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A CASE STUDY OF USER ADOPTION OF ENTERPRISE TECHNOLOGY  
AT XYZ MEDIA COMPANY

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A Research Project  
Presented to the Faculty of  
The George L. Graziadio  
School of Business and Management  
Pepperdine University

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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Science  
in  
Organization Development

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by  
Holli A. Hudson  
August 2011

This research project, completed by

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under the guidance of the Faculty Committee and approved by its members, has  
been submitted to and accepted by the faculty of The George L. Graziadio  
School of Business and Management in partial fulfillment of the requirements for  
the degree of

MASTER OF SCIENCE  
IN ORGANIZATION DEVELOPMENT

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## Abstract

As globalization rises, so does the need for organizations to connect disparate processes and integrate information technology systems together. These activities are needed to unite all areas of a business and speak the same organizational language across geographic locations. As a result, the need for enterprise technology is on the rise. However, enterprise technology implementations are usually massive, complex, and expensive (up to \$500 million for large multinational companies). Further, only 10% to 33% of these projects succeed. While 35% are cancelled, the remaining exceed their budgets by 178% and schedules by 230%, on average (Martin & Huq, 2007). Just as there is a need for enterprise technology, there is also a need for organization development practitioners to know how best to approach large technology change.

This case study analyzed the implementation of enterprise technology at a major media company. The enterprise tool used was a Hewlett Packard product called Project and Portfolio Management Center (PPMC). The focus of the implementation was to gain visibility of all active projects across the organization, implement a single process to execute projects, use one tool to track projects (thus, eliminating the need for multiple tools), use one tool to allocate resources to projects, track time spent on project tasks, and measure all project teams against the same set of metrics. The research questions addressed in this study were: (a) What attributes are necessary to have a successful implementation of enterprise technology? (b) Was the PPMC enterprise technology implementation successfully adopted by the end users? Answers to these questions were used to assert whether the PPMC project was considered a success or a failure.

The study used a mixed methods design. Quantitative and qualitative data were collected through an electronic survey and two focus groups. The data provided a deeper understanding of the PPMC implementation and of employees' attitudes toward the PPMC project. Findings indicated that the project was successful in the areas of leadership support, training, and presenting a clear organizational strategy. The project was not successful in the areas of engaging bottom-up support, executing minimal disruption to the business, and providing a tool that was easy to use. As a result of implementing a project that was not "first time right," there was high employee resistance to the tool. This meant that the project management office needed to invest more time, money, and resources to mitigate resistance by (a) making the tool easier to use and (b) mirroring the current business processes rather than mandating processes that didn't fit the organization.

It was concluded that if an organization wants to pursue an implementation of enterprise technology (such as PPMC), then extensive business process analysis should be conducted to determine if it is the right process for the organization. Additionally, extensive tool analysis needs to be conducted to determine if the tool can be aligned with the current business processes within the given project budget.

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## Chapter 1

### Introduction

XYZ Media Company is one of the world's leading media and entertainment companies with a workforce of approximately 30,000 people worldwide. XYZ Media Company has an extensive portfolio of world-class media and entertainment companies; a premier motion picture company; theme parks; and significant television, news, sports, Olympics and entertainment production operations, stations, cable properties, and networks.

In support of these businesses, Media Works IT is an organization of roughly 1,400 information technology (IT) professionals, with 200 project managers who build and support a portfolio of nearly 1,000 business and technology applications. Broadly speaking, XYZ Media Company's profit and loss centers primarily revolve around film, television, and theme parks.

The Media Works division is both a strategic and operational conglomeration of shared services technology functions ranging from network broadcast operations to core IT, which is where the enterprise project management office (ePMO) function sits and services both the internal IT and Media Works business partners, as well as the broader spectrum of end user business functions.

#### *Background*

The ePMO changed the way project managers manage projects. The ePMO implemented a multi-million dollar enterprise wide tool in January 2010 called Project and Portfolio Management Center (PPMC). PPMC contains a workflow that tracks IT projects from inception to completion and allows

employees to track their time against project work. The intention is to capture all IT demand in one system and track the resources that are working against the demand. The drivers behind the mission to implement PPMC go back long before PPMC was even considered to be part of the solution. For a variety of reasons, but mostly from almost 10 years of frequent and significant merger and acquisition activity and the ensuing structuring and re-structuring of the company, the IT organization was fraught with disjointed IT business processes that created a lot of churn, produced delays in product delivery, and provided limited to no visibility regarding how IT spent its time and resources. This ultimately resulted in a great deal of customer frustration and financial waste.

As a result, the Lean IT initiative was spearheaded in 2008 and set out to unite the application and infrastructure functions of the organization with minimal, effective, and transparent service delivery processes digitized on a common platform, with the ultimate goals of reducing cycle time, eliminating waste, and eliminating process bottlenecks. Other goals were to increase the quality of service while lowering the ongoing total cost of ownership of the application and infrastructure portfolio. Lean IT was organized by assembling a cross-functional representation of subject matter experts from every function and level of IT to map out the current and future state of core application and infrastructure delivery business processes using Lean Six Sigma techniques like value stream mapping. This process aimed to mobilize every layer of the organization to take a look at how it operated and get it to commit to and own being part of the solution.

During the Lean IT session, participants looked at the current state of their business processes, documented over 300 pain points they had with the current

processes, then mapped out and designed the ideal future state. The next goal was to set out a mission to put process and automation solutions in place for IT that would cut the average project time to delivery by more than half. In analyzing how best to address the pain points, the ePMO leaders felt that three-quarters of those pain points could be enabled or accomplished with an implementation of an integrated suite of solutions within PPMC. PPMC aimed to establish a culture of “one process, one language, one tool, and one set of metrics” to standardize the way that projects are delivered and then supported for XYZ Media Company.

This is a complex tool and a substantial change for many project managers and resource managers who are not accustomed to using any particular method or tool to manage projects and resources. Case in point, company survey data revealed that 25% of project managers within Media Works do not use any particular method to manage projects and the remaining 75% use various methods (such as Agile, Rational Unified Process, Waterfall), meaning there is no consistent way to manage projects across the organization. Additionally, project managers in Media Works have not previously been mandated to use any particular tool to manage projects, much less an enterprise technology. Survey data revealed that the top three tools to manage projects are Microsoft Excel, Microsoft Project, and email. Therefore, implementing an enterprise technology to manage projects is potentially a large disruptive change for project managers. Moreover, project managers were loosely held accountable for their projects. With this new tool, all projects in IT were fully visible to the leadership team and the chief information officer and all projects were measured against the same set of metrics.

### *Definitions*

For the purpose of this study, the following operational definitions were employed:

1. ePMO: A shared services department in the IT organization of XYZ Media Company that governs IT projects and programs and was responsible for the implementation of the PPMC project.

2. PPMC: A Hewlett Packard enterprise solution that allows organizations to govern their entire portfolio of IT projects using Hewlett Packard project and portfolio management software. PPMC can collaboratively manage projects from concept to completion, manage resource capacity and allocation, and track timesheets.

3. Enterprise technology: packaged business software system that integrates core business processes such as logistics, financial planning, sales, order processing, production, resource planning, and project planning and has the potential to link suppliers, customers, and business partners in order to integrate value chain activities (Martin & Huq, 2007)

4. XYZ Media Company: An alias name. The actual name of the organization where this study was performed has been concealed for privacy purposes.

### *Theoretical Rationale*

Two theoretical perspectives of change management theory were used for this study: Cummings and Worley's (2008) theory of effective change management activities and Kotter's (1996) eight-stage process of creating major change model.

Cummings and Worley (2008) described an approach for effective change management in the workplace. They suggested that managing change can be organized into five major activities and each activity represents a key element in change leadership. “Leadership must create an environment in which people accept the need for change and commit physical and psychological energy to it” (p. 164). Secondly, leadership must create a vision for the change that provides a purpose and reason to move forward with the change. Third, leaders must develop political support for the change with individuals who will promote the change and not block it. Fourth, leaders must manage the transition from the current state to the future state by creating a tactical plan of action. Fifth, leaders must sustain the momentum of the change to make it “stick” by providing resources for change, build support systems, develop new competencies, reinforce new behaviors, and stay the course.

Kotter’s (1996) theory suggested there are eight steps to effective change management: (a) establishing a sense of urgency for the change, (b) creating a guiding coalition of powerful people to lead the change (c) developing a vision and strategy for the change, (d) communicating the change vision, (d) empowering action, (e) generating short term wins, (f) hiring, promoting, and developing people who can implement the change vision, and (g) anchoring new approaches in the culture. He also stressed the importance of implementing the steps sequentially.

### *Purpose*

Organizations should not underestimate the complexity of implementing an enterprise solution from both a technology standpoint and a people

standpoint. To suddenly implement a tool with a lot of complexity requires a great deal of change management planning and early adoption by the users. The purpose of this case study was to examine how a large-scale enterprise technology project was implemented and managed by the leadership team and how well the change was adopted by employees of Media Works during 2010.

### *Research Questions*

1. What attributes are necessary to have a successful implementation of enterprise technology?
2. Was the PPMC enterprise technology implementation successfully adopted by end users of Media Works?

