibility of a sustained competitive advantage, as one of the basic tenets is maintenance of the unsubstituted core competency. RBT proponents have assumed solidity and other determining factors that impact internal resource values.

Despite these harsh criticisms, the theory has, to date, withstood the various pitfalls and expansions and remained the most grounded theory. Twenty years later, resource-based theory (RBT) is widely acknowledged as one of the most prominent and powerful theories for describing, explaining, and predicting organizational relationships. The conceptual challenges have not hindered the applicability of the theory to other sectors with management components, such as project management, which thrives on strategic planning and the use of resources in and around the project. This paper seeks to use the theory as a baseline for the increased likelihood of IT project success.

II.1.4 *Information Technology and Sustained Competitive Advantage*

Mata et al. (1995) discuss the viability of IT as a competitive advantage and present a model founded on the resource-based view of the firm. The study then assessed at the value of IT implementation within the operating system of a company, and how technology would have been able to assist in the realization of sustained competitive advantage (SCA). Traditionally, most

research in strategic IT has focused on IT's ability to add economic value to a firm, either by reducing a firm's costs or by differentiating its products or services (see Bakos and Treacy, 1986; McFarlan, 1984; Porter and Millar, 1985; Wiseman, 1988; Mata et al., 1995). IT innovations have consistently added value to companies, by providing internal and external clients with easier ways, linked to all parties, of accomplishing their individual end goals. However, IT adding value to a firm—by reducing costs and/or increasing revenues—is not equivalent to IT being a source of sustained competitive advantage for a firm (Mata et al., 1995). More generally, a firm is said to have a sustained competitive advantage when it is implementing a strategy that is not simultaneously being implemented by many competing firms, and where these other firms face significant disadvantages in acquiring the resources necessary to implement this strategy (Mata., 1995). Mata et al. go even further, touching on the immobility that resource-based advances as an essential component of the achievement of SCA, by implying that a firm can imitate another firm's resources and capabilities, at a low cost, only if the imitating firm knows what, specifically, about the successful firm should be imitated. When there is causal ambiguity* about the source of competitive advantage, imitation becomes costlier.

The relationship between IT and competitive advantage has been the focus of academic attention and debate (Chi et al., 2015). The relationship is built primarily on the role IT plays in furthering the achievement of SCA in a firm. Currently, more and more firms recognize the great advantages and potential of IT, and are investing heavily in information technology (Chi et al., 2015). For example, the wave of mobile devices and increasing access by a large populace, coupled with mobile technology advancements, have made the implementation of IT systems a critical component in sustaining a competitive advantage across industries. There is an expectation among consumers that most business ventures (small or large) engage, on some

level, within the realm of e-commerce, whether through operating systems or the basic presences on a variety of social media platforms.

The resource-based theory lends itself to the discourse of IT project success, in that it helps to further establish the need for a strategic approach to IT project management that aligns with the goal of the organization during enterprise implementation of an information system.

II.2 Literature Synthesis

II.2.1 *IT Project Management*

Project management requires a meticulous approach that serves to ensure that all objectives are met in a timely, yet cost-effective manner. A project is a sequence of activities, requiring a team of individuals with various skill sets, aimed at establishing multiple interconnected tasks that are carried out during the project lifecycle. Information Technology (IT) managers have recognized the importance of applying project management practices as an effective means of structuring tasks to convert resources to new products, develop services for internal and external clients, and implement organizational change. Project management focuses on the development and merit of techniques to facilitate project management within organizations (Jiang et al., 2014). The key to managing a project is the establishment of effective coordination processes to direct project activities and effectively avoid unpleasant surprises, at all stakeholder levels and across functional boundaries within an organization (Jiang et al., 2014).

Generally, Project Management has five distinct stages:

Phase 1: Project Initiation – concept formulation, for example, the 'call' for or issuing of a Concept Note.

Phase 2: Project Planning – a roadmap of the project activities (methodology)

Phase 3: Project Execution – deliverables development and completion

Phase 4: Project Performance/Monitoring – the evolution of project performance (measurement of success)

Phase 5: Project Closure – project completion.

IT Project Management is a subsection of general project management. However, IT is unique in itself, because of its various facets, which require monitoring and upgrading of systems that allows for development opportunities within in all industries. As such, not every style of project management is suitable for every assignment; different projects benefit from different methodologies (Le Cren, 2016). There are several project management methodologies, however; within the IT industry, there are five specific methodologies used most commonly, with oldest being Waterfalls.

- Waterfalls is a sequential framework that was outlined in 1970, by Dr. Winston Royce, as a way of managing the increasingly complex nature of software development. Each stage in this process is self-contained; each stage must be wrapped up before the next is approached (Cohen, 2017).

- Agile is also software development-focused; projects that require extreme flexibility and speed are best suited to the Agile project management method (Le Cren, 2016). This methodology is often applied to projects that do not require intensive control over deliverables. These approaches aim to increase the developers' productivity, delivering working software on time and minimizing the risk of failure faced by software projects (Felderer et al., 2018). As a result, change can be made more easily, upon request of the client, which gives project managers more leeway to adjust, without heavy consequences in other project areas, specifically in cost. Agile software development (ASD) has been introduced in the domain of product software development, where product software is defined as: "A packaged configuration of software components or a software-based service, with auxiliary materials, which is released for and traded in a specific market," where auxiliary materials consist of software documentation, user material, and the like (Felderer et al., 2018).

- Hybrid is a combination of the Waterfall and Agile methodologies (Cohen, 2017). This approach begins with the gathering and analysis of information, after which the Agile approach is applied.

- Scrum is an increasingly common approach to software development, adopted by organizations around the world (Felderer et al., 2018). Scrum is an extension of Agile project management, in that it focuses on project teams, short "sprints," and daily stand-up meetings. The Scrum approach places the project team at the forefront of the project (Cohen, 2017). Often, there is no project manager. Individual members manage their time by adhering to sprint requirements, which are used to prioritize various project tasks and ensure their completion within a given timeframe (Le Cren, 2016).

- Critical path method (CPM) and critical chain project management (CCPM) are new approaches. The latter was developed as an alternative to the former. Despite their novel and effective approach, on its own, CPM is less suited for software application, and CCPM is partly grounded in resource-based theory. The idea behind both is to map. However, CPM does so and attains a deliverable, and CCPM maps from deliverable to activities (Cohen, 2017).

I.1.1   IT Project Management Failures

It has been the goals of project managers and scholars alike to determine the causes of IT project failures. Some researchers have focused on project management and organizational strategies, and others have focused on the information system, and whether its implementation met the need it was meant to address. To improve project management practices, managers often engage in single-loop learning and/or double-loop learning: in single-loop learning, managers attempt to correct failures merely by changing actions, but not their way of thinking about project management; in double-loop learning, managers attempt to correct failures by first examining and altering the governing variables and by changing the actions, (Hidding et al., 2009).

In 2006, the Standish Group reported that 19% of IT projects were canceled before being completed, and 46% were completed and operational, but finished over budget, late, and/or ultimately had fewer features and functions than originally specified. Thirty-five percent of IT projects were delivered on time, on budget, and as specified (Hidding et al., 2009). Hidding et al., found that project size was a major contributor to project failure. The larger the project scope, team, and length of time for project completion, the higher the risk of project failure. IT project failure rates have been found to depend on project size, as measured, e.g., in person months [39] or in function points [17]: The larger the project , the larger the probability of failure (Hidding et al., 2009). Project failure was also caused by lack of concensus on project goals, use of inappropriate software development methodology, dissimilarity to previous projects, volatility, and inadequate technology base or infrastructure (Hidding et al., 2009).

I.1.2   *Identification of Software Project Risks*

The effective application of project management tools, including project-risk management techniques, is necessary but not sufficient. The objective of project-risk management is to minimize the probability and impact of potential risks while maximizing the probability and impact of potential opportunities (Tesch et al., 2007). Risk management has developed rapidly over the recent decades as an integral part of project management (Del Cano & Cruz, 2002). It includes the processes concerned with risk-management planning, identification, analysis, responses, and monitoring and control of a project (Project Management Institute, 2008; Tesch et al., 2007). Hence, the following are some factors to consider in risk management:

- Risk-management planning: the process of deciding how to approach, plan, and execute risk-management activities for a project

- Risk identification: determining which risks are likely to affect the project and documenting their characteristics

- Risk response planning: development of options and actions to enhance opportunities and reduce threats to project objectives

- Risk monitoring and control: responding to changes in risk over the course of the project through identification, tracking, and monitoring of risks; execution of risk-response plans; and evaluation of their effectiveness (Tesch et al., 2007).

Boehm describes risk management as a process consisting of identifying, analysing, controlling, and monitoring events that may jeopardize a software project (Bakker et al., 2009). The sequence of risk management is illustrated below:
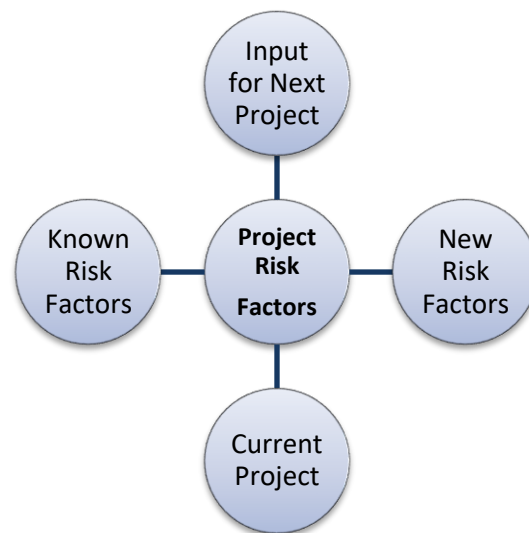
Figure 2. The evaluation approach to project-risk management (Bakker et al., 2009).

Risk management should be proactive, not reactive, and although many managers believe that the analysis, assessment, and treatment of risks depend on subjective judgment of the project stakeholders, some standard method for identifying, assessing, and responding to risks should be included in all projects. This method that is supported by the "self-evidently correct" risk-management practice (Otniel, 2011; Williams, 2005). Effective risk management requires adherence to a way of thinking in which risks are treated rather than denied and problems are

identified rather than hidden (Larson & Gray, 2011, p. 234). Regardless of the approach, a standard method of identifying, assessing, and responding to risks should be included in any project, as it influences the project's outcome (Otniel, 2011). Project-management practitioners paying attention to project risks are likely to have a greater impact on an IT project's success than when they follow the steps prescribed in the risk-management process (Bakker et al., 2009). Each failure should be investigated, and lessons should be drawn for future projects' execution. Knowledge about failures will strengthen an organization's project-management execution and practice (Arcidiacono, 2017).

II.2.2 *IT-Project Implementation Practices*

IT-project implementation heavily relies on the most practical methodology that is suitable for the project scope. Project failure is caused by myriad reasons, including unrealistic expectations, poor methodology, inadequate resources, poor project management, and unqualified and/or inexperienced team members. One of the reasons frequently proffered is the inferior quality or lack of a business manager's interest, alignment, understanding, integration, relationship, or fusion (or similar words) in IT and IT projects (Engelbrecht et al., 2017; Luftmanetal, 2013; Reich & Benbasat, 2014). Overall, gathering information, researching best practices, assigning tasks to qualified individuals, and having an overview of available internal and external resources are key components to a project's success. In theory, project implementation begins after the project scope has been outlined against a pragmatic approach for execution.

Project implementation should include project assurance, which includes the following considerations:

- Communication: Effective communication is essential in all areas of a project. Communicating with key stakeholders is the only way to achieve satisfaction by aligning the work stream. Align and continuously monitor work streams to ensure smooth progress throughout the organization (Prinzo, 2011).

- Activities and deliverables: Each activity should be geared toward a progressive end that leads to project success. However, IT projects require flexibility. Many organizations will set overly optimistic go-live dates despite the actual project's realities and limitations (Prinzo, 2011). Hence, it is important that constant monitoring and evaluation are done throughout the project's life cycle.

- Dissemination: Assessments conducted by an outside expert add value to the project's implementation and protection against the high cost of failure. Expertise provides the know-how and the objective oversight needed to overcome organizational roadblocks (Prinzo, 2011).

A chief component in any IT project is IT competence. The notion of IT competence is derived from a resource-based theory/view (RBT/RBV) of the organization. The RBV maintains that an organization consists of a unique set of resources, and the way management controls and disposes of them determines the organization's value (Engelbrecht et al., 2017; Gordon & Tarafdar, 2007; Kraaijenbrink et al., 2010; Sonetal, 2014). Hence, the identification of the organization's core IT competencies is required to implement any system.

In their literature review, Engelbrecht et al. (2014) focused on business managers' IT competence and IT-project success.

I.1.3   Business Managers' IT Competence

It is important to acknowledge the differences in IT conceptual knowledge: IT experience (capability) trumps having a theoretical base (Engelbrecht et al., 2017). The two components of competence echoed the ideas of Cook and Brown (1999; Engelbrecht et al., 2017), who saw it as the difference between knowledge and knowing. Bassellier et al. (2001; Engelbrecht et al., 2017) pursued this approach and identified the split between what people possess and what people do

as reflected by the knowledge and experience concepts. The model proposed by Bassellier et al. (2017) was based on the principle that although a business manager's primary area of expertise may be in an area other than IT, he or she can be classified as competent in IT if he or she possesses some degree of IT knowledge and IT experience (Engelbrecht et al., 2017).

II.2.3 *IT-Project Success*

There is general agreement that project success is a multidimensional construct (Basten et al., 2011; Engelbrecht et al., 2017; Gingnell et al., 2014). Nonetheless, there is a lack of consensus on to how best achieve IT-project success. Project Management Institute guidelines for assessing project success depend on whether the project adhered to planning in terms of being within budget, on schedule, and according to specifications (Engelbrecht et al., 2017). Gingnell et al. (2014) reviewed the literature on IT-project success and identified 21 clusters, including user involvement, executive-management support, clear goals and objectives, project management skills, and internal communication. However, the researchers found that in the literature, project success is generally believed to consist of two main categories of dimensions: those that focus on how the project was managed and those that focus on what the outcomes of the project were in terms of what was expected (Engelbrecht et al., 2017).

Serrador et al. (2014) measured project success against project efficiency. Shenhar et al. (1997) defined and measured project efficiency as time, budget, and scope, with scope having the largest role and an impact on customers and their satisfaction (Serrador et al., 2014), and project success entails achieving broader business and enterprise goals. In the project-management literature, "projects end when they are delivered to the customer" (Serrador et al., 2014 p. 83). They continued, stating, "That is the point at which project management ends. They

do not consider the wider criteria which will affect the project once in use" (Munns & Bjeirmi, 1996; Serrador et al., 2014).

II.2.4 *IT-Project Success: Project vs. Product*

Project success rates are increasing by reports from ICO. However, stakeholders measure project success differently, as project success is no longer defined by the narrow scope that involves project procedures. Shokri-Ghasabeh et al. (2009) found it hard to define project success, specifically quantifying all project success criteria on a unified scale. Project managers believe that they are being paid to manage and produce deliverables. This notion is correct and most likely will not change, but what is changing now is how we measure the success of the deliverables produced (Kerzner et al., 2017). According to Kernzer (2017), companies began establishing success criteria for projects:

- Staying within ±10% of the targeted budget is success.
- Staying within ±15% of the allocated time is acceptable.
- Meeting 95% of the scope and specifications is acceptable, and perhaps the remaining 5% will be completed in a follow-on contract or project.

However, defining success and failure can be difficult because there are degrees of success and failure (Kerzner et al., 2017). The illustration below shows the variation scale on which success and failure can be measured.
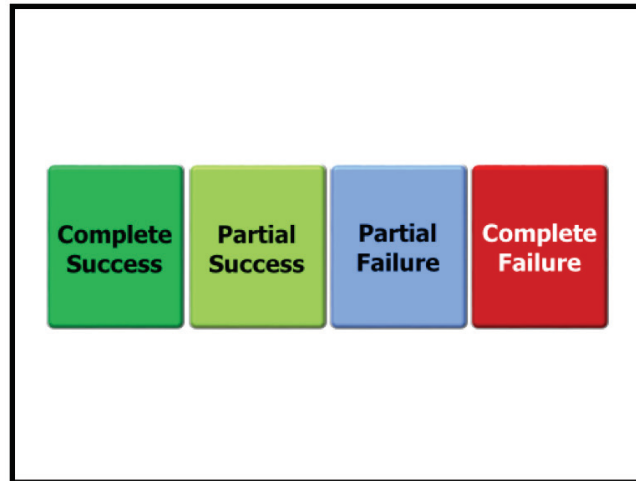
Figure 2 Provide figure description.

The tenets of resource-based theory include the need for companies to have a sustained competitive advantage to survive in their respective industries. The true definition of success is the creation of deliverables that bring sustainable business value to the firm within the competing constraints (Kerzner et al., 2017). Before fully investing in any innovation project, the firm must decide if the innovation will be built on existing core competencies and subsystems or if new ones must be created, which may have a disruptive effect. The result of an innovation, especially successful innovations, can be an enhancement or destruction of existing competencies that are composed of subsystems (Kerzner et al., 2017).

As organizations worldwide constantly strive for a competitive advantage, major tools in pursuing their objectives are well-functioning projects and resulting project organizations (Bernroider, 2010; Lindkvist, 2008; van Donk & Molloy, 2008). Business practice and the quickly growing audit and consulting industries are already relying on extensive control frameworks to provide assurance that business objectives are being met and compliance issues tackled. These frameworks are often driven by IT governance objectives, which play a prominent role in fostering IS project success (Bernroider, 2010; Bowen et al., 2007). It is commonly agreed that projects have a definite start and end and consist of multiple life-cycle stages, and

classically project-management literature defines three major success factors of IT projects: cost, time, and quality (Bernroider, 2010). Another major element to pay attention to is the control exerted on each of these factors. The area of management control forces organizations to implement internal control frameworks and provide evidence for their effectiveness in financial reporting. Accordingly, responsibilities of the board of directors for IT Governance and overall supervision of an organization's information management initiatives have amplified the need for management control systems (Bernroider, 2010; O'Donnell, 2004). Control objectives for information and related technology (CobiT) is a framework used as a supportive tool for managers that allows for the bridging of crucial gaps between technical issues, business risks, and control requirements. All IT-business process managers use CobiT to provide them a model to deliver value to the organization and practice better risk-management practices associated with the IT processes (Simplilearn, 2018). CobiT utilizes a three-level structure, thereby incorporating the concept of drivers and outcome measures. It consists of goals, processes supporting the goals, and activities supporting the processes (Bernroider, 2010). However, despite the recognized importance of IT governance practices (Bowen et al., 2007), empirical and theoretical research on internal-management control over IT projects specifically relating to existing control frameworks, such as CobiT, is scarce, and reported suggestions apart from traditional metrics for project management assessments and measurement are often inconsistent (Bernroider, 2010).

In his study, Bernroider (2010) aimed at adding to the academic library on project-management control frameworks. The researchers used secondary and primary in an empirical survey of the internal control over IT-project management by including CobiT's views on the intended domain of content. A cross-sectional field and Web-based survey was conducted to collect data about the success of IT projects, control systems, and characteristics of CobiT

metrics (Bernroider, 2010). Bernroider concluded that although CobiT's coverage of project-management control assessment factors is underdeveloped and too abstract for specific applications, a few important aspects promoted by CobiT, such as controlling for post implementation reviews, seem to be regularly missing in other studies. Overall, CobiT metrics seem to have a stronger relationship with program management than with the view of individual projects (Bernroider, 2010). Bernroider found that they reflect aggregated views of project management in organizations and thereby fail to appreciate the many individual, relational, and contextual factors that were found to be significant moderators of project-management success. The CobiT framework seems to be a viable yet very generic construct to measure project-management performance with gaps to studies to those with a focus on specific project settings (Bernroider, 2010).

II.2.5 *Role and Impact of External Professional Services Consultants in Enterprise Implementations*

Professional services consultants have various roles, responsibilities, and characteristics relative to internal subject matter experts. At a core level, external professional services consultants focus on prioritizing and optimizing a project's success (i.e., engagement). They have a statement of work executed. The professional services consultant will provide added value, such as functional subject area knowledge; relevant experience and expertise; technology-centric skills in a particular discipline; and interpersonal skills, such as listening, supportiveness, and assertiveness.

The professional services consultant is tasked with meeting many expectations for performance and delivery during the course of an engagement. With external professional services consultants as part of the project team, the lead consultant also has to address expectations that are imposed to deliver a project that employs internal and external resources.

The professional services consultant, who comprehends a project team's behavioral drivers and the impact of expectations, will be in a strategic position to direct resources and deliver on the project's goals and objectives.

Several critical elements are necessary to ensure cohesive working relationships with internal and external resources while working on a project:

1. The project's goals and objectives: Agree on the end result, guiding principles, and how to articulate them to others.

2. Project plan and checkpoints: Agree on phases, activities, tasks, milestones, timing, and dependencies.

3. Roles and responsibilities: Agree on who is responsible and/or accountable for what, when, and how.

4. The vision: Agree on the picture of where the project team is going and what it will be like when it gets there.

5. How to treat others: Agree on differences in people, what motivates them, and how to build a high-performing team.

6. Confirming commitment: Agree on the key people, empowering them, creating ownership, and recognizing their contributions.

7. Communications: Agree on how to keep people informed and how to get the right message across at the right time.

8. Measurements: Agree on what, how, and when to measure to make status and progress toward goals visible.

9. Risk management: Agree on how to be innovative and creative without compromising success.

II.2.6 *Conclusion*

Effective project management (PM) is vital to any software development project's success. In fact, a project's management aspects are typically more critical to its success than the technical aspects (Tesch et al., 2007). Risk is an inherent component of software development projects, as well as implementation projects (Otniel, 2011). Serrador et al. (2014) concluded in their study that project success is a much wider concept than the traditional so-called iron triangle of project efficiency (Atkinson, 1999) and that project efficiency is 60% correlated with stakeholder satisfaction and 56% with overall project success.

III METHODOLOGY

This section examines the qualitative method I applied in the study to address the research problem "What drives relative success of IT Projects?" and the research question "Does the use of consultants vs. internal resources impact the success of implementations?" Sample data, variable measures, and research design were the focal points of the methods' framework. The study was designed to include interviews with various personnel in the IT space who participated in large IT-project implementations. The study participants filled various roles from the executive level to individual-contributor roles in IT practices in the United States, providing a homogenous foundation for a qualitative study. A summary of characteristics for the 18 participants is included Table 1 below. This research employed a multiple-case research design leveraging cross-case analysis to examine the modern real-life phenomenon through the wide-ranging analysis of numerous episodes in the context of explanatory business research (Chandler, 1962).

Table 1 Respondent Matrix

Title	Role	Years in IT Practice	Resource Type	Fortune 500	Project Cost ($)	Bachelor's Degree	Master's Degree	Certification
IT Respondent 1	IT business analyst	5	External	Yes	2,000,000	Yes	No	No
IT Respondent 2	IT business analyst	15	Internal	Yes	-	Yes	No	No
IT Respondent 3	IT business analyst	2	Internal	Yes	-	Yes	Yes	Yes
IT Respondent 4	IT software developer	5	Internal	Yes	5,000,000	Yes	No	No
IT Respondent 5	IT senior manager	20	External	Yes	25,000,000	Yes	Yes	Yes
IT Respondent 6	IT senior manager	25	Internal	Yes	6,000,000	Yes	No	Yes
IT Respondent 7	IT program manager	15	Internal	No	2,000,000	Yes	Yes	Yes
IT Respondent 8	IT Project Manager	23	Internal	Yes	12,000,000	Yes	Yes	No
IT Respondent 9	IT vice president	30	Internal	Yes	-	Yes	Yes	No
IT Respondent 10	IT software developer	12	External	Yes	-	Yes	No	No
IT Respondent 11	IT software developer	10	External	Yes	-	Yes	No	No
IT Respondent 12	IT software developer	14	External	Yes	-	Yes	No	No
IT Respondent 13	management consultant	20	External	Yes	1,600,000,000	Yes	No	No
IT Respondent 14	IT vice president	17	Internal	Yes	5,000,000	Yes	No	No
IT Respondent 15	IT software developer	10	External	Yes	-	Yes	No	No
IT Respondent 16	IT software developer	8	External	Yes	-	Yes	No	No
IT Respondent 17	IT senior manager	30	Internal	Yes	-	Yes	No	No
IT Respondent 18	management consultant	25	External	Yes	-	Yes	No	No

III.1 Data Collection

The study's primary data source was an empirical investigation, which focused on

interviews with 18 professionals who are currently engaged in large IT-system implementations

or were direct contributors to the implementations. The roles ranged from executive roles to individual contributors. Data points such as firm revenue and number of employees will be measured. I plan to test for differences in costs and benefits between the two groups (internal and external).

Interview Questions

Project Name: *<Project Name>*

Date: *<YYYY/MM/DD>*

QUESTIONS	RATING	COMMENTS
PRODUCT EFFECTIVENESS		
How well does the product or service the project produced meet the defined project requirements?		
How well does the product or service the project produced meet your needs?		
To what extent were the objectives and goals outlined in the business case met?		
What is your overall assessment of this project's outcome?		
COST/SCOPE/SCHEDULE/QUALITY MANAGEMENT		
How well did the project's scope match what was defined in the project proposal?		
How satisfied are you with your involvement in the development and/or review of the project scope during project initiation and planning?		

Project Name: *<Project Name>*

Date: *<YYYY/MM/DD>*

QUESTIONS	RATING	COMMENTS
Was the change control process properly implemented to manage changes to cost, scope, schedule, and quality?		
Were changes in cost, scope, schedule, and quality effectively managed?		
Was project performance validated or challenged? If yes, were the estimates effectively revised, and were current and future tasks rescheduled?		
How closely did the initial project schedule align with the actual schedule?		
How did the estimated project budget align with the total actual expenditures?		
How effectively was the quality-management plan applied during project execution?		
How effective was the quality assurance process?		
How effective were project audits?		
How effective were best practices & lessons learned from prior projects utilized in this project?		
RISK MANAGEMENT		
How much were team members involved in the risk identification and mitigation-planning process?		

Project Name: *<Project Name>*

Date: *<YYYY/MM/DD>*

QUESTIONS	RATING	COMMENTS
To what extent was the evolution of risks communicated?		
How accurate was the risk management plan/log?		
How accurately and timely was the risk management log updated or reviewed?		
COMMUNICATION MANAGEMENT		
How effectively did the communication materials orientate team members regarding the project's details?		
How satisfied were you with the kickoff meetings you participated in?		
How efficient were project team meetings?		
How timely were progress reports provided to the project manager by team members?		
How actively and meaningfully were stakeholders involved in the project?		
Were stakeholder communications adequate and effective?		
How well were your expectations met regarding the frequency and content of information that the project manager conveyed to you?		
How well was project status communicated throughout your involvement in the project?		

Project Name: *<Project Name>*

Date: *<YYYY/MM/DD>*

QUESTIONS	RATING	COMMENTS
How well were project issues communicated throughout your involvement in the project?		
How well did the project manager respond to your questions or comments related to the project?		
How useful was the project status report's format and content to you?		
How useful and complete was the project's document repository?		
-ACCEPTANCE MANAGEMENT		
How effective was the acceptance-management process?		
How well-prepared were you to receive project deliverables?		
How well-defined was the acceptance criteria for project deliverables?		
Was sufficient time allocated to review project deliverables?		
How closely did deliverables match what was defined in the project scope?		
How complete and timely were the materials you were provided to decide whether to proceed from one project life cycle phase to the next? If materials were lacking, please elaborate.		
ORGANIZATIONAL CHANGE MANAGEMENT		

Project Name: *<Project Name>*

Date: *<YYYY/MM/DD>*

QUESTIONS	RATING	COMMENTS
How effectively and timely was the organizational change's impact identified and planned for?		
Was sufficient advance training conducted and/or information provided to enable those affected by the changes to adjust to and accommodate them?		
Overall, how effective were the efforts to prepare you and your organization for the impact of the project's product/service?		
How effective were the techniques used to prepare you and your organization for the impact of the changes brought about by the product or service produced by the project?		
ISSUE MANAGEMENT		
How effectively were issues managed in the project?		
How effectively were issues resolved before escalation was necessary?		
If issue escalation was required, how effectively were issues resolved?		
How effectively were issues resolved without influencing the project schedule or budget?		
PRODUCT IMPLEMENTATION & SUPPORT		
How effective was the documentation that you received with the project product/service?		

Project Name: *<Project Name>*

Date: *<YYYY/MM/DD>*

QUESTIONS	RATING	COMMENTS
How effective was the training you received in preparation for the use of the product/service?		
How useful was the content of the training you received in preparation for the use of the product/service?		
How timely was the training you received in preparation for the use of the product/service?		
How effective was the support you received during implementation of the product/service?		
PERFORMANCE OF THE ORGANIZATION		
How effectively and consistently was sponsorship for the project conveyed?		
PERFORMANCE OF THE PROJECT TEAM		
Overall, how effective was the project manager's performance?		
How well did the project team understand the expectations of their specific roles and responsibilities?		
How well were your expectations met regarding the extent of your involvement in the project (effort, time commitments, etc.)?		
How effectively did each project team member fulfill his/her role?		

QUESTIONS	RATING	COMMENTS
Project Name: *<Project Name>* **Date:** *<YYYY/MM/DD>*		
How effective was project team member training?		
GENERAL QUESTIONS		
What were the most significant issues in this project?		
What were the lessons learned on this project?		
What in the project worked well and was effective in the delivery of the product?		
What other questions should we have asked? What other information would you like to provide us about this project?		

III.2 Data Analysis

To analyze the data, NVivo software was used to conduct the qualitative data analysis and create complex groupings. The results provided relevancy and similarities using cross-case analysis, which highlighted any patterns emerging from the data collection. The purpose of using a tool such as NVivo for qualitative research is to further interpret and understand the logic of what the respondents think it means to make IT systems implementations successful. All respondents will execute the qualitative method of data collection in full anonymity.

III.3 Conceptual Framework

The framework consists of the four core variables shown in the table below. The first independent variable focuses on implementation resources moderated by two control variables, which are project life cycles and project implementation strategy. The second independent variable is end-user benefits, which portray the qualitative output of IT-system implementations from the audience using the software and/or product developed from the implementation and project. The other independent variables are time and cost, which display the rigor of the management principles applied throughout the duration of the project. The theme and focus of the study is the dependent variable, which is IT-project success. All the other variables in this study are directly inputted to determine the output of a successful implementation regarding quality and finances.
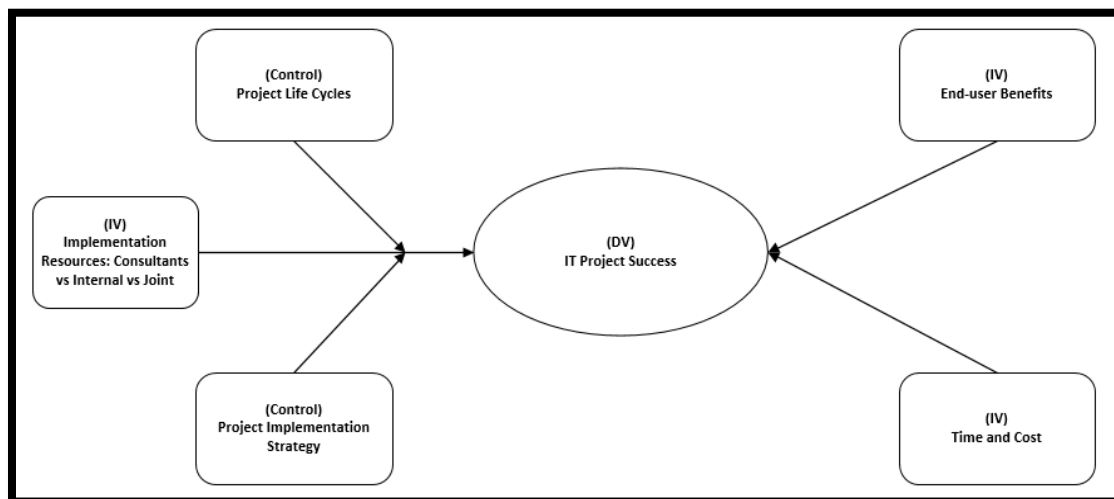

Figure 3 Figure description.

III.4 Variables

III.4.1 *Implementation Resources: Consultants vs. Internal*

In this section, I aim to show the detailed advantages and disadvantages of using the implementation resource options and which option will yield the most successful attributes to contribute to a higher probability of IT-project success.

III.4.1.1 Consultants

Choosing from among multiple external consultants can provide many competitive advantages for a project. The external-consulting company leverages resources from other firms' and projects' previous implementations and applies similar key learnings to the current engagement, which ideally should provide the buyer a fiscal advantage. Research has shown that clients have more confidence in external consultants than in internal consultants. The function often demands an inquisitive and firm hand, a role that external advisors frequently fill and one more difficult for internal advisors to fill. They possibly have just as much expertise, but as employees in an organization, it is conceivably harder for internal consultants to be independent—or to be considered independent—than for external advisors ("External vs Internal Consultants," n.d.).