### *Methodology*

The methodology used to measure the adoption of PPMC was (a) disseminating surveys to employees who were affected by the PPMC project and (b) conducting follow-up focus groups. Quantitative and qualitative data were generated from the survey and focus group results to assess categories, themes, and patterns. Finally, metrics were generated to illustrate how well the PPMC project was received and adopted by end users.

### *Study Outline*

This chapter introduced the case study conducted at XYZ Media Company. The study analyzed how effectively the leadership team implemented and managed a large-scale enterprise technology change.

Chapter 2 reviews existing research and relevant literature on change management theory and implementing large-scale technology projects.

Chapter 3 outlines the study's methodology. The following topics are discussed: research design, sampling, data collection, protection of human subjects, measurement, and data analysis procedures.

Chapter 4 describes the sample demographics and the quantitative and qualitative study findings. In chapter 5, a summary of the findings are provided and support for the findings are discussed. Recommendations, study limitations, and implications for further research are also outlined.



## Chapter 2

### Literature Review

This case study examined two questions: What attributes are necessary to have a successful implementation of enterprise technology? Was the PPMC enterprise technology implementation successfully adopted by end users at XYZ Media Company?

This chapter summarizes existing literature on technology project implementation, change management theory, and market trends for implementing enterprise project management software. The chapter is organized as follows: (a) the technology project landscape, (b) a review of successful technology projects, (c) a review of unsuccessful technology projects, (d) change management theories and (e) trends for implementing enterprise technology.

#### *Technology Project Landscape*

According to the Standish Group's 2004 CHAOS Report, only 34% of all IT projects are successful—meaning they were delivered on time, on budget, and with the required features and functions (as cited in the CIO Executive Board, 2007a). Fifteen percent of IT projects fail completely and are never implemented and 51% are implemented late, over budget, or without all the required features and functions. *Enterprise technology*, the focus of the present study, is defined as a

packaged business software system that integrates core business processes such as logistics, financial planning, sales, order processing, production, resource planning, [and/or project planning] and has the potential to link suppliers, customers, and business partners in order to integrate value chain activities. The attributes of an enterprise system are its abilities to automate and integrate an organization's business processes, share common data and

practice across the entire organization and produce and access information in a real-time environment. (Martin & Huq, 2007, p. 123)

Enterprise technology implementations are usually massive, complex, and expensive. Implementation costs start at tens of millions of dollars for medium-sized companies and cost up to \$500 million for large multinational companies. Further, only 10% to 33% of these projects succeed. While 35% are cancelled, the remaining exceed their budgets by 178% and schedules by 230%, on average (Martin & Huq, 2007).

Organizations tend to invest substantial amounts of capital, human resources, and time in IT projects to achieve a goal of increased productivity or streamline processes. The ultimate aim of these activities is to make the organization more competitive and successful in the marketplace (McNish, 2002). However, as stated above, more than half of technology projects fail, which provides very little (if any) payoff for the organization.

Several explanations have been offered for IT failures. One problem is that “Managers have been known to get so engrossed in the technical and financial details that they ignore the more subtle human factors associated with the change” (McNish, 2002, p. 201). Another reason for failure may be that managers are so eager to achieve new sources of competitive advantage that they invest company resources in complex or novel technologies and forget that the organization needs time to learn and cope with the new system. This may indicate that many approaches for implementing large-scale, enterprise technology projects are inappropriate.

### *Technology Project Success*

An IT project is considered successful if it was implemented on time, on budget, and has the required number of features and functions. The following case studies examine IT projects that were considered successful.

Seah, Hsieh, and Weng (2010) presented a case study of Savecom, a large telecommunications company based in Taiwan. Savecom was an underperforming company that had yet to achieve its first financial breakeven point. Savecom was facing many challenges, including employee resistance to learning and change, a laid back culture leading to micromanagement, poor employee morale, unilateral decision making, and significant control over employees. Most decision making was made from instinct rather than from solid data.

Savecom's chief executive officer Donald Weng "drew on the expertise of China Productivity Center, a local management consulting firm, to design and implement an integrated solution to Savecom's business problems" (Seah et al., 2010, p. 370). The result was a plan to implement a business intelligence system in 2004 that would allow the company to accumulate and analyze large amounts of data to improve decision making and workflows.

Business intelligence systems are usually painstakingly difficult to implement and are fraught with employee resistance and poor change management oversight, ultimately leading to a failed project (Seah et al., 2010). Weng had the foresight to know the project's primary challenges would be cultural rather than technical. Weng explained, "I knew it wasn't going to be easy to implement a business intelligence system. But I was adamant in enforcing the

situation, so I personally took charge of the implementation process; I made it clear that there was absolutely no room for failure” (p. 371). Weng focused on giving Savecom a cultural makeover by not only working with upper management to understand Savecom’s business processes, but also by working alongside the frontline sales employees to get a better understanding of customer needs and expectations. Weng created a culture where employees had permission to speak up and state their opinions, needs, and grievances. As a result of Weng’s hands-on attention to employee resistance and anticipating customer needs, Savecom reaped the benefits of Phase 1 of the project just months after implementing the tool and posted its first quarterly profits at the end of 2005 (Seah et al., 2010).

During Phase 2 of the business intelligence implementation, Weng learned how to use a participatory style of management, which allowed employees to feel more empowered to make decisions and give them a sense of responsibility for the strategic direction of the company (Seah et al., 2010). Sales managers also were encouraged to go back to school and acquire new knowledge and skills that would help them manage a business intelligence system better. As a result, Savecom’s salespeople are better equipped to help their customers and proactively serve their customer’s needs. Savecom demonstrated that strong, committed IT leadership along with buy-in from the bottom of the organization proved to be effective for the success of a large-scale technology implementation. Savecom ultimately created value within the organization and increased its profit margin along with employee and customer satisfaction. Statistically, Savecom is in the minority of successful technology projects.

One success theory based on construction project research contends that project success can be determined by examining the various attributes of a potential client or stakeholder (Lim & Ling, 2002). They explained, “Despite extensive research on factors influencing project performance, the enormous importance of client’s influence in project performance has not been sufficiently matched by any extensive and systematic analysis of client’s actions, attitudes and experiences” (p. 388). The researchers identified and measured 20 client variables and organized them into five categories:

1. Financial status: How able the clients were to fund the project.
2. Characteristics: predisposition to be litigious and the degree to which the client trusts the project team.
3. Management competency: the project management practice and qualification of the client’s staff.
4. Construction experience: number of years the client has been in the construction business and its performance on past projects.
5. Fulfillment of responsibilities: the client’s contribution to project realization, responsibility in setting down project objectives and priorities, and contribution to project complexity.

Project managers can use this model to survey a potential client and rate the client’s performance indicators. The project manager may still decide to work with a potential client that produces a poor score; however, the benefit is having the knowledge and foresight to move forward more cautiously and pay more attention to the client’s weaknesses.

Lim and Ling's (2002) research affirmed that if there is no common vision of a project outcome, if there is lack of trust and openness within the project team, and if the client contributes to project complexity, success of the project is not likely. Although Lim and Ling's model was based on construction projects, the focus on client analysis is noteworthy and applicable to technology projects.

In summary, leaders of successful projects do not underestimate the technical and cultural complexity of a project. They also work to gain project support from both the top and bottom of the organization. These leaders also have a strong understanding of change management concepts, understand stakeholder needs, and develop a clear vision of organizational goals.

#### *Technology Project Failure*

It is very telling about the state of the IT project industry that searches using the key words "IT project failure" produce hundreds of results. There are numerous reasons why IT projects can fail, including "poor project management practices, poorly defined goals, overly simplistic project plan, unrealistic deadlines, unrealistic budgets, failure to set expectations on the product, and failure to gain support from users, developers, and functional managers" (Chen, Law, & Yang, 2009, p. 158). Organizations large and small are prone to IT project failure, and the results can be disastrous. For example, Camelot, a project to computerize welfare benefits within the Department of Social Security in the United Kingdom, failed to the tune of nearly £6 million (Chua, 2009). FoxMeyer Drug, a Texas-based company, poorly implemented a resource planning tool that ultimately financially bankrupted the company. When the London Ambulance Service had a technology system crash in 1992, it was

reported that 20 to 30 people died as a result of a delay in ambulance dispatch. The high risks of technology project failure should not be underestimated.

Chua (2009) examined IT project failure at AMR Corp, the parent company of American Airlines. AMR Corp partnered with AMRIS, a third-party vendor, on a large-scale IT project in 1988. The goal was to create a state-of-the-art travel reservations IT system (called CONFIRM) which would combine synergy with Marriott International, Hilton Hotels, and Budget Rent-a-Car. The project had a \$55.7 million dollar budget and was scheduled to be completed by 1992.

Twelve months into the project, the base design of the system was still unclear (Chua, 2009). As time went on, AMRIS missed multiple milestones due to complexity and scope creep. Additionally, communication with the stakeholders (Marriott, Hilton, and Budget) was infrequent and they were not regularly kept abreast of the project's status. When the stakeholders finally tested CONFIRM, it was a complete failure. After going well over the cost and schedule budgets to the tune of \$125 million and 4 years of development, the project was declared a failure and was canceled. Additionally, AMRIS went out of business. The CONFIRM failure was due to an overambitious project scope, poor system requirements that did not convey user needs to the developers, ineffective project communication, and a clandestine vendor who withheld important details of project roadblocks.

Another IT project failure occurred at a Hong Kong based multinational company whose annual revenue reached \$250 million (Chen et al., 2009). This company had an urgent need to replace its legacy sales and distribution systems

with the aim of increasing visibility of its business operations. The project was assigned to the IT department, who failed to include any end users in the decision making process to implement the enterprise system. Additionally, the IT department had no internal knowledge about the enterprise system and had limited resources to allocate to the project. Therefore, the project was outsourced to an American vendor. The first challenge with this project was deciding whether to implement the off-the-shelf version of the software or to increase risk by customizing the software for the business. The leaders decided to keep risk low and implement the off-the-shelf version of the software.

Problems arose as soon as the implementation was complete (Chen et al., 2009). Users from different geographic regions demanded specific functionality to complement their business operations and it was politically difficult to enforce use of the off-the-shelf software given the diversity of the company's regional operations. Company leaders soon realized that one size does not fit all when it comes to an enterprise solution. IT management was flooded with post-deployment enhancement requests from across the organization. The company contracted with a vendor to develop two bolt-on modules to appease the user community. However, the bolt-ons were loosely defined and had integration problems with the system. Unanticipated problems continued to rise, the organization was fraught with poor project management practices, committee members showed little involvement, management support waned, business processes remained non-standardized, and user adoption was low. By the end of Phase 1, the IT director left the company along with several system analysts and the project was declared a failure.



Chua (2009) concluded that IT project failure usually stems from a combination of reasons rather than a single cause. Chua explained,

Six most regularly cited IT project risk factors include (1) lack of effective project management skills/involvement, (2) lack of adequate user involvement, (3) lack of top management commitment to the project, (4) lack of required knowledge/skills in the project personnel (5) poor/inadequate user training, and (6) lack of cooperation from users. Other reasons for failure include insufficient awareness of organizational issues, poor alignment of IT adoption to the business strategy, changed user requirements and the project size and complexity. Some risk factors were found to be evident during the initial stages of the project. Known also as early warning signs, they include lack of top management support, weak project manager, lack of documented requirements and lack of change control process. (p. 32)

There is no single answer to why IT projects fail. Even when management is willing to engage in the project, organizational inertia may hinder it (Glaser, 2004). People get busy and stressed. Some IT projects are threatening because they threaten to eliminate someone's job or him or her less powerful. The fear of the unknown also plays a part: people do not know what to expect, so an uncertain outcome is considered negative and poor support results. Glaser added that often, it is the combined impact of myriad small issues that undermine projects: "More common is the *death by ants* experience; just as no single bite will kill you but a thousand will, the organization becomes besieged by thousands of small problems and inefficiencies and eventually terminates the undertaking" (p. 92). Furthermore, if an organization has a poor track record of implementing IT projects, then efforts to gain support for a new project can be futile.

#### *Change Management Theories*

Changes in technology usually disrupt the way people do their jobs and can stir up various emotions, anywhere from fear to anger. Therefore, change

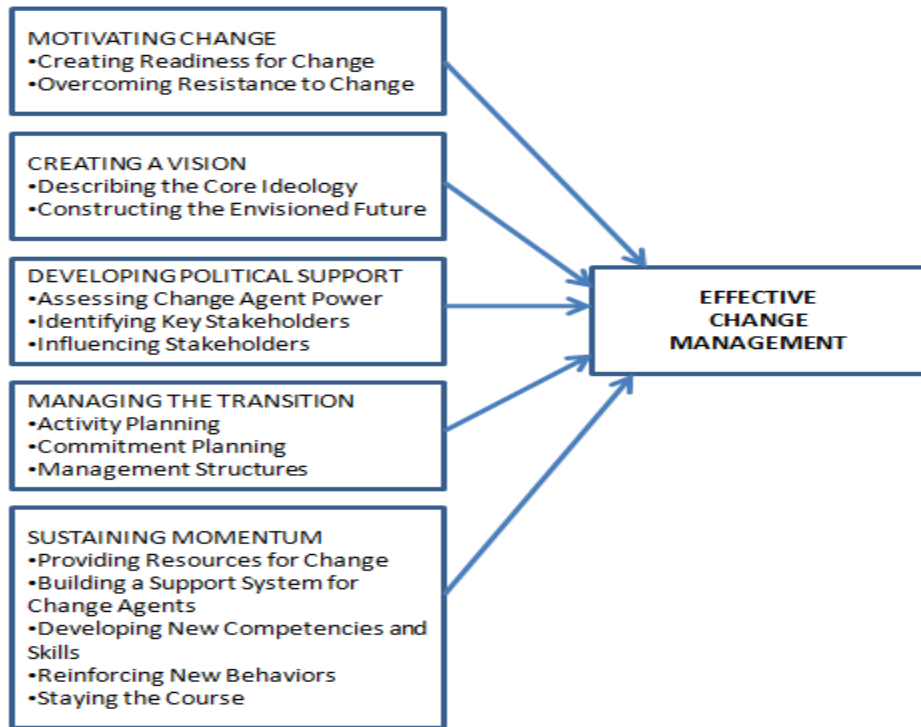
management is an important feature of large-scale technology projects and understanding how to properly manage the people side of technology change is critical. This section explores change management theories regarding how to manage change, motivate and empower people related to a change, deal with resistance, leverage change agents, and assess employees' self-efficacy and personal needs related to how well a change will be adopted.

#### *Cummings and Worley's (2008) Five Change Activities*

Change management is defined as “the tools, techniques, and processes that scope, resource, and direct activities to implement a change” (Cummings & Worley, 2008, p. 747). According to Cummings and Worley, managing change can be organized into five major activities and all five of these activities need to be managed effectively to realize success: motivating change, creating a vision, developing political support, managing the transition, and sustaining momentum (see Figure 1). The following sections describe these steps in more detail.

*Motivating change.* Motivating change involves creating readiness for and overcoming resistance to change. Getting movement will be difficult unless individuals are motivated and committed to change. Motivating change is a critical issue because people are usually only willing to change when there is a compelling reason to do so (otherwise known as “what’s in it for me?”). These activities suggest that managing change is an unwieldy endeavor.

To motivate change, Cummings and Worley (2008) argued that the organization has to shake up the status quo and convey the message that the status quo is no longer working. One method of making an organization more sensitive to change is to encourage leaders be cognizant of what other industries



*Note.* Based on *Organization Development & Change* by T. G. Cummings and C. Worley, 2008 Mason, OH: South-Western. Reproduced with permission.

Figure 1

*Activities Contributing to Effective Change Management*

are doing to be exposed to new ideas, new methods, or new benchmarks.

Another method is to expose the discrepancies between the organization's current state versus the desired future state. This activity also can motivate and energize corrective changes and stir employees' desires to reach the future state goals. Additionally, organizations can create credible, achievable, and positive expectations for change by providing "information about why the change is occurring, how it will benefit the organization, and how people will be involved in the design and implementation of the change" (p. 166).

Cummings and Worley (2008) contended that there are three major strategies for dealing with resistance to change:

1. Empathy and support. Empathy and support is the first step in overcoming resistance. This can be achieved by truly understanding all the reasons for resistance while utilizing *active listening*. People are likely to be less resistant and defensive and are more willing to provide useful information that will help resolve barriers to change when they believe their concerns are heard.

2. Communication. Lack of information adds to anxiety, fuels rumors, and increases speculation. Effective and timely communication can help mitigate fears and help employees mentally and physically prepare for the change. However, merely sending out emails is not always the most effective method of communication and should be complemented with face-to-face meetings and presentations.

3. Participation and involvement. Involving employees in planning and implementing that change is one of the most effective strategies for overcoming resistance. This strategy increases the likelihood that the employees' voice and interests are heard and accounted for during the change. Moreover, this strategy increases the likelihood that employees will be committed and willing to shepherd the process if their interests and needs are met.

*Creating a vision.* Creating a vision, including describing the core ideology and constructing the envisioned future, is a fundamental step in change management (Cummings & Worley, 2008). The vision is not the core values of the organization, but the achievable and ideal envisioned future specific to the change project. The envisioned future includes two elements: (a) bold and valued

outcomes and (b) the desired future state. Bold and valued outcomes are clear, tangible, energizing goals that the organization would like to achieve, and will rally the organization into action. A desired future state is what the organization should look like in the future. This future vision should be exciting, compelling, and emotionally powerful, thus, motivating members to change. Change tends to become unorganized unless individuals have this kind of guiding vision.

*Developing political support.* Change plans can be sabotaged if powerful individuals or groups do not support the change. Therefore, developing political support is another aspect of change management. This step consists of three activities: assessing change agent power, identifying key stakeholders, and influencing stakeholders. Assessing change agent power involves identifying which people have the power, reputation, charisma, and professional credibility to influence change. Once identified, change leaders then can determine how to leverage that power to influence others, or enlist the identified contacts in identifying the areas needed to enhance their power sources.