III.4.1.2 Internal

An internal resource is, at first glance, just like an external consultant: a professional who is hired to solve an organizational problem and implement the solutions to improve an organization's performance. Both types of consultants work in all possible management and organizational areas, including strategic planning, mergers and acquisitions, finance, organization efficiency, process improvement, and technology. Comparable to external consultants, their sometimes competing internal colleagues can also function as advisors, change

agents, execution facilitators, coaches, or trainers. The difference lies in the relationship with the client organization; internal consultants are on the payroll or limit themselves to a full-time advisory role in one organization ("External vs Internal Consultants," n.d.).

III.4.2 *Project Life Cycles and Project Implementation Strategy*

The control variables will be researched to display the management style of the phenomena of what is most likely to deliver IT-project success. When one starts a project in the ideation or initiating phase of an engagement, selecting the right project management methodology is core to the downstream success. Project managers can help their clients and/or organizations with the most applicable implementation approach, which will reduce risk.

Several project management methodologies and variations are available, but two main methodologies are relevant to IT-system implementations that Waterfall and Agile adopted. Waterfall is sequential in nature and is used across many industries, most commonly in software development. Waterfall has gates and phases (requirement analysis, design, testing, implementation, and maintenance) that are executed in a specific order. It allows for increased control throughout each phase but can be highly inflexible if a project's scope changes after it is already under way. It offers a more formal planning stage that may increase the chances of capturing all project requirements up front, reducing the loss of any key information and requirements in the initial stages (Alexander, 2018).
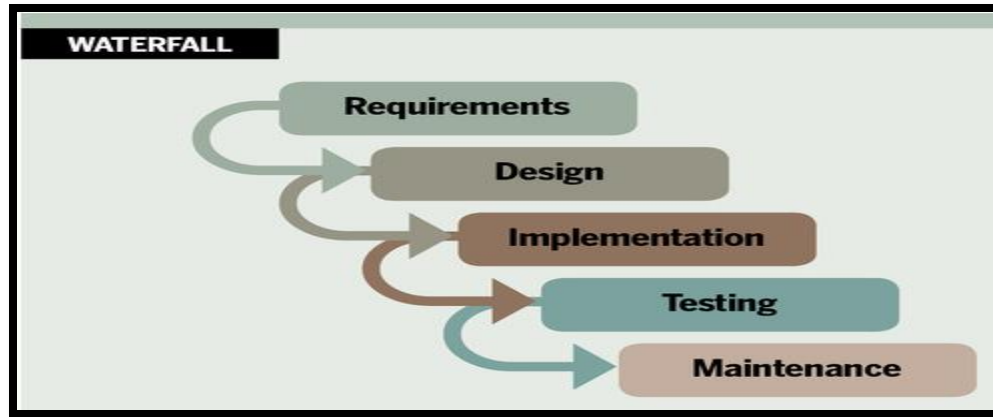
Figure 4 Figure description.

Agile takes a significantly different approach to project management. It was initially

developed for projects that require significant flexibility and speed. To achieve those goals, agile

is composed of short delivery cycles, or "sprints." It may be best suited for projects requiring less

control and real-time communication in self-motivated team settings. As a project management

methodology, agile is highly interactive, allowing for rapid adjustments throughout a project. It

is commonly used in software development projects in large part because it makes it easier to

identify issues quickly and make modifications early in the development process rather than

having to wait until testing is complete. Agile offers repeatable processes, reduces risk, allows

for immediate feedback, provides fast turnaround, and reduces complexity (Alexander, 2018).
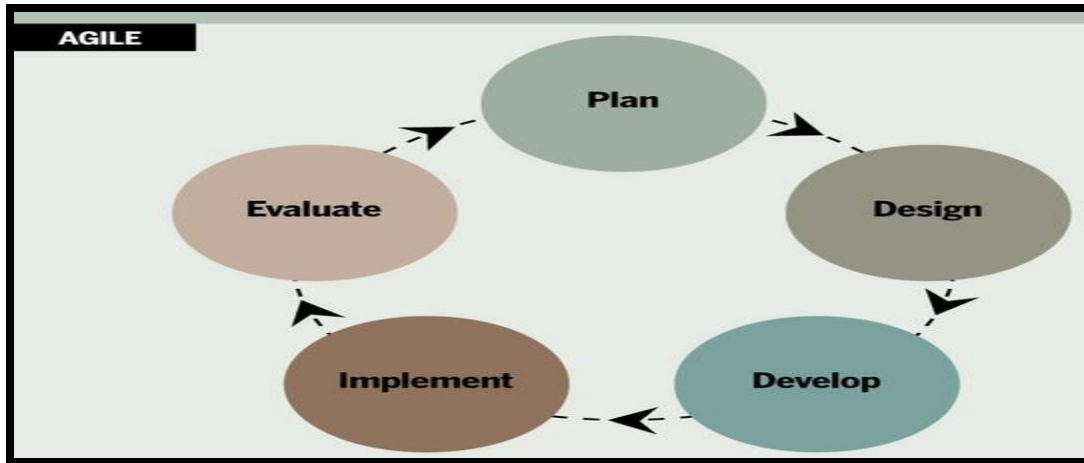
Figure 5 Figure description.

III.4.3 *End-User Benefits*

Many implementations fail to introduce the end-users at the start of the project. The reason for a project is the need usually presented by most companies' core business. When the business case is approved, as is the purpose of this study focused on IT-system implementations, the IT department will determine whether the solution can be developed in-house. If the solution cannot be derived internally, the IT leadership will determine if a COTS (commercial off-the-shelf) solution is readily available. If so, an RFI and RFP, selection of the vendor will take place, and the sales cycle will begin. A license will be purchased, and the implementation team will execute the project.

Similarly, if a COTS solution is not available, a bespoke solution will be created following the same process described above to meet the end-users' needs and demands. Training is important for the end-users. This is a new tool and/or process that will affect their daily routines and current processes. It is imperative the end-users are included in all of the phases of the project to ensure the requirements are being met throughout the project.

Involvement of end-users from the project's start has a great impact on success in terms of monetary and nonmonetary scales. Software is used to optimize the business process. The consumer-user experience is setting the standard for business software.

III.4.3.1 Three pillars of great design innovation

People (desirability) > business (viability) > technology (feasibility). These three groups work as a team. They should always think together to design the best solution, and no group should dominate over the others. Design thinking is a combination of user desirability, which has business values and is feasible under technology. Many implementations ignore user involvement due to time and funding constrictions, but statistics show that user involvement from the initial stage of implementation results in more adaptability and a better solution ("Benefits of End Users' Involvement in Project Implementation," n.d.).

III.4.3.2 Facts: Monetary Benefits

- Gaining productivity: A few corporations (including Whirlpool, Ford, Nike, Apple, Coca-Cola, IBM, Disney, P&G, and Starbucks), which focus on design-thinking/user experience, are experiencing consolidated average growth 228% higher than that of the S&P index ("Benefits of End Users' Involvement in Project Implementation," n.d.).

- Decreasing user errors: A 30-day project concerning SAP screen personas reduced the number of screens from seven to three and the number of clicks from 45 to 26. At the end of the project, the end users told us, "Wow," "Great," "Thank you, IT organization." The project has resolved seven of their 10 common errors and issues, leading to a 70% decrease in IT incidents in the specific business process ("Benefits of End Users' Involvement in Project Implementation," n.d.).

- Saving training costs: On average, 3,000 new people join our partner organization every 18 months. They take 2 days to get trained, primarily on how to work with the system. Imagine if one could reduce this training period to 1 day or even half a day. One can easily calculate how much money could be saved ("Benefits of End Users' Involvement in Project Implementation," n.d.).
- Decreasing change requests: Unilever gets on average dozens, sometimes hundreds, of change requests when they release a new solution to the business. They applied design-

thinking methodology and user-centered design in a certain project during the implementation project. At the end of the project, they had on average only seven change requests ("Benefits of End Users' Involvement in Project Implementation," n.d.).

III.4.3.3 Facts: Nonmonetary Benefits

- User satisfaction
- New-generation user involvement
- User productivity
- Strengthened relationship between IT and business user
- Increased solution adoption
- Increased customer loyalty

III.4.4 *Time and Cost*

In all projects, regardless of the implementation methodology, baselines must be set, such as budget baselines, schedule baselines, scope baselines, and quality baselines. Schedule and budget are the focus of this post, and the term's activity and work elements are synonymous. Schedule and cost (budget) are two of the major legs of the project-constraint polygon. Without the schedule and budget baseline plans, one does not know where the project stands relative to the planned schedule progress or planned budget performance (Scott, n.d.). The time and cost of this research will directly affect the outcomes of a successful IT-system implementation.

In project management, the project schedule is a document that, if properly prepared, is usable in planning, execution, monitoring/controlling, and communicating the scope's delivery to the stakeholders. The main purpose of project scheduling is to represent the plan to deliver the project scope over time. A project schedule, in its simplest form, could be a chart of work elements with associated dates when work elements and milestones (usually the completion of a deliverable) are planned to occur. In addition to guiding the work, the project schedule is used to communicate to all stakeholders when certain work elements and project events are expected to

be accomplished. The project schedule is also the tool that links the project elements of work to the resources needed to accomplish that work (Scott, n.d.).

In the Project Management Body of Knowledge Guide® world, developing a project budget involves two processes. The first is estimating cost, which is often confused with the budget determination process. Both processes are normally preceded by a project management team planning process, which is executed as part of the developed project management plan. This planning process is known as project-cost management or the cost management plan, which outlines the processes involved in determining organizational cost categories, estimating, budgeting, and controlling cost so the project can be executed within the approved budget (Scott, n.d.).

III.4.5 *IT-Project Success*

The outcome of project success in this study will be fed by all of the independent and control variables, the participants' survey responses, and interview results to summarize the attributes that make a project successful. Often, if a project closes on schedule and on budget, practitioners and professionals consider it a success. This study is also intended to track downstream cross-functional impacts that measure quality and fiscal scalability for a period of time after the implementation to measure continuous success and determine what sustains success in the operative mode.

IV   RESULTS

In this section, I describe the details of the in-depth qualitative interviews and the subsequent findings in relation to the research problem ("What drives the relative success of IT projects?") and the research question ("Does the use of consultants versus internal resources impact the success of implementations?"). I interviewed nine professional services consultants (seller) and nine internal resources (buyer). My interviews were structured in 10 areas focused on IT project implementations; product/service effectiveness, cost/scope/schedule/quality management, risk management, communication management, acceptance management, organizational change management, issue management, product implementation and support, performance of the organization, and performance of the project team.

The research of the data collected shows that the respondents had more to share on cost/scope/quality management, communication management, risk management, acceptance management, and issue management.

IV.1   Themes on the Role and Impact of External Services Consultants

What is often not well understood or clarified is that accompanying the project's goals and objectives is a set of "expectations"—often undocumented—regarding what the client actually looks forward to receiving from the consultant as the day-to-day work is carried out. The following factors influence these expectations: the scope, nature, and complexity of the engagement; the amount of fees paid and value received; and the mix of staffing of external and internal resources. They may include the following consultant capabilities to:

1. Quickly engage in and deliver value to the project effort,

2. Develop and maintain a satisfactory relationship with client personnel,

3. Develop and maintain a communications process to support the relationship as well as to establish and manage expectations as appropriate, and follow up as needed,

4. Deliver results, and demonstrate an understanding of the importance of doing so,

5. Clarify roles and responsibilities so that project participants know what to do, by when, how, and with whom,

6. Listen to feedback, leverage consensus, and change to the correct course when appropriate,

7. Act respectfully toward client personnel, customers, suppliers, and other third parties with whom the consultant may come into contact, and

8. Focus on the assignment at hand, and add value as much as possible from start to completion.

The increased likelihood of success stemming from the consultants' direct value covers several traits, such as leadership, decision-making, knowledge, planning, influencing, negotiation, meeting management, communication, and effective partner management.

Knowledge: Understand the scientific rationale and technical issues associated with the project target and lead agents (small molecule or biologic), with the clinical and market drivers, and with the processes and progression criteria associated with the stage of discovery or development.

Planning: The professional services consultant is responsible for developing a project plan that works to achieve progression criteria using sound scientific processes in the shortest amount of time possible with the least cost. The professional services consultant must challenge work that is not directly related to the critical path. The professional services consultant negotiates the approval of the project plan with management. In addition, he or she ensures that

the plan is re-evaluated, adjusted, and re-negotiated at regular intervals, or when internal data or external information suggests that the timeline may slip or that certain objectives may not be met.

IT Respondent 13, an external professional services consultant, stated, "The first part was the planning. To me, that's one of the most important parts, is laying out the plan, understanding exactly ... the communication being keyed between the business and the partner as to what is required. Breaking that down into each process and every step in the process, and that's where the as is and the to be swim lane type diagrams came in to identify the gaps."

Influencing: The professional services consultant should make sure that all team members and their line managers and key stakeholders support the project. The term "herding cats" is appropriate here.

Negotiation: The professional services consultant may need to interact directly with line managers to ensure that resources are available when needed and to negotiate amendments to the project plan, especially those that change deliverable completion dates.

Meeting Management: The professional services consultant is responsible for organizing, facilitating, and ensuring follow-up action on issues raised in the meeting. When required, the EC will organize a corporate scientific program review.

Communication: The professional services consultant must keep team members and stakeholders informed of key developments, program decisions, issues, and changes to the project and the project plan. He or she must also provide timely reporting in any corporate project reporting system or to any corporate review board. Furthermore, he or she should promote and support the external presentation of the scientific advances that the team makes, as well as provide relevant information to legal or regulatory groups as required.

IT Respondent 6, an external professional services consultant, stated, "When you go from being met with objection to people embracing your methodology and really using it, that is a beautiful thing, because the one thing I do.... A little more information than you need, but the one thing I do is I take risk and quality programs, and I make sure people know that these are communication tools. They are tools to find gaps, deficiencies, and risks to respond to them before they happen and become problems, but they're also things that ... They're the tools and techniques that can be used to communicate a need in order for the organization and the project manager to be successful. If the project manager does not communicate that they have a resource need or some other type of need, budget, resource, time, some type of constraint, then guess what? When they fail, they fail alone. But if they communicate their needs ahead of time to senior leadership, it gives them the opportunity to engage and support and assist, which is what leaders like to do, so they don't fail alone, if there is a failure."

IT Respondent 7, an internal advisor, stated "Some of the attributes for success, like I said, like having a[n] expert is always essential. You know? I would say communication is the heart of the success. You know? And then I would say having a post implementation strategy in place. Sometimes what happens is after implementation, you don't have a strategy or plan for post implementation. I would say you need to have that in place as well. That actually adds value to the success of your project."

Effective Partner Management: Support for the project from the partner may be reported by way of an employee of the partnering organization who serves as an actual team member, or through regular communications that the corporate alliance management group manages. The extent to which functions of the team are outsourced will determine the extent to which proper alliance management is critical for an adequately functioning project team. IT Respondent 17, an

internal advisor, stated, "I think that, and in my experience, the success or failure of issues in risk

management is as much on the people as it is the risk or issue itself. I did have an encounter

when I was on the XXX project where I brought issues to the Project Manager who was part of

the XXX company, not one of the XXX's, and not XXX the consulting firm. But I brought a

couple issues to the Project Manager, and some of my team members brought issues to the same

Project manager, and it's something I will never forget, and it's something that I've taken as a

learning because the Project Manager said, 'I don't talk to those people. I don't talk to

Programmers. I don't talk to Analysts.' And I thought to myself, 'Well, holy crap! We've got a

real issue here that we need you, or at least your help, to resolve and you won't even talk to us.' I

think that was more of a particular person thing than it was anything else. It was that particular

person."

Figure 6. Word cloud from IT respondents.

Throughout the various discussions with the IT respondents, I also learned about

opportunities for internal advisors. IT Respondent 17, an internal advisor stated, "External

professional services consultants need to understand that my position is more vulnerable, fragile,

and sensitive due to the culture within my company. It's more risky for me to share certain

feedback as an employee vs. if I were a consultant. External consultants provide value added independent feedback and guidance, where the internal leadership will not react to the same message when delivered by me as an internal employee." In summary, this is message for professional services consultants to leverage communication opportunities from their internal teammates and to align on a unified delivery model to stakeholders and management.

IV.2 Product/Service Effectiveness

The implementation of new hardware and/or software systems, or the upgrading of existing ones, is a complex process and is becoming more so as computer applications and networks are expected to interface and exchange greater amounts of information. Fewer software applications are expected to "stand alone" and not be connected to other applications or databases. Business needs are increasingly complex and require greater attention to the details of how an application can best be used. In addition, project management is being used more formally in IT organizations to handle these implementations. As with any industry, though, IT must find how to form project management processes and tools that best serve its particular needs (Whiteaker, 2000).