Change agents also should identify key stakeholders who will and will not support the change. It is important to intervene when a stakeholder has the potential to thwart the change. One method of identifying key stakeholders is mapping out all people who stand to benefit and who are likely to lose from the proposed change. "This would provide change agents with information about which people and groups need to be influenced to accept and support the changes" (p. 174).

Influencing stakeholders can be achieved by "playing it straight" and providing stakeholders with information about how the change will benefit them.

For the change agent to be effective at “playing it straight,” he or she must have a solid knowledge base and expertise with which to persuade stakeholders that change is necessary. Presenting facts, reports, testimonials, industry standards, case studies, diagnostic data, or surveys are helpful to persuade stakeholders. Social networking has also proved effective by creating formal or informal alliances with key decision makers and groups.

Managing the transition. Managing the transition involves activity planning, commitment planning, and change management structure. It can be difficult to operate in overlapping paths while working toward the future state if the transition is not managed carefully. Activity planning entails mapping out specific activities that must occur for the change to be successful. These tasks should all be aligned with the strategic goals and priorities of the organization. “Activity planning also should gain top-management approval, be cost effective, and remain adaptable as feedback is received during the change process” (p. 176). Commitment planning requires sign-off from the stakeholders that they committed and supportive of the change. Change management structures need to be in place to create direction and reduce ambiguity. Cummings and Worley identified six possible change management structures, which vary based on who manages the change project: (a) the chief executive or head person, (b) a temporary project manager, (c) a steering committee of representatives from the major constituencies involved in the change, (d) natural leaders who have the confidence and trust of large numbers of affected employees, (e) a cross-section of people representing different organizational functions and levels, or (f) a

“kitchen cabinet,” representing those people whom the chief executive consults and in whom he or she confides.

*Sustaining momentum.* Sustaining momentum during a change is another aspect of effective change management. This includes several activities, such as providing resources for change, building a support system for change agents, developing new competencies and skills, reinforcing new behaviors, and staying the course. If change momentum is lost, the future state goals may never be realized. Further, people tend to return back to the old way of doing things without reinforcement of the new change.

Providing resources for change is valuable for giving relief to employees who have to manage their regular responsibilities while also attending to the change itself. “These extra resources are needed for such change activities as training, consultation, data collection feedback, and special meetings” (p. 183). Making significant change is less likely without extra resources to implement the change. Building a support system for change agents helps change agents feel less isolated, keeps them motivated, and can help them cope with problems. Developing new competencies and skills in employees may be crucial for the successful implementation of a change. Therefore, training and coaching would be a necessary factor to sustain momentum. Lastly, reinforcing new behaviors is one of the most effective ways to sustain momentum of a change. This can be achieved by designing reward systems, instituting recognition programs, or praising employees. Making participants feel good about themselves, their team, and their behaviors will only reinforce the goal of change.

### *Kotter's (1996) Eight-Stage Process*

Another change model is Kotter's (1996) the eight-stage process of creating major change. Kotter prefaced this model by admitting that major change does not happen easily, especially in light of market globalization, which places substantial pressure on organizations to engage in rapid change to simply survive, much less compete. The key difference between Kotter's model and Cummings and Worley's (2008) model is that Kotter stresses the importance of implementing the eight steps in sequence and not skipping ahead. Kotter observed that people under pressure will skip phases (such as jumping to layoffs, reorganizations, or acquisitions) thinking it will help change the organization in a hurry. Kotter argued that if any steps are neglected, "you rarely establish a solid enough base on which to proceed" (p. 20). In other words, change will not be possible without giving each step the attention it deserves. For example, if the first step is not anchored and reinforced, the second step will not "stick." Kotter (1996) summarized his stages in this way,

the first four steps in the transformation process help defrost a hardened status quo. If change were easy, you wouldn't need all that effort. Phases five to seven then introduce many new practices. The last stage grounds the changes in the corporate culture and helps make them stick. (p. 20)

Kotter's (1996) eight stages are:

1. Establishing a sense of urgency, which includes examining the market and competitive realities to identify and discuss crises, potential crises, or major opportunities.



2. Creating a guiding coalition, which includes putting together a group with enough power to lead the change. It also is important to get the group to work together like a team.

3. Developing a vision and strategy, which includes creating a vision to help direct the change effort and developing strategies for achieving that vision.

4. Communicating the change vision, which includes using every vehicle possible to constantly communicate the new vision and strategies. It is essential that the guiding coalition role model the behavior that is expected of employees.

5. Empowering action, which includes removing barriers that undermine the change vision.

6. Generating short term wins, which involves planning for visible improvements in performance, or "wins."

7. Consolidating gains and producing more change. This includes using increased credibility to change all systems, structures, and policies that do not fit together and do not fit the transformation vision. Another element of producing more change is to hire, promote, and develop people who can implement the change vision.

8. Anchoring new approaches in the culture, which includes creating practices to replace the old culture, emphasizing the benefits of the change effort, and linking it to organizational success. This final step, takes time and comes last in the transformation process.

### *Theories about Managing Employee Attitudes*

Psychologists and business theorists alike argue that for a change to be effective, the implementation must focus on the importance of shaping employee attitudes toward the change.

Herold, Fedor, and Caldwell, (2007) observed that most significant organizational changes fail to meet expectations and that a true commitment to organizational change tends to be the exception and not the rule. One explanation for change failures is that managers are not doing their jobs and not putting forth the effort needed to properly communicate, create a shared vision, or celebrate small wins. Herold et al. find this explanation to be too simplistic. Although sound leadership may be lacking some cases, research shows that the reasons for failure are much more complicated. “Researchers have found that the perceptions of the outcomes of change, the extensiveness of the change, and the impact of the change at both a job and a work-unit level all affect change reactions . . . along with the context in which the change occurs” (p. 942).

Herold et al. (2007) linked factors such as procedural fairness, open communication, and leadership to effective change management. Consequently, they believed that organizational change failures are credited to employees’ cynicism, dismissiveness, and resistance about the proposed change. For example, employees might discount a change effort as the *change du jour* or *flavor of the month*.

As a result, other authors argued that employees’ self-efficacy plays a large role in how successful a change is (Cooper, Dewe, & O’Driscoll, 2001; Herold et al., 2007). Cooper et al. concluded based on a literature review on self-

efficacy and people's reactions to stressful situations that a case could be made "that beliefs about the self and one's abilities may function as effective buffers against the adverse effects of stressful job conditions" (p. 131). That is, more efficacious people tend to view change as less stressful, less fearful, and less threatening. Such individuals tend to be more resilient and positive toward change (Herold et al., 2007).

Herold et al. (2007) conducted research to test their hypothesis that effective change management could be measured by group level and individual level variables. Three variables act at the group level: (a) change turbulence, which refers to whether change was implemented at a turbulent time; (b) change fairness, which reflects the procedural fairness of how the change was implemented; and (c) work unit impact, which refers to the degree to which the change disrupted the work unit's processes and procedures. Another three variables act at the individual level: (a) change commitment, referring to how supportive an individual was to the change; (b) change self-efficacy, reflecting an individual's beliefs about one's competency to deal with changing situations; and (c) personal job impact, referring to how the change impacted the individuals' job.

Herold et al. (2007) collected data from 553 employees of 25 organizations in the southeastern United States. The organizations represented a wide variety of industry sectors. The researchers contacted a manager from each organization to identify a change that had been implemented recently that impacted a majority of employees. A range of change efforts were examined. Thirty percent concerned various work process changes and new technology implementations; 11% consisted of reorganizations; and the remaining 29%

consisted of strategy changes, relocations, outsourcing, leadership changes, and downsizing. Manager participants were asked to disseminate an online survey to their employees to collect data about the change (Herold et al., 2007). The surveys were split in two groups: half the surveys examined individual level variables, while the other surveys examined group level variables. The surveys were automatically alternated to avoid bias.

The results supported the hypothesis that “(a) that individual differences in change-related efficacy can affect one’s commitment to change and (b) that individual differences in change efficacy interact with the turbulence of the change setting to influence change outcomes, such as commitment” (Herold et al., 2007, p. 948). In other words, for people with high change self-efficacy, a turbulent change environment not as problematic for them. The implications of this study suggest that change never happens in a vacuum. Therefore, employers must understand the environment surrounding a change and “ultimately, individual behaviors determine the success of most organizational changes” (p. 948). The research results also suggest that it may behoove managers to look at training programs or rewards systems to increase self-efficacy skills and to ensure that change initiatives are analyzed, planned, and prioritized to yield more positive outcomes.

Stam and Stanton (2010) conducted research along the same vein of change impact to the individual. They contended that employees’ behavior about a change originates from the employees’ perceptions of whether it is promotion-focused (a source of gain or growth potential) or prevention-focused (a source of loss or insecurity potential). If management can measure these perceptions, then

there is a potential for a more optimal intervention before the implementation of a new enterprise technology.

Stam and Stanton (2010) examined two key theories relative to employees' perceptions of and reactions to change. One was Regulatory Focus Theory, which analyzes motivation and emotion as they relate to universal human needs for (a) growth and development and (b) security (Higgins, 1997).

The second was Affective Events Theory, which offers

a model of emotional experiences that sees workplace events as the cause of emotional experiences and identifies time as a key factor in the relations between events, emotions, evaluations, and behavior. The structure of affect (e.g., moods versus emotions, positive versus negative) is an important determinant of behavioral implications. (Weiss & Cropanzano, 1996, p. 11)

Stam and Stanton (2010) examined these theories over an 18-month period within the context of technology change at three diverse organizations (a hospital, a manufacturing facility, and a psychological counseling center). Stam and Stanton (2010) found that

employees with a so-called promotion-focused orientation were more likely to accept an IT change and the events related to it. Organizational cultures and the staging of events play a role in individuals' affective reactions and behavior. The use of the framework is promising for illuminating the role of emotions, the timing of change events, and subsequent behavior in response to organizational change. (p. 23)

They elaborated, a "promotion-focused individual will respond to a positive event with cheerfulness and a negative event with dejection; subsequent behavior will focus on adaptation to the consequences of the event in light of the individual's growth and development needs" (p. 29).

Managers need to understand the individuals' attitudes toward the change. Some questions a manager can ask are: Is the IT project viewed as a source of gain, or a source of loss? Will the change make the individuals' lives easier or more complicated? Is the new system hard to learn and will individuals have to juggle their current job while trying to learn or implement a new IT system? Stam and Stanton's (2010) research found that some mitigating factors were providing solid training and communication to mitigate fears and to shift individuals to a promotion-focused orientation. In summation, the IT project focus cannot be merely the implementation itself. There has to be a focus on people and expectation management.

#### *Trends for Implementing Enterprise Technology*

An enterprise technology supports and integrates many facets of an organization. An enterprise system usually takes several years to implement and requires enormous financial investment; however, it can enhance operational efficiency and create competitive advantages by enabling innovative practices (Chen et al., 2009). Chen et al. explained,

The adoption of enterprise systems has become a global phenomenon. The market for Enterprise Resource Management systems (ERP) grew at a rate of 14% in 2004 to become a 23.6 billion market globally. Despite the popularity of ERP, the failure rate of ERP implementation remains high. According to a survey of 117 organizations conducted by the Conference Board, 40% of ERP projects failed to meet the business case. This result is corroborated by another study done by information technology (IT) management consultancy Robbins-Gioia LLC, which found that 51% of companies across a wide range of industries stated their ERP implementations were unsuccessful. (p. 157)

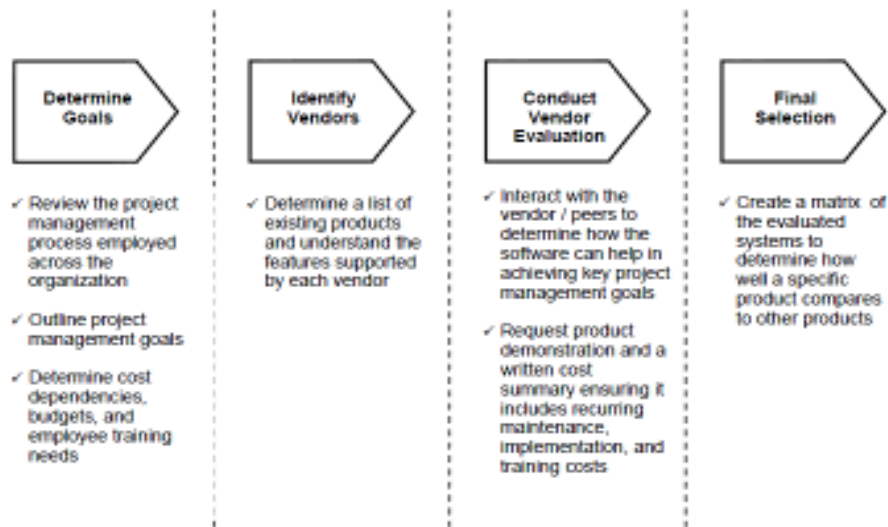
An enterprise system is a long-term commitment (referred to as a *lifelong journey*) involving business requirements, change management, continual

technical support, continual maintenance, upgrades, and long-term support costs. These projects generally are considered failures if they do not achieve a majority of their promised benefits.

A critical part of technical operations related to an enterprise system is comprised of continual support, maintenance, and upgrades. As a result, many IT divisions choose to create a project management office to take ownership of enterprise technology implementation and oversee all support and future enhancements. Research suggests that organizations that have a formal project management office to implement enterprise technology projects have better success rates than the industry average. In research by Robbins-Gioia, only 56% of surveyed organizations had formal program management offices to drive the change; however, of these only 36% reported that their ERP implementations failed (as cited in Chen et al., 2009). Case studies have shown that ERP project failures are more common in smaller companies which usually lack maturity in their business processes, whereas, medium to larger companies have a better chance of success.

The CIO Executive Board (2007a) conducted a market study in 2005 that forecasted that the IT enterprise project and portfolio management market would increase from \$402.9 million in 2004 to \$808 million in 2009, an increase of 100.5%. Organizations that want to embark on implementing an enterprise project and portfolio management tool should have a stringent vendor selection criteria that addresses concerns such as enterprise needs and desired project management features, training and support, budget, and software and hardware

requirements (CIO Executive Board, 2007b). Figure 2 presents a diagram of the project management vendor selection framework.



*Note.* Based on *Choosing the Right Project Management Software*, by M. Kenny, January 2007, Retrieved January 10, 2011, from <http://www.webpronews.com/choosing-the-right-project-management-software-2007-01>

Figure 2

### *Project Management Software Selection Framework*

#### *Summary*

What is the appeal for an organization to invest abundant time, money, and resources for enterprise technology when there are so many ways the project can fail? The goal is to gain a competitive advantage whether it is to integrate multiple departments together, enhance operational efficiency, streamline business processes, or reduce the workforce. Research suggests that successful enterprise technology projects focus most of their energy during the planning phase of the project to properly prepare employees for the change. Top management must work on mitigating resistance by assessing the organization regarding what fears are prevalent so that management can intervene with the



appropriate tools. Even though *management intervention* may sound like a simple approach, change management is deeply complex and has been described as improvisational and quite unpredictable (Orlikowski & Hofman, 1997). It takes a combination of methods, models, and rich qualitative data to understand and approach the sensitive issue of changing the way people do their day-to-day jobs. It seems that one model or method does not fit all. Each organization is unique.

The above research suggests that implementation of large-scale change, such as enterprise technology, is no small feat and must be well planned. For the enterprise technology to be successful, the leadership team must select the right software, create a future state vision, analyze current business processes, conduct stakeholder analysis, exhibit top-down support, engage bottom-up empowerment, offer adequate training, administer post-implementation support, reinforce new behaviors, and assess (and then optimize) employee attitudes toward the change.

The present case study analyzed how well XYZ Media Company leveraged change management theory with the implementation of PPMC. The overarching research questions addressed were: (a) What attributes are necessary to have a successful implementation of enterprise technology? (b) Was the PPMC enterprise technology implementation successfully adopted by end users of Media Works? Chapter 3 describes the methods used in this study, including the research design, sampling methodology, measurement, and data analysis procedures.

## Chapter 3

### Methods

This chapter describes the methods used in this study. The overarching research questions were: What attributes are necessary to have a successful implementation of enterprise technology? Was the enterprise technology implementation successfully adopted by end users of Media Works? This chapter describes the research design and procedures related to sampling, data collection, protection of human subjects, measurement, and data analysis.

#### *Research Design*

A mixed methods research study using both quantitative and qualitative data collection and analysis was conducted from August to December 2010. Quantitative data was collected using SurveyCentral, an internal XYZ Media Company survey tool. Qualitative data research was collected through two focus group interviews that asked open- and closed-ended questions to gain deeper insights about the PPMC implementation and employees' attitudes toward the PPMC system. Survey and interview data were corroborated using triangulation. The aim of this study was to determine why the PPMC project was considered a success or failure.

#### *Sampling*

The researcher conducted a direct user query from PPMC to classify the total Media Works user population of 380 employees as either project managers or resource managers in the PPMC tool. Most of these employees were directly impacted by the PPMC implementation and have been mandated to use the tool. These individuals comprised the survey sample.

Ten percent (38) of the 380 respondents were selected for the focus group interviews, based on their department, title, tool usage, and subject matter expert status. The goal of this sampling approach was to include representation from the bottom of the organization all the way to the top of the organization to gain insight and viewpoints from all levels in the organization.

#### *Data Collection*

The study was conducted in two parts. Part 1 consisted of a mixed-method online survey issued on August 16, 2010, through a company email from the director of the project management office to all 380 end users of the PPMC tool. The email included an explanation of the survey and the consent form.

Participation in the survey was voluntary. Reminder emails were sent for two consecutive weeks by the researcher and by the senior vice president of the project management office to increase the response rate. A total of 88 end users responded, yielding a 23% response rate.

Part 2 involved two focus groups, conducted with the aim of gathering a cross-section of project managers, resource managers, and executive managers. Focus group participants received an information sheet explaining the study and a consent form (Appendix A). Participants were encouraged to sign up for a focus group via email and participation was voluntary. Two groups were conducted and facilitated by the researcher. The Day 1 focus group consisted of 8 participants and the Day 2 focus group consisted of 15 participants. The participants varied in job title and experience, thus, representing a diagonal slice of the organization. Focus groups took place in private conference rooms at XYZ Media Company and lasted 1 hour in length.