IT Respondent 14 expressed, "Yes, I was satisfied. I think that was based on the fact that the technology, or the solution that we provided, I will say, met and exceeded the expectation. As I mentioned in the beginning, not only were we able to reduce the single point of failure, we were able to maintain and go through our regular planned or unplanned maintenance with almost zero down time. The solution also provided the level of redundancy and high availability that was another, I wouldn't say accident, but that was a by-product of the solution that we were trying to resolve the most important."

The high rate of IT project failures and the increasing dependency of organizations on their IS/IT divisions make it critical that effective tools and methods be developed and used for these projects. Also, the system analyst or another IS staff member often names the project manager, and this person has little project management training or background. IT implementation projects are, more often than not, on a tight time constraint as well due to pressing business needs (Whiteaker, 2000).

In this section, I discuss and present various examples:

• A variety of tools and methods that have proved to be effective for IS/IT hardware and software system implementation projects. These tools and methods have been developed from a wide variety of IS/IT projects ranging from the installation or replacement of human resource management applications to hospital patient clinical applications (Whiteaker, 2000).

• How the PMBOK® Guide can guide us in creating effective tools in communicating project information

• Project success factors identified in various research studies in IS projects will also be listed, along with tools or methods that help to realize these success factors within an implementation project.

Project teams wherein these tools have been used have responded very positively. They stated that they appreciated the simple yet clear and complete method of giving them the information they needed.

An IS/IT implementation project involves the installing of a new software product, the upgrading of an existing one, or conversion to a different product, into the information services system within an organization. Typically, this includes the purchase or licensing of a preexisting software product rather than development, and it will often include the purchase of new,

networked servers and/or desktop workstations or other hardware. The information services department within an organization is expected to assist in, or even take full responsibility for, the placing of this new product into service as well as supporting and maintaining it after implementation.

The tools and methods for IS/IT implementation projects are different from those best used for software development projects, as implementation projects face different challenges. A typical system implementation requires resources from a variety of special areas, including programming and interfacing, networking, hardware deployment or technical support, the end user(s), and education or training. These specialties may reside inside or outside of the information services department. Implementation projects also include IS staff for analysis and selection purposes, as well as the client and other stakeholders. These resources are usually shared across the organization and with other projects. It is rare in IS/IT implementation projects to have dedicated resources. It is essential that all of these team members can work together efficiently and that they clearly understand the project's tasks, responsibilities, scope, and status, as well as their respective roles.

Why Good Tools and Processes Are Needed

IS/IT departments within organizations are typically kept very busy with the routine maintenance and support of products and hardware already in production, as well as with assisting end-users with reporting, training, and many other functions. Consequently, new projects often get blended into the daily work, with the result being that there is poor organization or planning around the scope or needs of the project. Creating and using good tools and processes will provide the following:

• Add structure to defining the goal and objectives from the beginning.

    • Define the beginning of the project, and formally recognize it is as something new (as distinct from part of the ongoing maintenance and support).

    • Define the end and deliverables of the project to ensure the transition from the project to maintenance.

    • Specify the client, stakeholders, and resources for the project (Whiteaker, 2000).
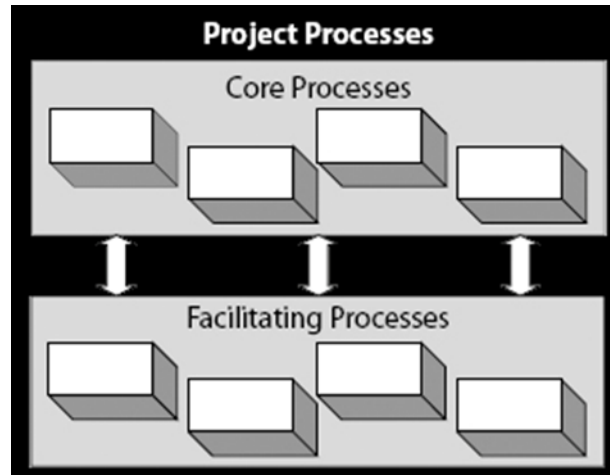

Figure 7. Project processes (White Aker, 2000)
• Place the project in its own context outside of the day-to-day work of the IS/IT department.

    Studies on IS/IT projects have documented a low success rate industrywide and have pointed out the need for finding and using appropriate processes and techniques for improving this situation. Project management methodologies are being increasingly applied in the industry to remedy this problem. As with any industry, though, IS/IT has its unique characteristics and needs in applying the project management discipline. Typically, time is a critical element, as business needs are awaiting a new information flow. Other factors shown to have a high correlation with IS/IT project success include:

• Good communications

• User involvement

• Clear statement of requirements and user needs

• Proper planning

• Smaller project milestones (and closer monitoring of project progress)

• Clear vision and objectives

• Proper scope definition

• Clearly defined process

• Managing expectations

• Customer focus

Project Scope Statement

Project Leader:	
Department:	Date:
Project Sponsor:	ID#:

Justification (business need, business problem:)
-
-

Product & Deliverables (functional/technical):
-
-

Objectives (measurable):
Time:
-
Costs:
-

Resources (IS, vendor, client):
-
-

Exclusions:
-
-

Constraints:
-
-

Assumptions:
-
-

Major Risks:
-
-

Figure 8 Bullet point scope statement (Whiteaker, 2000).

The respondents, although with a 50% variation (internal vs. external), all felt that the effectiveness of the end product was tied to the implementation style and methodology followed in the project. These success factors can be more easily achieved within IS implementation projects via the development and use of tools designed to create clear and focused communications about all aspects of the project with a diverse project team.

Development of Effective Tools and Methods

Project management core processes are supported by the facilitating processes (Exhibit 1), which function to provide the input and analysis necessary to arrive at the final project decisions, including the scope, resources, schedule, and so on (PMBOK® Guide, pp. 30–35). The proactive use of these facilitating processes is an important, even essential, step in achieving the success factors. It is also where many of the tools and methods presented below have their biggest impact.

In IS/IT projects, clearly identifying the goals and objectives, maintaining client involvement, justifying resources, and communicating effectively are essential ingredients. Projects are often requested by customers who have rather vague expectations for the end product. When such a project is presented to the IS department staff, the result can easily be two different understandings of what can and cannot be done, or what the needs and expectations are. The result is dissatisfaction on both sides, and a project that fails to fulfill the needs.

Most of the tools presented here are also graphic or visual in nature. There is a good reason for this. Because IS/IT system implementation can become very complex, interweaving both technical and business needs, visual communication tools have proved to be very effective for both technical and business project team members (Whiteaker, 2000). These statements from the PMBOK® Guide form the basis for this approach:

"Identifying the informational needs of the stakeholders and determining a suitable means of meeting those needs is an important factor for project success…. Project resources should be expended only on communicating information which contributes to success or where lack of communication can lead to failure" (PMBOK® Guide, p. 105). "The sender is responsible for making the information clear, unambiguous, and complete so that the receiver can receive it correctly and for confirming that it is properly understood" (PMBOK® Guide, p. 107) (emphasis added).
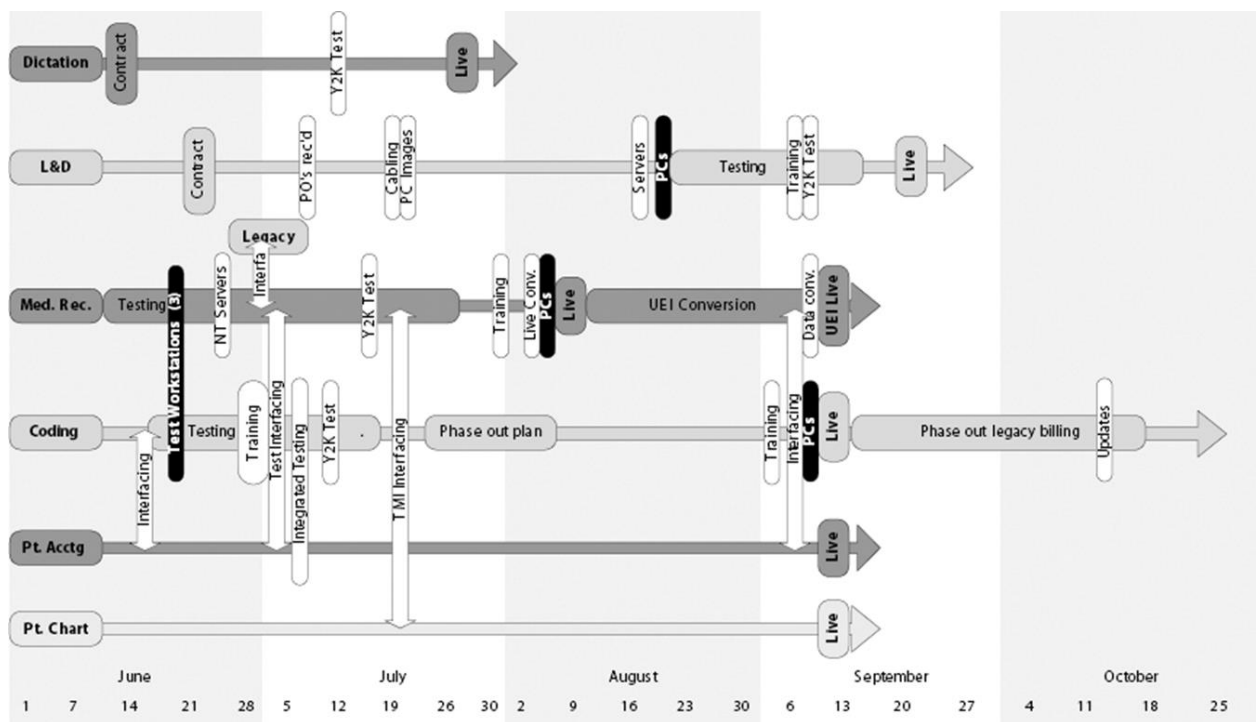
Figure 8. Multiple projects overlap (Whiteaker, 2000).

IV.3 Cost/Scope/Schedule/Quality Management

IT Respondent 14 expressed, "The project manager provided the leadership that I will say was hands-off where once we worked very hard during the planning to create very measured objectives. We had a plan that created a pretty good imprint for our execution. So we did a very, very good job of planning, which helped us, I guess cushion our work flow seamlessly."

What makes a project successful? Customer satisfaction? Being on time? Minimizing changes? Being on budget? This question is well answered whenever a reference to "management by projects" is made. Management by projects is an organizational model, which is adopted among those organizations that recognize that their ability to produce value for stakeholders depends greatly on their ability to execute good projects. In this approach, the interest is shifted from the limited ability to deliver the product of the project, to an expanded view in which projects are deemed enablers for change and associated organizational benefits; then, the interest is shifted to a view in which project portfolios are deemed a way in which the organization translates its strategic plan into tangible efforts.

In this view, projects, programs, and project portfolios represent a space for connected levels of organizational project management, in which project management practices are complemented with the practices of benefits identification, planning, delivering, and tracking (program management), as well as practices dealing with the goal of maximizing capital investment in comparison with the value that a project portfolio represents. According to Morris and Pinto (2004), as shown in Exhibit 1, project success spans a continuum in which project management success ("Was the project done right?") is complemented by project success ("Was the right project done?"), to project portfolio management success ("Were the right projects done time after time?").

Figure 9 The three levels of project success.

Consideration should be given to the fact that for each of these levels, project success is measured with numerical indicators related to the "external projection" of the project (in line with the semantics of the project). Project management success may be measured in terms of cumulative values of the earned value methods, the cost performance index (CPI), and schedule performance index (SPI). Project success may be measured in terms of benefits—changes in numeric values related to the business when the project's product has been delivered and incorporated into the organization's practices and procedures. Project portfolio management success may be measured in terms of the distance of the active project portfolio from the efficient frontier—the curve whose points represent the portfolio structure delivering the maximum value for each value of the invested capital (Levine, 2005). Popular project management standards are quite well aligned with this view of project success.

The Project Management Institute's (PMI) *A Guide to the Project Management Body of Knowledge* (PMBOK® Guide) (PMI, 2008) depicts (Exhibit 2) the distribution of various levels of project success:

Table 2 Levels of Project Success According to the PMBOK® Guide—Fourth Edition

	PROJECTS	PROGRAMS	PORTFOLIOS
Success	Success is measured by product and project quality, timeliness, budget compliance, and degree of customer satisfaction.	Program managers manage the program staff and the project managers; they provide vision and overall leadership.	Success is measured in terms of aggregate performance of portfolio components.

The Organization for Government Commerce (OGC) in its *Managing Successful Projects with Prince2* (OGC, 2009) holds the project manager accountable for remaining in the tolerances assigned in the project definition (project management success), and leaves to post-project activities the task of tracking and measuring project benefits (project success). In *Managing Successful Programs* (OGC, 2008) a clear definition is also made for program success in terms of the ability to derive from project outputs specific outcomes that, in turn, produce changes perceived as measurable benefits.

The International Project Management Association (IPMA), in its IPMA Competence Baseline (IPMA, 2006), states that project success relates strictly to project management success as the ability to deliver the project's product in scope, time, cost, and quality. Then, a general consensus has been reached on what constitutes project management success and the "external" nature of the indicators chosen to measure and evaluate project management success. In the following sections, integration into this view will be proposed. Defining "successful project management," an endeavor hitting targets related to the "external projection" of the project, might be restrictive. If consideration is given to the fact that the project manager during his or her limited and temporary tenure deals mainly with the project team, made up of individuals, each of them bringing inclinations, attitudes, and expectations, then other goals may be defined for "successful project management," related to the "internal projection" of the project.

There was full consensus from all of the participants of the study, whether they were consultants or internal resources, that indicated that in the projects, teamwork and collaboration were key to ensuring that the quality was high. The quality had a direct impact on the overall cost and scope, which influenced the schedule of the implementation. All of the study participants unanimously agreed to the cross-pollination of teamwork, and effectiveness communication had a direct impact on the final outcome of the schedule. Based on the implementation type (Waterfall or Agile), the quality requirements at the beginning of the project were crucial. All respondents aligned on "hitting the ground early, incorporating all levels of in discussions" (Respondent 1). One of the respondents noted that he used PRINCE2 as the methodology of choice for implementing his technology solution, and it helped to increase the end-to-end quality and communication within the organization, thus positively affecting all end users of the solution.

IV.3.1 *Managing Successful Projects with PRINCE2*

PRINCE2 preliminarily states that some areas of project management are not in its scope (OGC, 2009). Among them is human resource management, (e.g., motivation, delegation, and leadership), for which it states that "for this reason, PRINCE2 cannot address this aspect of project management directly" (OGC, 2009, p. 7). There are no references to "soft" factors in PRINCE2 processes, not even in the managing product delivery process, where the emphasis is placed on the clear assignment of tasks, agreed-upon criteria for work completion, and the acceptance of deliverables. Among PRINCE2 themes, the organization theme is mainly focused on role definition, delegation, and management by exception, and there is no reference to "soft" factors. In particular, the primary responsibility of the project manager is "to ensure that the project produces the required products, in accordance with the time, cost, quality, risk, and

benefit performance goals" (OGC, 2009, p. 33), and the primary responsibility of the team manager is "to delivering the project's products to an appropriate quality, within a specified time scale and cost" (OGC, 2009, p. 34).

In summary, PRINCE2 preliminary excludes from its scope "soft" factors, and coherently, these factors are not mentioned explicitly in any of its processes.

IV.3.2 *The IPMA Competence Baseline*

The IPMA Competence Baseline (ICB) is definitely oriented to an assessment of project management competencies that are defined as the sets of knowledge, attitudes, skills, and experience needed to make good project management (IPMA, 2006). In this approach, the ICB states that "the optimum situation for a project organisation is that all the people, the project teams and resource providers involved in project management are competent to carry out their work on to take individual responsibility" (IPMA, 2006, pp. 2–3). The ICB collects 46 project management competencies into three domains, which constitute the so called "competence eye." In the technical domain, competence of 1.06 Project Organization recalls the need for leadership and direction, and the competence of 1.07 Teamwork recalls the need to build and maintain the team using motivation and socialization, exploiting the added value of cultural, educational, and attitudinal differences. In the behavioral domain, the competence of 2.01 Leadership recalls the need to motivate team members, and the competence of 2.02 Engagement and Motivation recalls the need for motivation as a result of teamwork and integration among diverse disciplines. No reference to "soft" factors is found in the contextual domain.

In synthesis, the ICB points out some of the "soft" factors; however, there is no mention of the existence of a constrained environment for their management.

IV.3.3 *The Project Management Competency Development Framework*

The Project Management Competency Development Framework (PMCDF) is definitely oriented to an assessment of project management competencies to develop improvement plans and career paths (PMI, 2007). It is focused on the individual, not on the actions that the project manager should execute; however, it gives some ideas about the basic elements needed to execute good project management, which are structured into competence domains (technical, personal, and performance), competence units, and competence elements.

In relation to the domain of personal competences, the competence unit of 7.0 Leading points to some "soft" factors. It recalls the need for climate creation ("Creates a team environment that promotes high performance") (PMI, 2007, p. 28); for teamwork ("Encourage team work consistently") (PMI, 2007, p. 28); and for respecting diversity ("Examples of creative actions taken to encourage teamwork, respect for different opinions and personalities") (PMI, 2007, p. 28).

Similarly, the competence unit of 8.0 Managing recalls the need for team building ("Builds and maintains the project team") (PMI, 2007, p. 30) and facilitating socialization ("Maintains a positive attitude and effective relationships among team members") (PMI, 2007, p. 30), with an approach focused on exploiting others' inputs and experience ("Genuinely valuing input and expertise of others on the team") (PMI, 2007, p. 30).

Competence unit of 11.0 Professionalism clearly points out the need to recognize and encourage diversity in experience and attitudes, thereby addressing diversity and then the "soft" factor of attitudes. The project manager is asked to be aware of diversity, "Documented feedback from team that the PM displayed an awareness of, respect for, and willingness to accommodate cultural differences" (PMI, 2007, p. 36) as well as "Documented feedback from team that the PM respected personal, ethnic and cultural differences" (PMI, 2007, p. 37), and to foster an

environment in which all team members can develop their own attitudes ("Examples where the PM created the conditions that motivated and enabled others to contribute their best") (PMI, 2007, p. 37) or even diversify and improve ("Examples of personnel assignment that allows them to grow by doing more than status quo") (PMI, 2007, p. 38).

In synthesis, the PMCDF taxonomy points out all of the "soft" factors; however, there is no mention of the existence of a constrained environment for their management.

IV.4 Risk and Issue Management

Project staff members are generally overloaded, especially at project startup, when they are actively involved in a number of simultaneous and critical tasks. Where possible, additional staff are assigned to assist the project and, due to schedule constraints or cost overrun pressures, begin supporting the project immediately to attempt to show progress and to improve the schedule and cost performance. As a result, project plans are generally often not read or followed.

IT Respondent 6 expressed, "When you go from being met with objection to people embracing your methodology and really using it, that is a beautiful thing. One thing I do is I take risk and quality programs, and I make sure people know that these are communication tools."

Furthermore, project staff members tend to delay in admitting that their project contains risk, as well as delay in communicating risk and how to deal with the risk. The tendency is to identify risks that are outside of the project manager's control because it is easy to do so. There is also a general lack of the understanding, identification, and effective management of the interrelationship and linkages between various risk areas within the project and the organization.

Experience has shown that the above behavior ultimately results in projects failing to meet their goals. To avoid this, it is critical that the project manager be able to understand what the key project issues and risk areas are and always be in a position to communicate these effectively to internal and external stakeholders. It is also important for executive management to be able to quickly determine where and when these concerns are active within a project (Retfalvi, 20011).

All projects implicitly have associated risks. Organizations that adhere to strong project management methods, including in-depth evaluation of scope, schedule, and cost, ongoing risk management, and measurement of project results, are consistently more successful than those that do not. Risk management processes go hand in hand with strong project management. Project management without proper consideration and integration of risk management, in the opinion of the author, is not true project management.

Figure 10 Risk management as a continuous project process.

It is important that the project manager be able to understand what the key project issues and risk areas are and to be able to communicate these effectively to internal and external stakeholders. It is also important for executive management to be able to quickly determine where and when these concerns are active within a project.

Following a structured project risk management method enables projects and organizations to predict and respond to risks, better manage costs, and deliver quality results that satisfy stakeholders. In the most mature project management organizations, these project goals are directly linked to strategic business objectives, giving these organizations a powerful competitive advantage. This is the basis of project portfolio management.

Unfortunately, risk management activities are often viewed by leadership as a project expense with little or no return. A major challenge to most organizations is appreciating how project risks interact across the organization and how to maximize the opportunities among them.

For a project and an organization to be successful, leadership must foster an environment in which there is a healthy perspective on risk and its management. The goal is to have a culture in which all decision-making within the organization, whatever the level of importance and significance, involves the consideration of risks in an atmosphere where there are no risks that are out-of-bounds for discussion.

Management of risk has to be embedded in the management philosophy right from the top and it must support the realistic and open recognition of project risks, even if they indicate problems with the project. Otherwise, stakeholders may develop a narrow focus on risks, exposing the project to unnecessary delays, negative financial impacts, and potential damage to the organization's reputation.

IV.4.1 *Event-Based Risk Management*

Event Based Risk management (EBRM) is a proven management technique and should be an integral element of any project; it is equally applicable during the project planning and the execution phases. EBRM offers the following discriminators:

1. Top-down approach to provide the big-picture view, as opposed to a bottom-up approach

2. Event-centric view, with a focus on key events/deliverables

3. Inherent schedule analysis to increase the probability of project success

4. Key artifacts that greatly facilitate understanding of the entire project and of the key risks to the project. These artifacts are extremely effective for communicating important project information to both the project team and to other stakeholders, such as senior management.

5. Consultative inputs from others who have had similar experiences and leverage of the lessons learned

The integration of EBRM into project planning and execution is the key to its success. Further information may be found in "The Benefits of Event-Based Risk Management in Project Execution," presented by the author at the 2009 PMI Global Congress North America.

Figure 11 The EBRM process overview.

The EBRM process is an iterative process, applicable to both the proposal and execution

phases of a project. It is also of benefit in addressing specific problems or challenges within a

project phase. For example, EBRM may be used to assist in the planning of a technology

insertion activity in a large system where many stakeholders are involved. EBRM may also be

used to address the steps required to correcting a major deficiency of a software build within an

overall project. If EBRM was not implemented during the proposal phase of a project, the project

manager should consider implementing the EBRM process as soon as possible, if for no other

reason than to facilitate project monitoring and improve communications with the project team

and stakeholders.

IV.4.1.1 Critical Success Factors

IT Respondent 13 expressed critical success factors for said success came with planning:

"The first part was the planning. To me, that's one of the most important parts, is laying out the

plan, understanding exactly ... the communication being keyed between the business and the

partner as to what is required. Breaking that down into each process and every step in the process, and that's where the as is and the to be swim lane type diagrams came in to identify the gaps. The people that I've worked with on that project."

There are several factors that lead to successful EBRM implementation and they include:

1. Having a sound knowledge of proven project risk management principles and processes;

2. Understanding and being able to effectively communicate a project to various stakeholders;

3. Properly documenting and analyzing project assumptions for risks;

4. Knowing how to apply the proper level of risk management to a project;

5. Developing a properly structured project schedule;

6. Ensuring risk management activities are properly included in the project schedule;

7. Recognizing the benefits of schedule and cost risk analysis;

8. Tempering optimism with reality; and

9. Implementation of an effective stakeholder risk communication strategy.

The above list is based on the experience of the author and represents proven techniques that form the basis of no-nonsense project risk management, which every project manager should address as part of his or her current projects.

The respondents show that risk was paramount and evident based on the style of implementations used in the projects noted in the study (Retfalvi, 2011).

IV.4.2 *Understanding the Basics*

The fourth edition of a *Guide to the Project Management Body of Knowledge* (PMBOK® Guide) defines project management as the application of knowledge, skills, tools, and techniques

to project activities to meet project requirements. Uncertainty is inherent in all projects. Risk is

generally viewed as a state of uncertainty in which some possible outcomes may have an

undesired effect or significant loss. A more appropriate definition for project risk is an uncertain

event or condition that has a positive or negative effect on project objectives.

The project manager needs to be knowledgeable and fully versed in the PMI project's

risk management principles, concepts, and processes. The six risk management processes that,

most of the time, are recognized as good practice in most projects are illustrated in Figure 12.

Figure 12 Risk overview.

IV.4.3 *Develop an Executive Project Summary*

Demonstrating an understanding of one's project can be done by developing a single-

page high-level view and identifying key activities and milestones. Without a transparent

overview of the project, there is an increased likelihood of project rework and delays.

The executive project summary (EPS) is a composite event diagram that captures, on a single page, the key events and considerations that occur in the project's life cycle. This graphic representation provides project managers, project teams, and executive management with a comprehensive overview of the project, no matter how complex, and facilitates a common understanding of project goals.
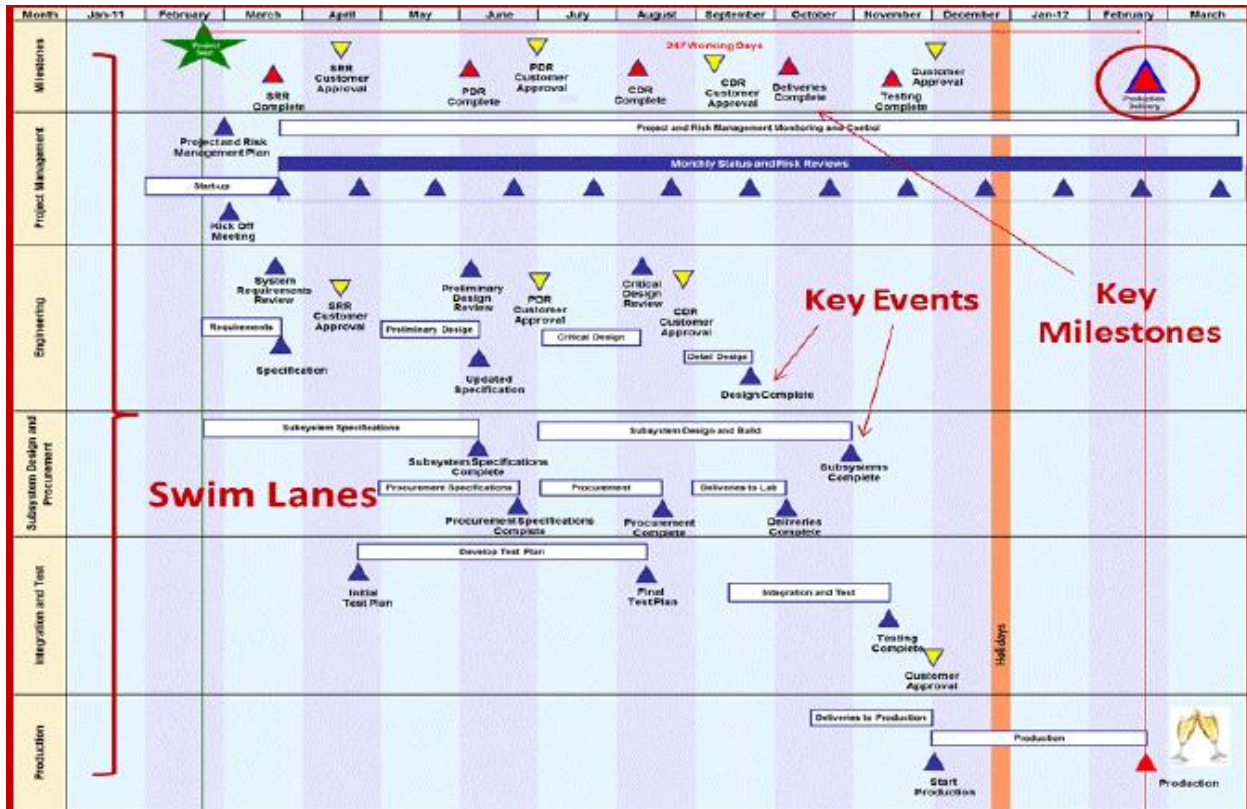

Figure 13 Executive project summary.

The EPS has the following key characteristics:

1. Illustrates a high-level, single-page view of the project;

2. Captures key activities upon which the project is based;

3. Depicts "swim lanes" based on how the organization executes a project;

4. Identifies significant milestones or events in the top swim lane; and

5. Specifies project end date(s) and time remaining.

The EPS is an effective tool for communicating important project information to both the project team and to other stakeholders. It also offers the opportunity to shape constructive team dynamics to ensure focus on common goals.

IV.5 Communication Management

Implementation projects take on many sizes, shapes, and complexities, but some components tend to be universal across disciplines. Configuration and testing, conversion, the interface, and report components are fairly consistent no matter the software system being implemented. The unique aspect of the implementation of project management is the ability to work closely with a vendor configuring his or her application to your use.

IV.5.1.1 Building a Team That Covers all the Core Competencies

One critical component to the project's success is to assign knowledgeable people to the core competencies. Does your project involve data conversion? If so, someone familiar with the legacy data structures needs to be involved. Are interfaces required? Who is familiar with the data and file layouts? There needs to be some level of configuration and testing. Again, someone experienced with performing functions in the legacy system has to be part of the project team. Are you going to rely on the vendor project manager to lead the project and supply an internal point of contact, or are you going to have your own project manager? All of these questions need to be addressed.

In rare instances, clients bring in temporary employees to ensure the projects legacy continues so that those experienced employees are available full-time to the project team. In the real world, employees are usually asked to participate in a project while performing their current job, though some functions may shift to others. As project manager, you need to make an accurate assessment on how much time each team member is going to spend on the project and

plan accordingly. When building a project plan, you should refrain from enlisting a team member as a 100% participant when you know you'll be fortunate to get 50%. Most project plan tools allow you to make this distinction and will shift their timeline accordingly to give you an accurate picture of how long tasks are going to take (Mearman, 2004).

IV.5.1.2 Team Chemistry

IT Respondent #9 expressed, "The best projects I've been on where I've been able to have both internal resources and consultants have proven to be probably the most successful. One of the things, 'cause your risk with your internal employees, we can get tunnel vision."

Few things are more disconcerting than having poor team chemistry. As a client, you usually have some leverage when it comes to the personnel assigned to your project by the vendor. Your own team members are a different matter. In some instances, albeit rare, you have the opportunity to select your team members. You are going to pick individuals who have two characteristics. They know what they are doing and work well in a team environment. And if you have to pick someone who has only one of those traits, I personally lean toward working well with a team. By nature, projects have enough issues and conflicts without the additional burden of human conflict. And nothing creates more conflict than abrasive personalities and high-maintenance individuals.

So what do you do if you end up with a team that borders on dysfunctional? Once you have identified which team members need coaching to work well with a team, there are a number of options. You can try talking to the individual privately in an attempt to adjust behavior. If conflict is between two people, talk to them together to try to come to an understanding. In some cases, the person's manager may need to get involved, and in rare instances, HR is brought into the mix.

Suppose you have an individual who needs to be on the team, though they cause team conflict, and their behavior cannot be adjusted. Try insulating the person from the rest of the team. Perhaps the person can perform their project piece in a silo, with little interaction with the other team members. Another option is to find someone else to perform the function at the direction of the person in question.

IV.5.1.3 War Room Creation

One item that goes a long way toward building and developing team chemistry is a war room. A war room is simply a separate space set aside where project members can work together. Ideally, it should be configured with the infrastructure (e.g., computers, phones, white board) necessary for working on the project. Seating should be configurable, so islands can be created as specific needs arise.

A war room gives the project an identity. Dress it up accordingly—vendor trinkets, project name in big letters, project plans taped on walls. It all helps give everyone a sense of belonging to something important.

Working in a war room has several advantages; the first is less interruptions given that you are not at your desk or phone. The second biggest advantage is being able to eavesdrop. I find it truly amazing how a discussion between two people can quickly become a team exercise when someone overhears something that affects their pieces of the puzzle.

Every advantage, however, comes with a disadvantage. Working in close proximity to others in a stressful environment can put people on edge. This is important to keep in mind during stressful times and remember to schedule some time for everyone to decompress. Pick an activity that everyone enjoys (e.g., bowling, wine tasting, miniature golfing) and see if the vendor will pick up the tab (Mearman, 2004).