The focus group approach allowed the researcher to learn about the subject through the narrative responses of the participants. The design of the focus group was to present the survey findings, confirm or refute them with the group, and collect additional qualitative data by performing a deep-dive dialogue of the survey questions. This research study also contributed to the Media Works body of knowledge for technology implementation.

The focus groups were audio-recorded by participant consent. The recordings were used solely for the purpose of creating transcripts. The recordings were permanently deleted after transcription. All participants' responses are kept confidential. Only aggregate data is reported in this project and any subsequent analysis or publication of the results. Handwritten notes will be stored securely in the researcher's locked file cabinet for 2 years, after which time, it will be destroyed.

#### *Protection of Human Subjects*

Approval for this research was obtained on August 10, 2010, from Pepperdine University's Institutional Review Board and complies with human subjects' research and its guidelines. The researcher completed the Human Participants Protection Education for Research Teams course sponsored by the National Institute of Health in November 2009 (Appendix B). SurveyCentral, the internal survey tool used for this research, collected anonymous data and extracted participant names and identification numbers. Once a participant launched the survey, a disclaimer appeared that explained the study and voluntary nature of the participation. The subject's consent to participate was obtained by submitting the survey electronically. There were no apparent risks,

costs, or financial incentives to participate in this study. Anyone could refuse to answer a question or withdraw at any time without risk or penalty. The online questionnaire data will be kept confidentially under a password-protected internal database for 2 years, after which time it will be automatically purged. The researcher took notes during the focus groups and names were kept anonymous. No comments were attributed to any individual.

### *Measurement*

The researcher created the survey questions and a portion of the questions were inspired by the membership website *www.cio.executiveboard.com*. XYZ Media Company subscribes to this website and allows Media Works employees free access to it. The website contains IT industry best practices with a wealth of case studies, research, surveys, and quantitative analysis similar to Gartner.

The content validity and reliability of the survey and focus group script used in this study were confirmed through several measures. First, the literature review (see chapter 2) informed the survey and focus group questions. Second, the survey was validated by Pepperdine University advisors, senior management of the Media Works project management office, and the human resources department of XYZ Media Company.

The PPMC User Adoption Survey (see Appendix C) included five items used to obtain demographic data regarding the participants' title, department, years of project management experience, and PPMC training. The remaining questions focused on employee satisfaction of the PPMC implementation divided into seven categories (see Table 1).

Table 1  
*Survey Design*

Category	Sample Question
1. Ease of transition	The change to the project and portfolio management center tool was relatively easy
2. Training and support	I received adequate training to use the project and portfolio management center tool
3. System quality	I think the project and portfolio management center tool as adequate performance and response time
4. Project and portfolio management center usage	The project and portfolio management center tool has the functionality I need to do my job
5. Leadership and support	My direct manager encouraged me to use the project and portfolio management center tool
6. Organizational strategy	Overall, the project and portfolio management center tool provides value for the organization
7. Voice of the customer	I feel my needs were considered in the design or implementation of the project and portfolio management center tool

Survey items were rated using a 7-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree. All questions contained an open text box so participants could elaborate on their responses if desired. Two open-ended questions were provided at the end of the survey asking (a) if the subject had any improvement ideas and (b) if there is any information about PPMC that they had not received.

Once the survey was disseminated and closed, the researcher conducted two focus groups. Data from the survey was presented to the focus group participants, followed by open-ended questions that verify whether they agreed or disagreed with the data. Open-ended questions were used to further explore participants' attitudes toward the PPMC implementation and the perceived value of the tool. Questions explored any negative issues (pain points) being incurred and suggestions for improvement.

### *Data Analysis Procedures*

Quantitative analysis was achieved by tallying demographic variables such as job title, number of years of formal project management experience. Descriptive statistics (e.g., measures of central tendencies, frequency distributions) were calculated as appropriate. Statistical significance for this study was defined as a probability of  $< 0.05$ .

Quantitative data were analyzed by collapsing responses into three different categories (agreement, disagreement, and neutral) then a visual representation of the data was created by illustrating the range of survey responses with charts that tally the number and percentage of respondents for each question and category.

Content analysis was used to examine the qualitative data obtained from the focus groups and from the comments entered into the survey. Responses were coded and organized to determine common themes and saturation levels were determined where possible.

The coding, data entry, and data analysis were completed by the researcher and confirmed by an independent auditor. Finally, the quantitative and qualitative results were triangulated to find similarities, differences, and themes.

### *Summary*

This chapter described the methods used to collect and analyze the data. The research design and procedures related to sampling, data collection, protection of human subjects, measurement, and data analysis were outlined. Chapter 4 reports the findings.

## Chapter 4

### Results

This case study examined how a large-scale enterprise technology project was implemented and managed by the leadership team and how well the change was adopted by employees of Media Works during 2010. Two research questions were examined:

1. What attributes are necessary to have a successful implementation of enterprise technology?
2. Was the PPMC enterprise technology implementation successfully adopted by end users of Media Works?

This chapter presents findings of the study. First, the survey results are presented. Second, the focus group data are reported. Third, the survey and focus group are compared. The chapter ends with a summary.

#### *Survey Results*

Eighty-eight (23%) of the 380 end users of the PPMC tool completed the survey. The following sections report the respondent demographics and survey results regarding areas of employee satisfaction and dissatisfaction with the PPMC project implementation.

#### *Demographics*

A good cross-section of the IT organization was obtained. Results showed that at least one participant from each of the company's 10 departments participated in the survey. Regarding PPMC training, 98% of subjects had attended this training, demonstrating that almost all respondents can speak with authority about the use of the PPMC tool.



Regarding how subjects managed projects before the implementation of the PPMC tool, results indicated a variety of methods, including email (12%), Excel spreadsheets (20%), Google documents (2%), internal ticketing systems (7%), Microsoft Project (18%), shared folders (11%), internal workflow systems (16%), and internal time management systems (11%).

Respondents also indicated they use a variety of formal project management methodologies (see Table 2). One quarter of respondents ( $N = 28$ ) reported not using any formal project management methodology indicating a gap in project manager skill set.

Table 2

*Use of Formal Project Management Methodology*

Project Management Methodology	<i>N</i>	%
Project Management Institute	24	21%
Waterfall	15	13%
Agile	13	11%
Rational Unified Process	11	10%
Not Applicable	8	7%
Accelerated SAP	7	6%
Other	4	4%
Critical Chain Project Management	2	2%
Prince	2	2%
None	28	25%

$N = 88$

A wide variety of job levels were represented with managers ( $N = 21$ ) and senior managers ( $N = 32$ ) being the majority of respondents (see Table 3). Data analysis was performed to see if there was any correlation between job title and percentage of user acceptance of the PPMC project (calculated based on the total percentage of positive responses to the survey statements). The analysis revealed that respondents who are most likely to use the PPMC tool (such as

project managers, engineers, database administrators) had a slightly lower user acceptance rate (43%) versus directors and senior-level executives, who had the highest user acceptance rate (54%) but are least likely to use the tool for day-to-day operations. These findings were not statistically significant, however.

Table 3

*Job Title at Media Works*

Job Title	N	%
Architect	3	3%
Business Analyst	6	7%
Contractor	3	3%
Database Administrator	2	2%
Director or senior level executive	32	36%
Engineer	5	6%
Manager	21	24%
Project Manager	7	8%
Technical Project Manager	7	8%
Other	1	1%
No answer	1	1%
Total	88	100%

*N* = 88

The majority of respondents had considerable project management experience: 55% (*N* = 48) had 6 to 10-plus years of project management, meaning they could provide an educated response regarding why the PPMC tool is effective for managing projects (see Table 4). An analysis was performed to see if there was any correlation between years of project management experience versus the percent of user acceptance of the tool. No significant findings were discovered.

*Change Management Variables*

Seven variables (ease of transition, training and support, PPMC quality, PPMC usage, leadership and peer support, organization strategy, and voice of

the customer) were examined to assess their role in change management success. This section reports the findings related to these variables.

Table 4

*Years of Formal Project Management Experience*

Years of Experience	<i>N</i>	%
0-2 years	16	18%
2-4 years	9	10%
4-6 years	15	17%
6-8 years	6	7%
8-10 years	10	11%
10+ years	28	32%
Not applicable	4	5%
Total	88	100%

*N* = 88

Ease of transition refers to whether the subject felt adequately prepared for the PPMC transition (see Table 5). Results show that 71% (*N* = 61) of respondents believed there was adequate communication about the transition, meaning they knew the change was coming. However, only 31% (*N* = 26) believed the transition to the tool was easy with minimal disruption.

Table 5

*Ease of Transition*

Statements	<i>N</i>	Percent Agree	Percent Disagree	Percent Neutral
Q8. Received adequate communication about the transition	88	70% (62)	20% (18)	9% (8)
Q9. Felt prepared for the transition	87	59% (51)	28% (24)	13% (12)
Q10. The change to the tool was relatively easy	86	30% (26)	58% (50)	12% (10)
Q11. I can use the tool to get my job done	88	57% (50)	34% (30)	9% (8)

*N* = 88

Training and support referred to whether respondents felt they received adequate training and post-implementation support for PPMC (see Table 6). This variable received the second highest score on the survey. A total of 62% ( $N = 54$ ) reported they received adequate training and 79% ( $N = 68$ ) believed they had adequate support available to them after PPMC went live.

Table 6

*Training and Support*

Statements	<i>N</i>	Percent Agree	Percent Disagree	Percent Neutral
Q12. Received adequate training to use the PPMC tool	87	62% (54)	22% (19)	16% (14)
Q13. Training provided useful resources to use for future reference	88	63% (55)	18% (16)	19% (17)
Q14. I have adequate support available if I have questions or need help	86	79% (68)	9% (8)	12% (10)
Q15. I find the current communications from the project management office team helpful	87	63% (55)	14% (12)	23% (20)
<i>N</i> = 88				

PPMC quality refers to users' perceptions of the PPMC performance and response time (see Table 7). This variable earned the lowest scores. Only 23% ( $N = 20$ ) thought PPMC had adequate performance and response time. Only 24% ( $N = 21$ ) indicated that PPMC operates the way they expected.

Table 7

*Project and Portfolio Management Center Quality*

Statements	<i>N</i>	Percent Agree	Percent Disagree	Percent Neutral
Q16. I think the PPMC tool is reliable (it does not crash or freeze)	88	40% (35)	50% (44)	10% (9)
Q17. I think the PPMC tool as adequate performance and response time	88	23% (20)	70% (62)	7% (6)
Q18. The PPMC tool operates the way I expect	87	24% (21)	49% (43)	26% (23)
<i>N</i> = 88				

PPMC usage assessed respondents' views about their actual use of the tool and whether they believed PPMC was valuable to them and the organization (see Table 8). This variable earned the second lowest scores. Only 23% ( $N = 20$ ) thought the tool improved organizational productivity (the lowest scoring question for this variable). Regarding PPMC reports and dashboards, only 30% ( $N = 26$ ) indicated that the reports and dashboards increased operational effectiveness.

Table 8

*Project and Portfolio Management Center Usage*

Statements	<i>N</i>	Percent Agree	Percent Disagree	Percent Neutral
Q19. The PPMC tool has the functionality I need to do my job	86	40% (34)	40% (34)	21% (18)
Q20. I think the PPMC tool has improved Media Works productivity	88	23% (20)	53% (47)	24% (21)
Q21. PPMC dashboards, reporting, and real-time data has improved the visibility and/or quality of my data	88	47% (41)	27% (24)	26% (23)
Q22. PPMC dashboards, reporting, and real-time data has increased the effectiveness of my business operations and/or managing my project	87	30% (26)	34% (30)	36% (31)
Q23. As a result of the PPMC tool, my colleagues and/or manager has more visibility into my work	88	49% (43)	25% (22)	26% (23)
<i>N</i> = 88				

Leadership and peer support assess whether respondents perceived their managers and peers as supportive of the change to the PPMC tool (see Table 9). This variable earned the highest scores. A total of 85% ( $N = 75$ ) reported that their direct managers encouraged use of the PPMC tool. Additionally, 81% ( $N = 71$ ) believed the senior leadership team supported the change to PPMC and conveyed that to the respondents and their peers. Finally, 75% ( $N = 66$ ) reported

that their direct managers not only supported the tool, but they also had a positive and supportive attitude toward it.

Table 9

*Leadership and Peer Support*

Statements	N	Percent Agree	Percent Disagree	Percent Neutral
Q24. My peers encouraged me to use the PPMC tool	87	49% (43)	28% (24)	23% (20)
Q25. My direct manager had a positive and supportive attitude toward the PPMC tool	88	75% (66)	9% (8)	16% (14)
Q26. My direct manager encouraged me to use the PPMC tool	88	85% (75)	7% (6)	8% (7)
Q27. The senior leadership in my department supported the change to PPMC and conveyed that to myself and my team	88	81% (71)	6% (5)	14% (12)
Q28. I felt the CIO supported the change to PPMC and conveyed that to the organization	88	73% (64)	14% (12)	14 (12)

*N* = 88

Organization strategy referred to whether respondents understood what XYZ Media Company was striving to achieve with the implementation of an enterprise project management solution (see Table 10). The majority of respondents (84%, *N* = 74) agreed they understood what XYZ Media Company was trying to achieve with an enterprise solution; however, they did not see the value in the tool, as evidenced by Question 33, which showed that only 46% (*N* = 40) of respondents reported a positive response. Additionally, a majority of the respondents did not think the PPMC tool complemented their current business processes, as only 39% (*N* = 34) reported a positive response. The last question in this section asked if respondents were overall satisfied with the PPMC tool. Only 33% (*N* = 28) agreed they were satisfied.

Table 10

*Organization Strategy*

Statements	N	Percent Agree	Percent Disagree	Percent Neutral
Q29. Regarding the statement, "I understand what Media Works is trying to achieve with the PPMC tool" would you say...	88	84% (74)	9% (8)	7% (6)
Q30. The PPMC tool provides improved transparency for Media Works projects	86	59% (51)	19% (16)	22% (19)
Q31. The PPMC tool provides improved transparency for Resource Management	87	62% (54)	20% (17)	18% (16)
Q32. The PPMC tool compliments my current business processes	87	39% (34)	34% (30)	26% (23)
Q33. Overall, the PPMC tool provides value for the organization	87	46% (40)	31% (27)	23% (20)
Q34. Overall, I am satisfied with the PPMC tool	86	33% (28)	44 (38)	23 (20)
<hr/>				
N = 88				

The last section in the survey assessed whether respondents felt their opinion or voice was considered during the design of the PPMC tool (see Table 11). This was the third lowest scoring variable. Only 38% ( $N = 33$ ) reported they were involved with the design or implementation of PPMC. Furthermore, only 35% ( $N = 30$ ) believed their needs were considered in the design and implementation of the PPMC tool. Only 40% ( $N = 34$ ) believed previous process pain points were resolved with the implementation of PPMC.

Table 11

*Voice of the Customer*

Statements	N	Percent Agree	Percent Disagree	Percent Neutral
Q35. I was involved with the implementation of the PPMC tool	86	38% (33)	36% (31)	26% (22)
Q36. I feel my needs were considered in the design or implementation of the PPMC tool	85	35% (30)	33% (28)	32% (27)
Q37. I feel my pain points with the previous IT Business processes were heard and addressed with the PPMC Enterprise solution	86	40% (34)	33% (28)	28% (24)
<hr/>				
N = 88				

### *Open-Ended Responses*

After each question in the survey, an open text box was available for respondents to provide comments if desired. Respondents provided 384 comments. Most comments were focused on the quality of tool. One respondent, for example, shared, “I think PPMC is pretty much a big piece of dirt. . . . My director thinks it’s the biggest piece of dirt he’s ever seen.” In contrast, another participant shared, “I think PPMC is a great step toward portfolio management maturation in the organization.”

More than half the comments (55%,  $N = 210$ ) were focused on tool usability, meaning their actual use of the tool. Subthemes were: (a) the tool is too cumbersome and difficult to use (20%,  $N = 42$ ), (b) the tool is too time consuming and decreases productivity (20%,  $N = 42$ ), and (c) the overall performance of the tool is too slow (27%,  $N = 56$ ).

A second popular theme concerned training and support (15%,  $N = 57$ ). Although the training and support variable earned the second highest ratings in the quantitative portion, 25 comments expressed frustration that the training was at too high a level (23%,  $N = 13$ ); the training documentation was not adequate enough for such a complex tool (11%,  $N = 6$ ); and the support team was responsive, but could not always answer questions (11%,  $N = 6$ ). Table 12 presents a detailed breakdown of themes and sub-themes.