IV.5.1.4 Process Documentation

Having a clear picture of where you are today can help you decide where you need to be tomorrow. Process maps of current procedures are necessary to ensure that all the bases are covered when defining tomorrow's road map. Process maps tend to be text based with screen prints, describing how processes are performed using the legacy systems. In an ideal world, they would take on a more graphical format that would make them easier to visualize (Mearman, 2004).
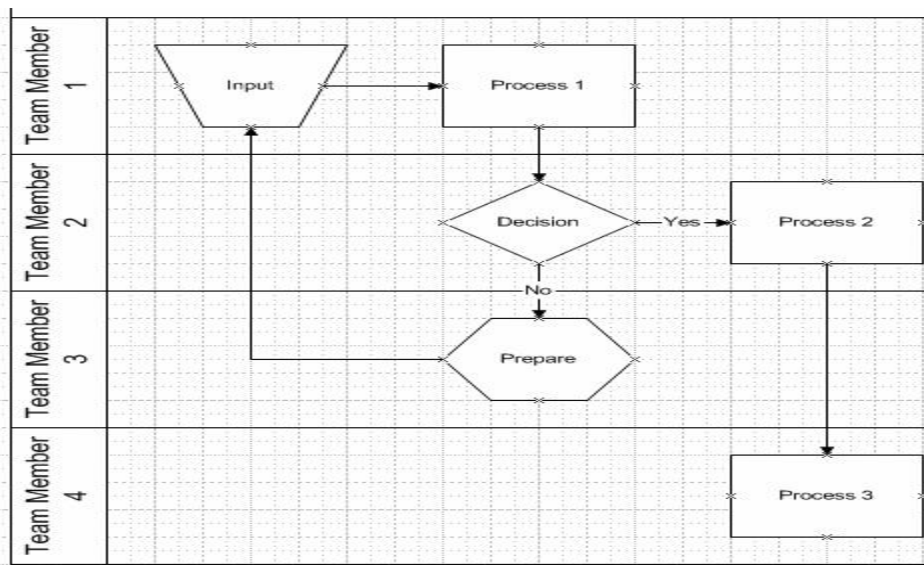

Figure 14 Process map.

As a similar theme in many of the other project areas discussed, communication is key; having the right communication plan is critical to overall project success.

IV.6 Acceptance Management

Deliverables acceptance management requires the project manager to take care of the project's feasibility and ensure it is done in line with the business case and customer expectations. For this purpose, subsidiary plans—like the change management plan, risk management plan, and time management plan—should be followed and the goals of the project plan should be accomplished (Linman, 2011).
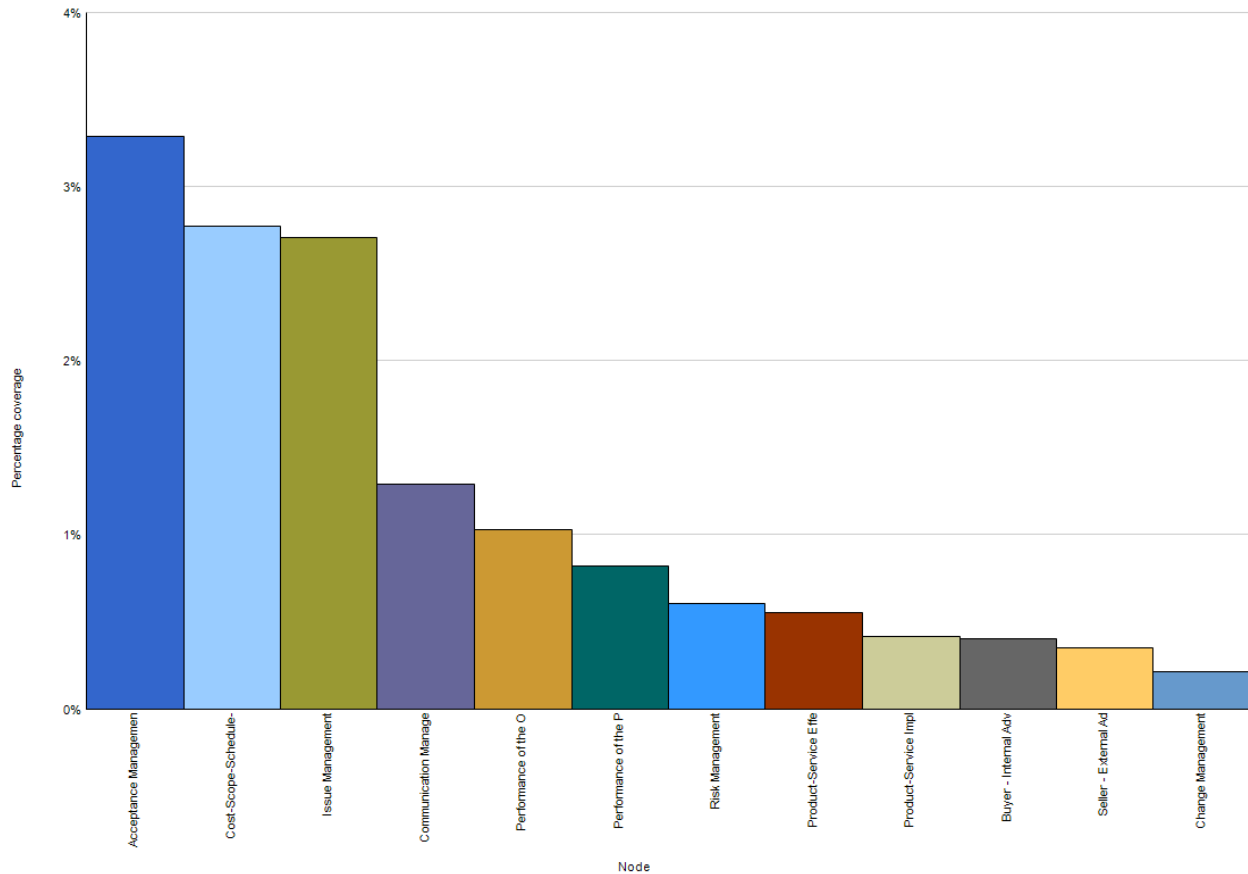
Chart from IT Respondent # 1 displaying high levels of acceptance management.

The ultimate goal of deliverables acceptance management is to ensure the successful delivery of expected project results in a specified time period, within the budget and scope. To achieve this goal, the project manager must accomplish some key tasks, which are as follows:

1. Set up criteria for accepting project deliverables and come to an agreement with the customer;

2. Assign a person who will review the deliverables and ensure their adherence to the criteria listed in the project acceptance plan (as mentioned before, the project manager normally accomplishes this task, but there can be exceptions);

3. Set up any time considerations that may be required to manage the acceptance of project deliverables and adhere to customer expectations; and

4. Make a deliverables acceptance document report that represents all the deliverables actually accepted and approved.

Both sets of respondents shared similar views on the acceptance criteria of project deliverables and/or the final end product. The major goal of managing deliverables is to ensure compliance with the requirements and expectations set by the customer (internal) and provide documentation according to the deliverables acceptance criteria. The process of managing project deliverables involves the roles of the reviewer and approver. Both roles are important for successful deliverables-acceptance planning and management.

IV.7 Change Management

"Change refers to the continuous or discontinuous development of an organization, in which one or more dimensions of the organization are changed. It is assumed that the social structures and stakeholder relationships are altered along with a change. Thus, we are talking about a social change" (Gareis & Garies, 2017, p. 5. Both the consultant and internal respondents had very viewpoints in relation to change management within IT system projects. Many of the opportunities for increased likelihood of success was due to formidable change management strategies agreed upon by project leadership and the project management team. Project team members should always try to keep the project's purpose and output in mind.

IV.7.1 *The 8-Step Model*

Professor John P. Kotter's (Harvard Business School) eight-step model outlines how project managers can meet the challenges of change management. This concept, which developed in 1996, extends Kurt Lewin's three-step model from the year 1947. Kotter's stage model is a holistic approach that helps implement a change within an organization successfully.

Kotter's point is this: To make a radical change really happen, it is necessary to pass through all eight stages in the given order.
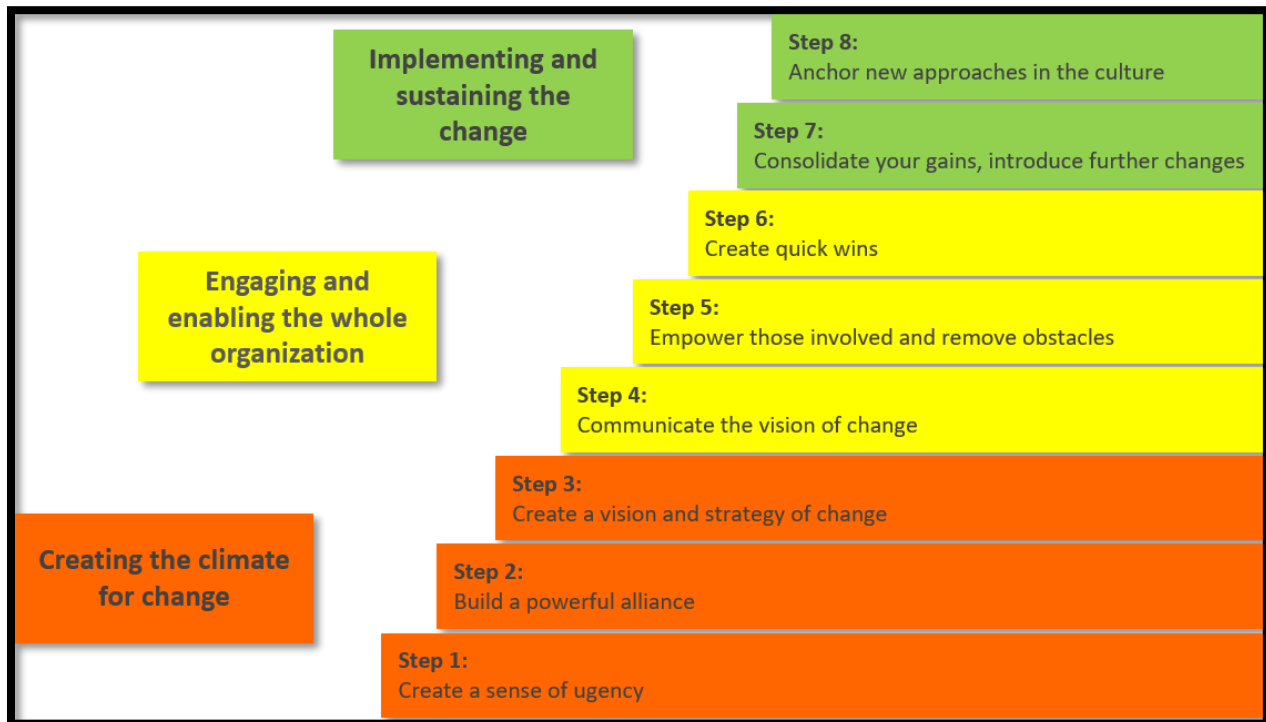

Figure 15 The eight-step model by Professor John P. Kotter.

1. Step 1: Establish a sense of urgency

    a. It is important to establish a sense of the urgency or the necessity of the project from the beginning. The more staff members within the organization and the project team catch on, the higher the motivation to set the project in motion.

2. Step 2: Form a powerful coalition

    a. After convincing the people within the organization of the necessity of your project, your work should continue. As a project manager, you have to keep up this sense of urgency consistently by winning over key persons within the enterprise for your project.

3. Step 3: Create a vision and a strategy of change

    a. The more likely people know where they are heading, the more they can concentrate on putting the set vision into practice.

    b. According to Kotter, the vision should feature six characteristics:

        i. Conceivable: The vision must give a clear and credible picture of the future.

        ii. Worthwhile: The vision should appeal to the long-term interests of the stakeholders within the organization.

        iii. Feasible: The vision must be realistic and achievable.

        iv. Focused: The vision must be clearly formulated so as to serve as a decision aid.

        v. Flexible: When necessary, the vision should respond to altered circumstances.

        vi. Communicable: The vision should be easy to communicate and fast to explain.

4. Step 4: Communicate the vision of the change

    a. You have to make sure that the vision is permanently fixed in the hearts and minds of the staff members. To achieve this, you have to bring it up repeatedly in meetings, e-mails, presentations, and so on. Thus, you convey the core message in an especially broad and tailored way.

5. Step 5: Empower those involved and remove obstacles

    a. At this point, the vision has been communicated effectively in the organization and the majority of people are ready to get on board with the

changes. Now, the last remaining obstacles need to be identified and removed. This includes the structures and the systems of the organization. These have to be adapted to the requirements of the project. These involve, for instance, job descriptions, knowledge and information systems, as well as incentive and compensation systems.

6. Step 6: Create quick wins

   a. Nothing motivates like success. For this reason, you should obtain partial successes early on in the project. This will allow you to carry momentum and energy gathered initially into the future course of the project.

7. Step 7: Consolidate your gains and introduce further changes

   a. Kotter stated that it would be fatal to rest on one's laurels too soon. Real change takes time and runs deep, but every partial success achieved in the project offers the possibility to build on it.

8. Step 8: Anchor new approaches in the corporate culture

   a. With the conclusion of the project, it is vital to anchor the changes obtained firmly in corporate culture. Now is the time to prove that the new way is better than the old.

The tools and techniques of the acceptance models for both internal and external resources align with the industry's best practices to ensure both project and organizational compliance metrics. A senior VP of IT advised tollgates and other quality assurance modes assurance within the respondent's organization, which has an annual revenue exceeding $10,000,000,000 USD based in the United States.

IV.8 Performance of the Project Team and Organization

Project team performance is interrelated and is the overall output of all the previously

discussed sections in IT projects leveraging the model of internal and external advisor

collaboration to deliver the projects and/or programs in scope. There are three main components

to ensure a high level of effectiveness at the team and organizational levels. They include

1. Sponsor's and stakeholder's responsibility,

2. PMO/project manager's responsibility, and

3. Project team's responsibilities.

All of the respondents noted the use of a RACI matrix to ensure high levels of effectiveness
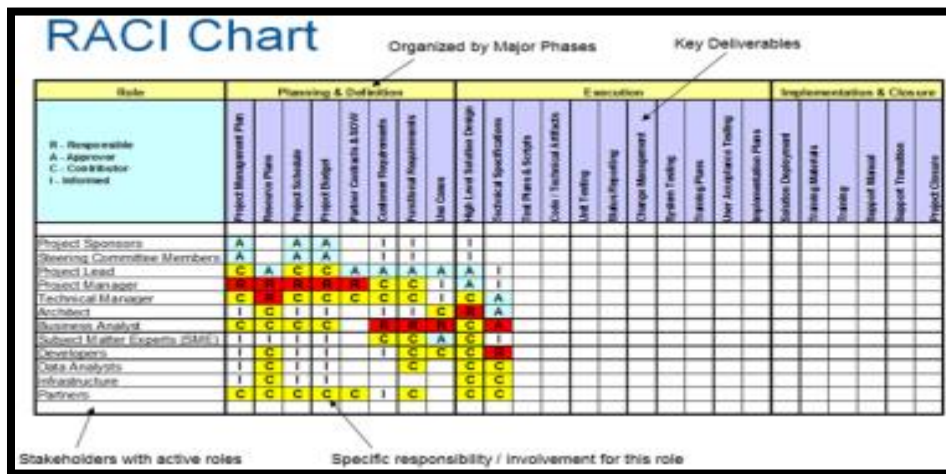
within the project and organizational ecosystems.

Figure 16 RACI chart.

Increasing team effectiveness: Step by Step assumes the entire organization will be

involved in the effort. Step 1 assumes the organization's management will take the lead in setting

a vision and creating a standardized approach to project management so that the project's team

members can know what is expected of them. Step 2 assumes project managers will have

training, development, and leadership goals to help lead and develop their teams. Step 3 assumes

all team members understand that their effectiveness matters; they are expected to be engaged and to work using their expertise.

In building a case and identifying responsibilities, both the science and art components of project management are considered. The gap, in our case, was not in the science but the art. Companies tend to be comfortable with sending promising project managers to Project Management Professional (PMP) boot camps and mechanics training. Companies and individuals, in general, are less comfortable with providing the less tangible support of art—leadership, communication, and team training (Banister-Hazama et al., 2012). Ultimately, improving team effectiveness will improve project success. "Developing an integrated team…is the single most important project management practice," Edward Merrow, Industrial Megaprojects, author and project manager, stated when describing setting up a team on a megaproject (Merrow, 2011, pp. 168–169).

IV.8.1 *Accountability Sustainment*

With a sound vision and mission in place, a standardized approach to accomplish this work was developed. The sponsoring executive gained commitment from peers, developed a steering committee, and assigned a small team (three full-time employees) to develop the PMCoE. An overall framework or a standard delivery system for how the organization will function within project management was created (Exhibit 2). From that framework, all other standards, guidelines, tools, templates, and career path were developed (Josey & England, 2009). Just as vision and mission drive a single focus, the framework describes the path. The PMCoE utilized the standard PMI® processes and knowledge areas as a foundation for developing the framework as it should apply to PGN utility projects (PMI, 2008, pp. 15–33).
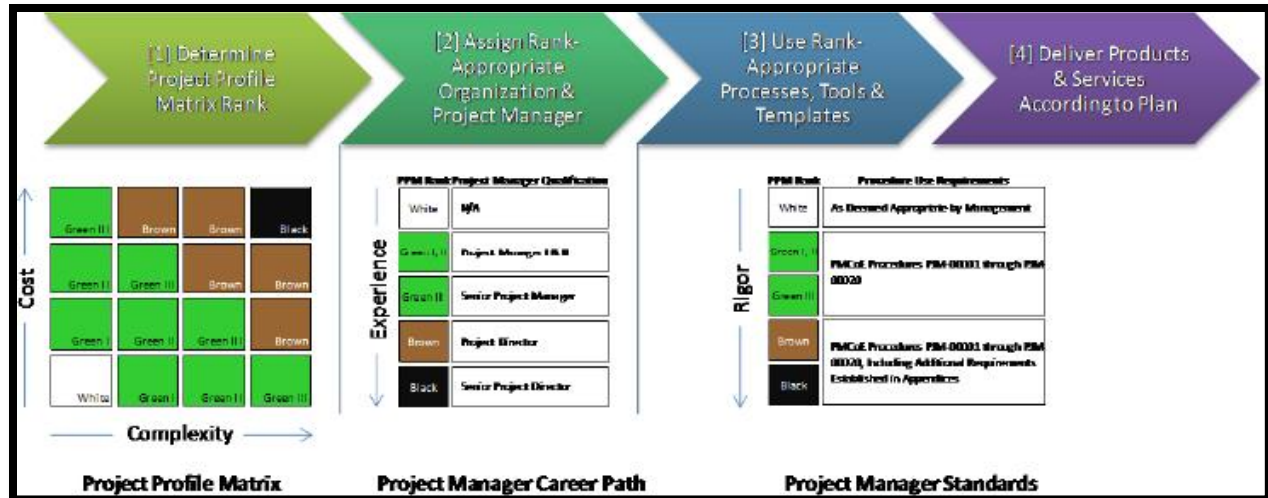
Figure 17 Project delivery system.

The size of the company, number of departments, total dollar impact of projects to the company, project team structure, and number and breadth of projects and programs should all be considered when determining the level of detail provided in the standards. The PMCoE created two working groups with representatives from throughout the project business units to work on the two key portions of the delivery system: standards-governance and training-education. These working groups developed 20 procedures for the project management community to apply to project work. The expectation was to create standards that set minimum expectations, were scalable, and drove consistency at the right level throughout the enterprise. Once the enterprise standards were completed and approved, each organization conducting project work created their detailed implementation standards and attributed accountability to the project manager and team level (Banister-Hazama et al., 2012).

IV.8.2 *Professional Career Path Generation*

This section will focus on both internal (buyer/customer) and external (seller/consultant) project managers. The Training-Education Working Group was initially tasked with training and educating project managers; however, because each department conducted project management

differently, they all had a different understanding of "what is a project manager." Before training and education could be developed, it was agreed that a career path is required. The project-ranking tool provided a means to look at the level of complexity and size of projects that each organization supported. The project manager resource assigned to the initiative must have the experience, education, training, and relevant industry credentials to support their allocation to the project (Banister-Hazama et al., 2012).
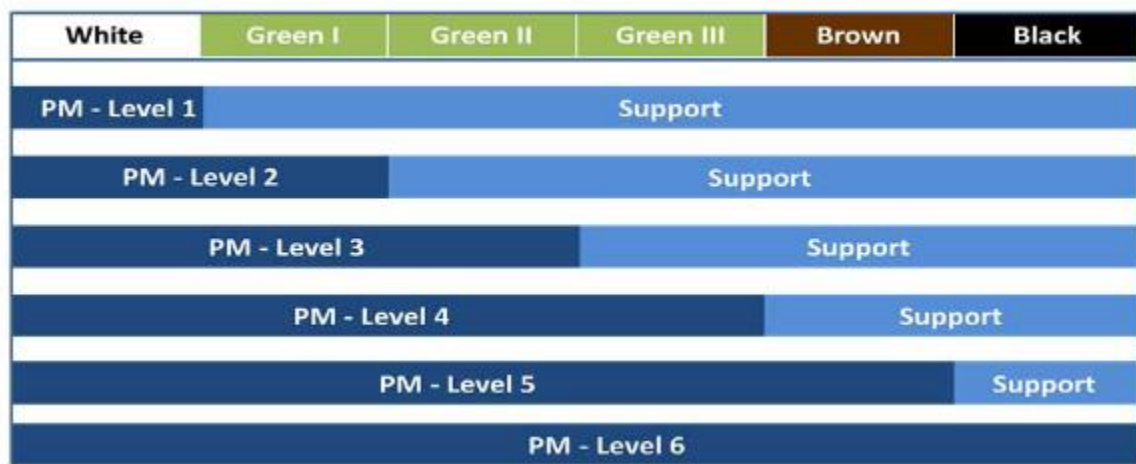
White	Green I	Green II	Green III	Brown	Black
PM - Level 1	Support				
PM - Level 2		Support			
PM - Level 3			Support		
PM - Level 4				Support	
PM - Level 5					Support
PM - Level 6					

Figure 18 Project management career path.

Regarding the various factors, themes guide both the internal and external resources that are engaged in IT projects. To build a plan for success, it is recommended to phase out the implementation to bring in the essentials in the initial phase, followed by the bells and whistles of future phases. An example is deferring new functionality for a second phase. You may also want to consider getting through a milestone period before beginning Phase 2. The definition of a milestone depends on the system being implemented. For a payroll system, it might involve end-of-quarter processing. A financial system might want to go through several month-end closes. A manufacturing system might want to get through a few inventory turns. Mearman (2004) stated to do what makes sense for each unique case.
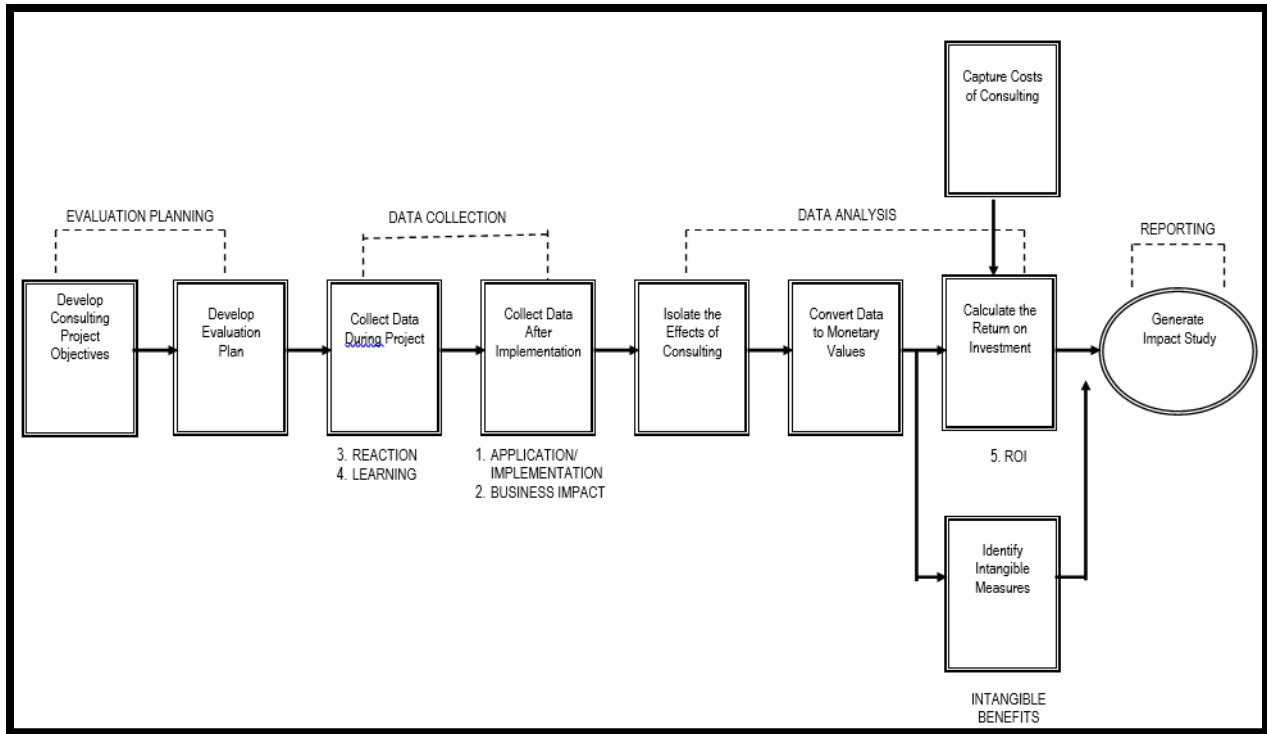
Figure 19 The ROI process model (Philips & Philips, The Consultant's Scorecard, 2nd Edition, 2011).

V DISCUSSION

V.1 Summary of Findings

As discussed in the literature review and according to the PMI, 37% of projects fail to meet their business objectives and 17% are not completed (PMI Pulse of the Profession, 2018). Strategy selection for IT project management is paramount in the implementation of ISs because the right strategy should ultimately result in project success(Jiang & Klein, 2014).

Based on my analysis of the 18 interviews, none of the projects would have been successful without the advisory and subject matter expertise of external professional service consultants. The respondents all shared and aligned their views on the themes pictured in Figure X, which is a project map derived from NVivo.
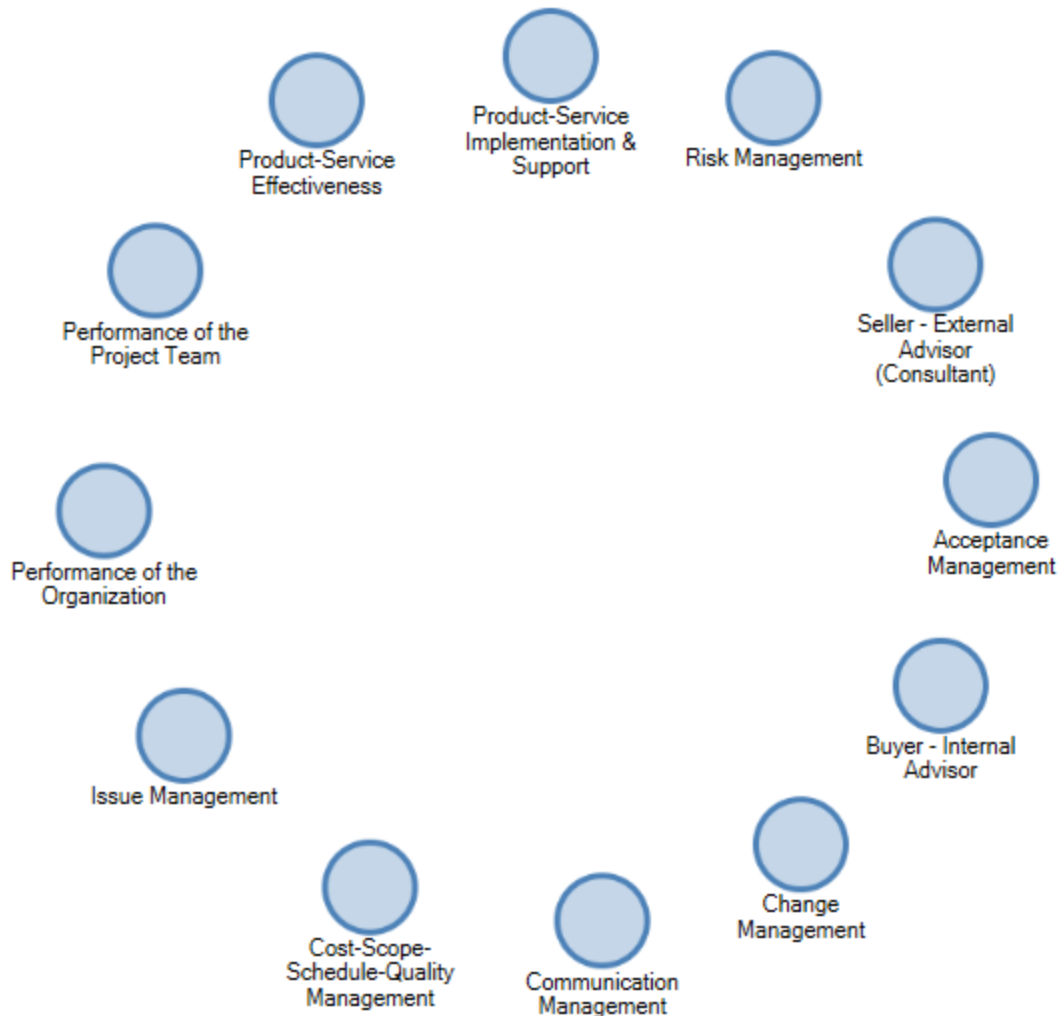
The 18 respondents aligned on the following:

1. **Keeping stakeholders informed**: Through their reports, effective communication were crucial elements to ensure success on the projects leveraging internal and external advisors.

2. **Transparency:** The various project teams managed their expectations with transparency by ensuring the project leadership could see how much work was getting done and left on the table, as well as the gaps and/or opportunities ensuring a higher likelihood of support and issue resolution.

3. **Clearly defined project scope:** Ensure to quantify deliverables early and review with all levels of the project ecosystem.

4. **Proper documentation**: The 18 respondents aligned on proper project documentation and adhering to other industry best practices that are relevant to project management and quality frameworks such as Six Sigma.

5. **Right resources**: Success of the project was also leveraged based on the right subject matter experts and talent early on in the project.

North Highland decided to take the pulse of the consulting industry to better understand how consulting is really perceived. In association with Forbes Insights, it looked deeper into strategy-execution success and failure rates for companies working with management-consulting firms. Top executives from multinational companies across the United States and United Kingdom were interviewed about the relationships they had with their consulting firms. At first glance, the results seem to demonstrate unequivocal success in the consulting business (Reardon, 2015). The survey found that

- 90% of executives reported success;

- 62% found the benefits of the project equaled the expected outcome; and

- 30% the benefits significantly exceeded their expectations.

V.2 Management Implications for Science

V.2.1 *Value-Add for Management*

Gartner estimated that 55% to 75% of all enterprise resource-planning (ERP) projects fail to meet their objectives. Managers from purchasing firms of professional services focused on selecting, implementing, or managing ERP implementations, which face significant complexity

in properly selecting, measuring, and managing the unique risks posed by the complex demands of such IT implementations.

I recommend that internal management not only Request For Information (RFI)/ Request For Proposals (RFP) when they are ready to choose a vendor of professional services but also develop and involve subject matter experts such as management consultants in the decision-making process of choosing the correct technology and the implementer of said technologies. This premature involvement will enable managers to make faster decisions on the go, with more streamlined data from the external professional services consultants which should yield net positive results with core business functions, end-to-end company communication, and improved process management within the firm.

V.2.2 *Art versus Science*

I interviewed 18 IT project professionals with a collective 400+ years of project execution and delivery experience. Big projects have always been complex and difficult to execute successfully. Project management approaches, processes, and methodologies have evolved and developed to meet the unique challenges big projects bring, with significant effort undertaken by companies and the academic community to develop a current best practice. In response, engineering and environmental codes and social practices are continually updated to ensure the safe and efficient collaboration of the multiple parties involved—across design.

Best management practices around project planning, the stage-gated approach, project controls and performance management, as well as cost and estimation have been developed, codified, and widely disseminated (The Art of Project Leadership). The interviews I conducted emphasized the rigor and skillsets the IT project professionals acquired throughout their careers.

The 18 respondents observed the science part is obtained from universities and skill-specific training, whereas the art is refined through experiences while engaged in IT projects.

Organisational capabilities required to deliver

Figure 20 The art of project leadership, which gains importance with increasing project size.

Another study leveraging a similar use reported strong leadership was central to impacting the likelihood of success, reporting that leadership can increase ERP implementation success (Battleson, 2013). Another strategic initiative of the senior management was commissioning an external assessment. This was another key event that converted the current course of action to a problem. The assessment addressed many tactical concerns as well. IT SME #1 explained that when the external assessment was conducted, it allowed her to be candid about issues facing the project team. For example, she had the opportunity to express her concerns and ask if senior leadership knew that the project was in trouble (Battleson, 2013).

This event supported Keil and Robey's (1999) findings that top management most frequently triggered deescalation. This strategic approach is aligned with Montealegre and Keil's (2000) findings that strategies and tactics achieve deescalation. In sum, these events addressed

ambiguous information and problem recognition, which are necessary managerial actions to redirect an escalated project (Battleson, 2013).

Professionalism and rigor are key contributors to elicit positive outcomes of any engagements. According to Knoll and Tankersley (1991), professionalism is a function of three criteria—behavior, salesperson's image, and appearance. Many authors have also stressed the communication aspect of professionalism (e.g., Jackson, Keith, & Schlacter, 1983; Pilling & Eroglu, 1994), though professionalism may also refer to the general behavior of the salesperson.

V.3   Conclusion and Implications

Organizations that are faced with the decision to either move forward with the skill sets of internal advisors and teams or hire external professional service consultants. Management from the service-purchasing organizations should consider all the advantages and disadvantages of each option ahead of time. Also, the context in which the choice should be made plays a big role in the overall success of the engagement.

External professional service consultants should be leveraged when skill set and knowledge are not strong enough internally for a large-scale project, or when a neutral, independent view is needed for a problem. Oftentimes, an organization does not have sufficient expertise to execute specific initiatives, or the board is in need of external expertise to properly assess the risks of the alternatives at hand. Internal advisors, on other hand, know the organization well and are aware of, for instance, what is taking place with the organization because they speak the language of the organization and understand the culture of the professionals working within.

Organizations should first decide whether an external view is necessary for a particular dilemma. If so, how much expertise is required? When large organizations already have a mature

internal consultancy division, the choice to hire an external consultant is often made more easily. However, when a major (change) project requires a large quantity of resources (e.g., human capital, specific expertise), it can be easier to choose external reinforcement.

V.4   Limitations and Future Research

Although this research focused on the expertise and roles of external professional service consultants in increasing the likelihood of success in IT-system-implementation projects, there is an opportunity for deeper research into the context of how external professional service consultants directly impact the ROI. This potential study would leverage the use of a mixed-method approach, where a scorecard would be developed to assess feedback from senior leadership in the various organizations that provided me insight in this study.

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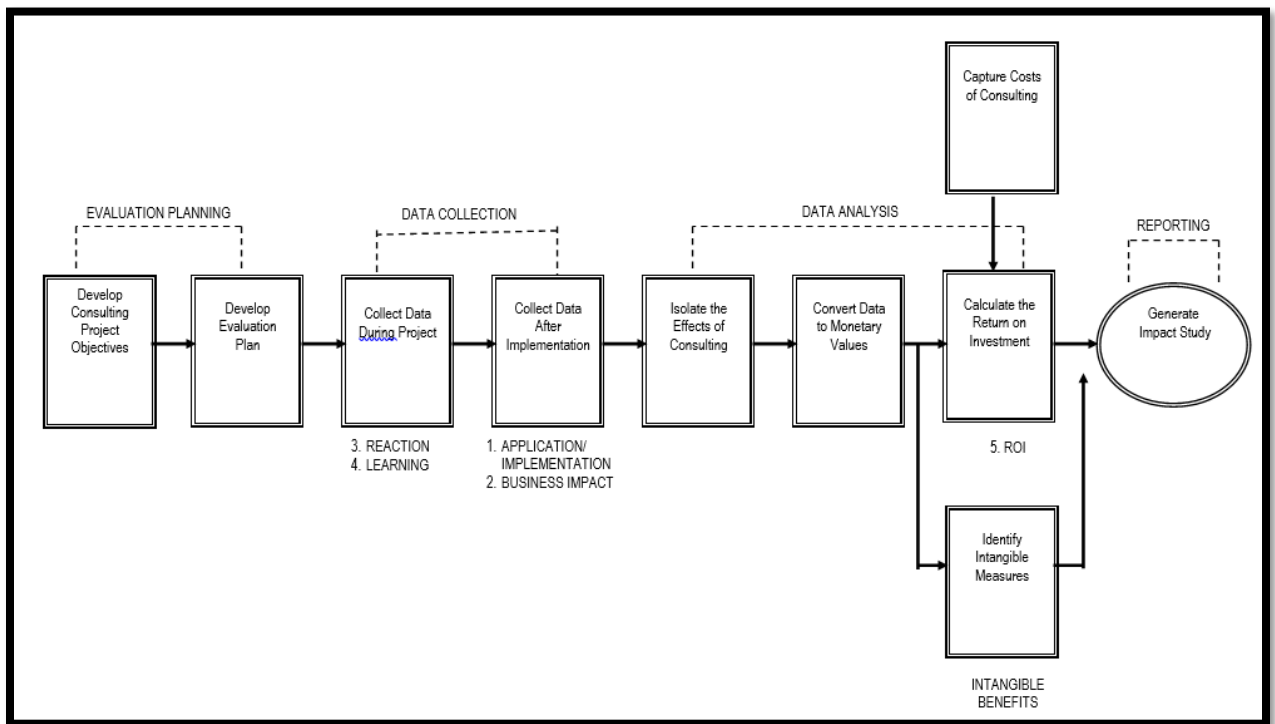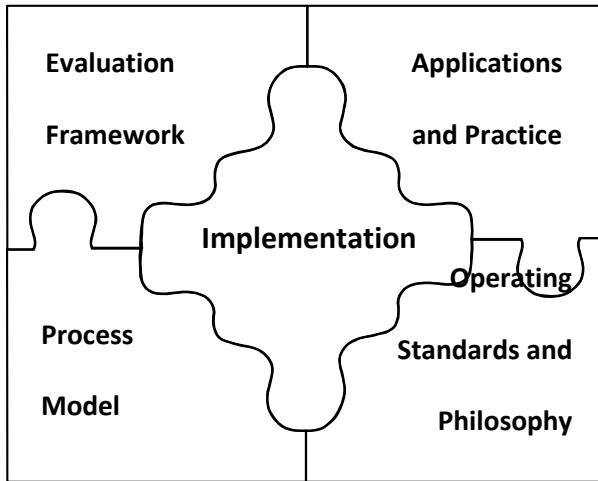
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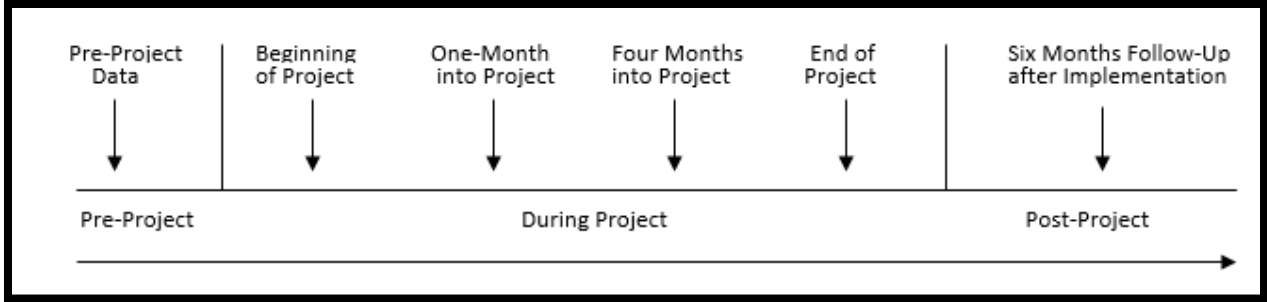
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APPENDICES

The Elements of ROI Methodology

Pre-Project Data | Beginning of Project | One-Month into Project | Four Months into Project | End of Project | Six Months Follow-Up after Implementation

Pre-Project | During Project | Post-Project
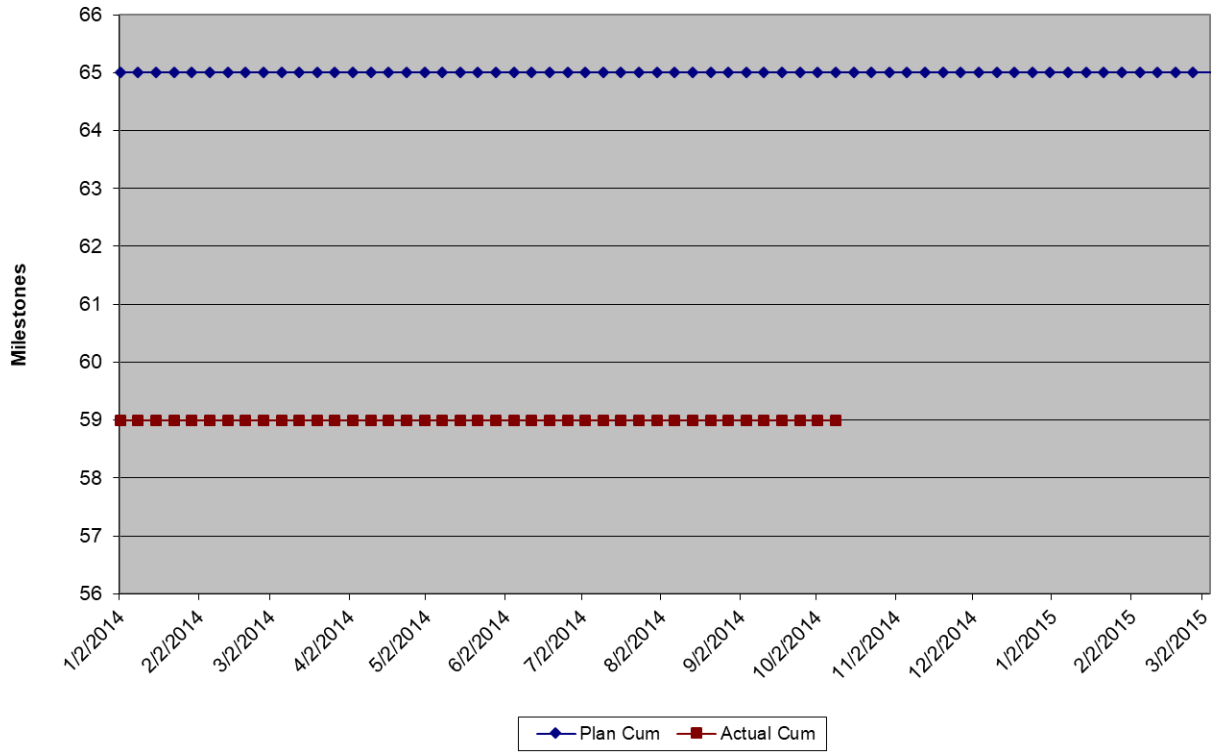
Action Plan Example

ACTION PLAN

Name: _____ Consultant Signature _____ Follow-Up Date_____

Objective: _____ Evaluation Period _____ to_____

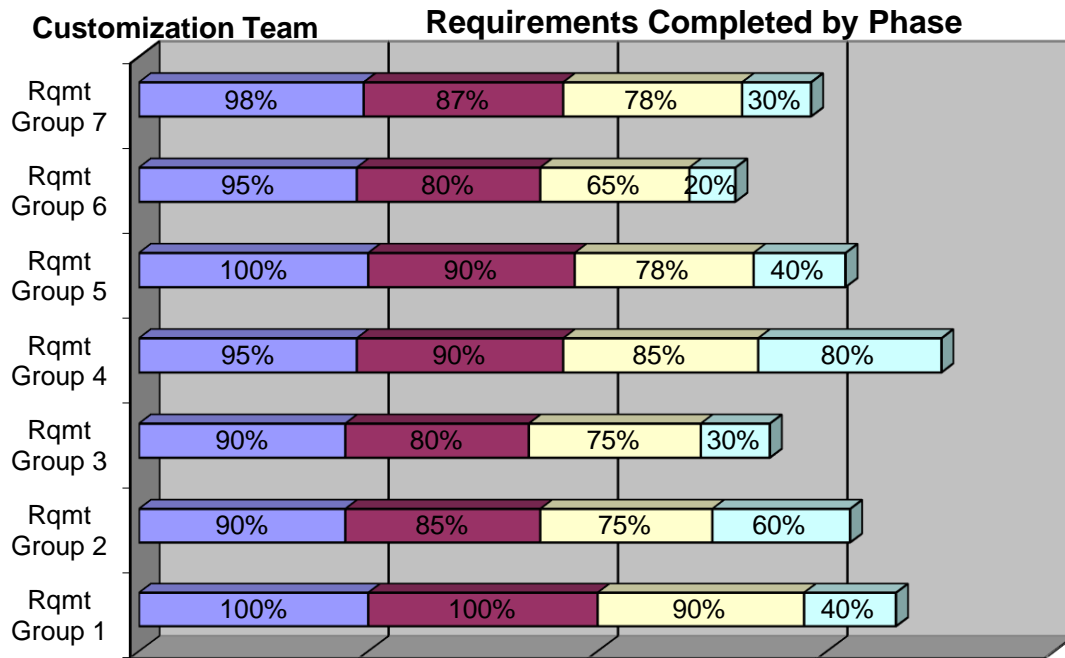Improvement Measure: _____ Current Performance _____ Target Performance_____

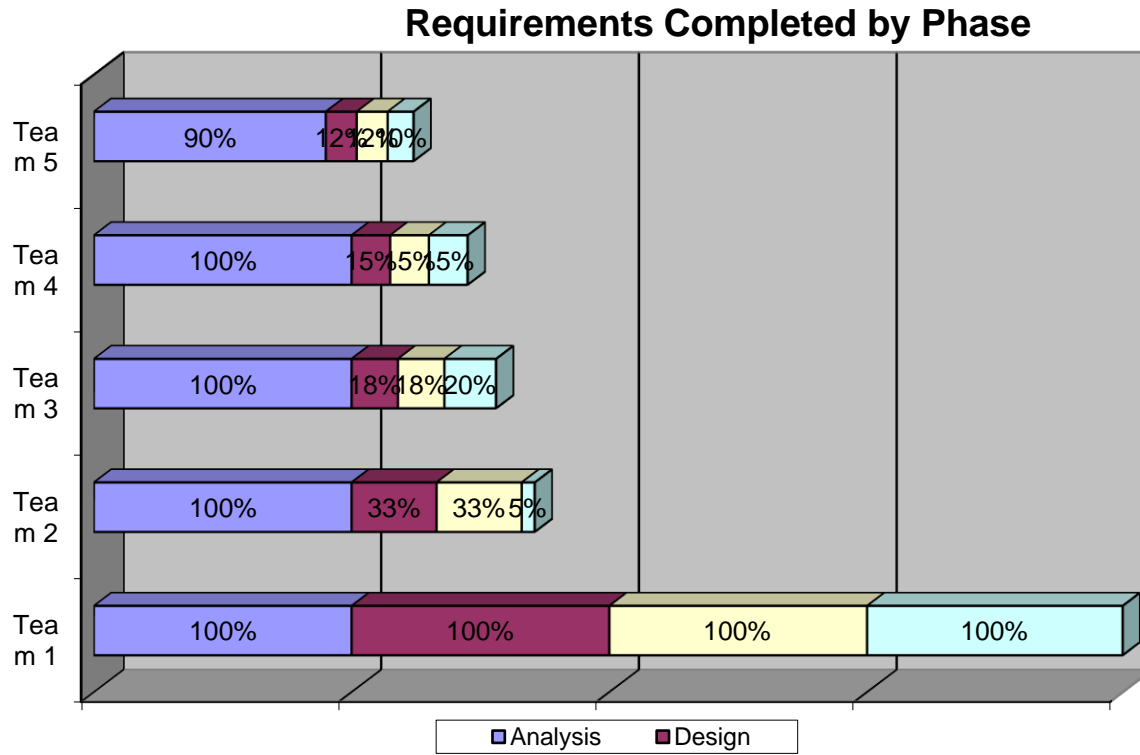| Action Steps	Analysis
1._____ _____ _____ 2._____ _____ _____ 3._____ _____ _____ 4._____ _____ _____ 5._____ _____ _____ 6._____ _____ _____ 7._____ _____ _____ **Intangible Benefits:**	A. What is the unit of measure? _____ B. What is the value (cost) of one unit? $_____ C. How did you arrive at this value? _____ _____ _____ _____ _____ _____ _____ _____ D. What other factors could have caused the improvement? _____ _____ E. How much did the measure change during the evaluation period? (monthly value) _____ F. What percent of this change was actually caused by this program? _____% G. What level of confidence do you place on the above information? (100%=Certainty and 0%=No Confidence) _____%

Comments: _____
_____
_____

Milestones Ahead/Behind Count

Status as of: 10/10/1

Customization Team   **Requirements Completed by Phase**

Rqmt Group 7	98%	87%	78%	30%
Rqmt Group 6	95%	80%	65%	20%
Rqmt Group 5	100%	90%	78%	40%
Rqmt Group 4	95%	90%	85%	80%
Rqmt Group 3	90%	80%	75%	30%
Rqmt Group 2	90%	85%	75%	60%
Rqmt Group 1	100%	100%	90%	40%

Requirements Completed by Phase

About the Author

Yves A. Belmont, a Doctor of Business Administration (D.B.A.) candidate at Georgia State University, is an accomplished Project Management Professional working as a Management Consultant with Coca-Cola Bottling Company United, Inc. in the Project Management Office (PMO) and Systems Applications and Products (SAP) data enablement practice. Yves also serves as a nonprofit executive board officer for DAMA Georgia, specifically as Vice President of Program Management. Yves not only holds a Master of Business Administration (M.B.A.) and Master of Information Systems (M.I.S.) but is also a certified portfolio, program, project management, and Six Sigma Master Black Belt credential holder. His research is focused on the phenomena of the success of large IT implementations, financial impact on business performance, and measurements of quality on enterprises.