Table 12

*Summary of Open-Ended Survey Responses*

Themes and Sub-themes	Frequency and Percent
PPMC usage Slow performance ( <i>N</i> = 56, 26.67%) The tool is cumbersome & difficult to use ( <i>N</i> = 42, 20.00%) Productivity decrease / time consuming ( <i>N</i> = 42, 20.00%) I use a secondary tool project mgmt tool ( <i>N</i> = 25, 11.90%) Tool does not work as expected ( <i>N</i> = 9, 4.29%) I am not confident about the tool capability ( <i>N</i> = 9, 4.29%) I feel confident about PPMC capability ( <i>N</i> = 6, 2.86%) I enter minimum data in the tool ( <i>N</i> = 6, 2.86%) Tool is inflexible ( <i>N</i> = 6, 2.86%) I now have double entry of data in 2 systems ( <i>N</i> = 5, 2.38%) I've heard bad things about the tool ( <i>N</i> = 1, 0.48%) The tool has bugs ( <i>N</i> = 1, 0.48%) I desire enhancements to PPMC ( <i>N</i> = 1, 0.48%) Tool not "lean" ( <i>N</i> = 1, 0.48%)	210 (54.69%)
Training and support Inefficient training ( <i>N</i> = 13, 22.81%) Efficient support ( <i>N</i> = 8, 14.04%) Inefficient documentation ( <i>N</i> = 6, 10.53%) Inefficient support ( <i>N</i> = 6, 10.53%) Tool is difficult to use so I need a lot of support ( <i>N</i> = 6, 10.53%) PPMC was bad timing ( <i>N</i> = 4, 7.02%) Need robust reporting ( <i>N</i> = 4, 7.02%) Efficient training ( <i>N</i> = 3, 5.26%) Forgot training ( <i>N</i> = 2, 3.51%) Process not clearly defined during training ( <i>N</i> = 2, 3.51%) I need a refresher ( <i>N</i> = 2, 3.51%) Efficient documentation ( <i>N</i> = 1, 1.75%)	57 (14.84%)
Leadership support Leadership supportive ( <i>N</i> = 15, 42.86 %) Leadership not supportive ( <i>N</i> = 12, 34.29%) Leadership neither supportive or unsupportive ( <i>N</i> = 8, 22.86%)	35 (9.11%)
Ease of transition I did not feel prepared for the transition ( <i>N</i> = 10, 31.25%) I had no choice. Forced to use tool ( <i>N</i> = 8, 25.00%) Poorly executed project ( <i>N</i> = 4, 12.50%) PPMC delayed my project ( <i>N</i> = 3, 9.38%) PPMC is not used consistently across org ( <i>N</i> = 3, 9.38%) I heard nothing but bad things about PPMC ( <i>N</i> = 2, 6.25%) PPMC was bad timing ( <i>N</i> = 1, 3.13%) Process not clearly defined ( <i>N</i> = 1, 3.13%)	32 (8.33%)

Table 12 (Continued)

Themes and Sub-themes	Frequency and Percent
Process The process is not clearly defined ( $N = 13$ , 68.42%) I now have double entry of data in two systems ( $N = 3$ , 15.79%) Productivity decrease / time consuming ( $N = 3$ , 15.79%)	19 (4.95%)
Communication Communication was adequate ( $N = 8$ , 57.14%) Communication quality not adequate ( $N = 6$ , 42.86%)	14 (3.65%)
Reporting Need robust reporting ( $N = 11$ , 2.86%)	11 (2.86%)
Organization strategy I understand the strategy, but tool is too difficult ( $N = 2$ , 33.33%) I'm supportive of the tool & org strategy ( $N = 2$ , 33.33%) The PPMC project was a poorly executed project ( $N = 1$ , 16.67 %) The process is not clearly defined ( $N = 1$ , 16.67%)	6 (1.56%)

$N = 88$ ; PPMC = Project and Portfolio Management Center

### *Focus Group Results*

To prepare for the focus group, the survey results were presented to the ePMO leadership team, which was comprised of the vice president, director, and manager. The presentation included the purpose of this research, the survey methodology, and how the results were analyzed (calculating frequencies of positive responses to each question). The presentation was organized by presenting results of each survey category along with the user response to each question. High-level themes derived from the 384 open-ended comments were presented. The researcher concluded the presentation by explaining the areas that the ePMO team should be proud of, such as leadership and peer support and PPMC training and support, along with areas of opportunity, such as PPMC usage and engaging the voice of the customer. The ePMO team validated the

survey results by acknowledging that there were no surprises and that the survey results were consistent with the feedback they had received.

The researcher explained that the next steps should be an intervention into the project management community via focus group. The focus group provided an opportunity to improve the reputation of the PPMC tool and foster bottom-up support. A focus group also would give the ePMO team an opportunity to drill down into the areas that did not score well on the survey and gain a better understanding of the community's pain points. Whereas the survey data provided high-level, general impressions, the focus group provided focused and actionable data on areas that the ePMO could address and improve.

The design of the focus group was to present the survey findings and validate them with the group. Participants had the opportunity to agree or disagree with the survey findings. Additionally, poster boards were hung throughout the meeting room to capture feedback and organize it. Poster boards were labeled with the following categories: *Tool Usability, Process Related, Reports, Training, and Parking Lot*. Any feedback given during the focus group was written down on the applicable poster board. Furthermore, each focus group participant was given three small, colored stickers labeled 1, 2, and 3. The purpose of the stickers was to allow each subject to label by order of priority their top three issues that they would like the ePMO team to address or resolve. During the conclusion of the focus group, the subjects were allowed to walk through the room and place a sticker by the three top priority items on the poster boards.

During both focus groups, participants agreed with the areas that were successful about the project implementation (leadership and peer support, training and support, organization strategy, ease of transition). The participants also agreed on the areas that need improvement (voice of customer, PPMC usage, PPMC quality). Once the survey results were presented, the researcher gathered feedback on the areas that need improvement. Table 13 contains data collected during the first focus group and Table 14 contains data collected during the second focus group. Table 13 and 14 reflect the items that participants would like addressed by the ePMO department, reduced down to overall themes and sub-themes (see Appendix D for detailed feedback). Starred items represent the leading theme of user frustration in each focus group.

Table 13

*Improvement Areas Identified by Focus Group 1*

	Identified as Priority			
	Level			Sum
Improvement Areas (27 total comments)	1	2	3	
PPMC Usage: 12 comments (44.44% of total)				
In general, the system lacks the ease of use expected*	4	3	3	10
Tool is too slow: Takes too long to open pages	2	2		4
It takes too many steps to manage a task in a work plan		2		2
Tool does not generate proper notifications			1	1
Process: 6 comments (22.22% of total)				
Too many process steps in tool		1	3	4
Finance process not aligned with tool	1			1
Reporting: 4 comments (14.82% of total)				
Need ad hoc reporting capability			1	1
Reports time-out	1			1
Reports are not intuitive			1	1
Training and Support: 5 comments (18.52% of total)				
Need "cheat sheets" for the tool				
Need frequent and more robust training				
Need trained PPMC experts in each department				

N = 8; \*Leading theme of user frustration

Table 14

*Improvement Areas Identified by Focus Group 2*

	Identified as Priority			
	Level			Sum
	1	2	3	
Improvement Areas (39 total comments)				
PPMC Usage: 17 comments (43.59% of total)				
Need better integration of PPMC modules and other tools (7 votes)	3	3	1	7
Tool does not function as expected, not intuitive (5)	1	1	4	5
In general, system performance needs improvement (4)	2	1	1	4
Due to tool difficulty, I manage some work outside the tool (thus, duplicating effort) (1)			1	1
Process: 14 comments (35.90% of total)				
PPMC does not match with how we run projects and/or business processes* (9)	4	5		9
Too many process steps in tool (3)	1	2		3
The process is too cumbersome for small projects (3)	1	1	1	3
Leadership team needs to communicate how PPMC is leveraged (3)		1	2	3
Process issues should be resolved before adding more functionality (3)	1		2	3
People are not following the process (1)		1		1
Reporting: 6 comments (15.38% of total)				
Search criteria on financial report does not work (3)	2		1	3
Reports time out (1)			1	1
Need more robust reporting capabilities				
Training and Support: 2 comments (5.13% of total)				
Need frequent and more robust training				

*N* = 15; \*Leading theme of user frustration

The focus group data was consistent with the survey, as evidenced by PPMC Usage being the top item of concern for focus group participants (over 43% of the feedback collected in each focus group was around tool usage). The highest priority issue according to Focus Group 1 participants was “the system lacks the ease of use as expected.” Therefore, the participants want the ePMO to make the tool easier to use and more intuitive. The difficulty of using the tool seems to give a perception that department productivity decreases. For example, one participant said, “PPMC is too cumbersome to use. . . . Just to manage projects, we need a dedicated resource to keep PPMC up to date.”

The highest priority issue according to Focus Group 2 participants was the “PPMC does not match how we run projects and/or business processes.” This is a complex item to address. Each IT department has its own style of managing projects and its own processes. This comment suggests that the ePMO needs to either design the tool around each department’s way of managing projects or mandate a project management methodology. One focus group participant summed up the frustration by stating,

The process was not defined, where it was easy for users to follow. I understand little tweaks and changes will go on after the transition, but there were huge misses that were not implemented even after the transition took place.

#### *Comparison of the Data*

The focus group study continued this researcher’s attempt to determine if the PPMC project was successful and, if it was not viewed as successful, what factors determined the project as unsuccessful. The survey data and the focus group data were consistent. When presenting survey data to the focus groups, they agreed that the PPMC project was successful in the areas of leadership and peer support, training, post-implementation support, and organization strategy. Both the survey and the focus groups had the most concern around the tool usage. Participants believed the tool is too complex and too slow, ultimately reducing productivity.

The only slight difference between the survey and the qualitative data was in the area of training and support. Although training and support was the second highest scoring variable on the survey, focus groups participants conveyed that more help is needed with the tool. Participants suggested having regular

refresher training, help with configuring reports, and a dedicated PPMC trainer to work with each business unit to inform employees about how the tool fits with their business processes. Additionally, qualitative data within the survey indicated frustration that the training was too high level (23%,  $N = 13$ ); the training documentation was inadequate for such a complex tool (11%,  $N = 6$ ); and that the support team was responsive, but could not always answer questions (11%,  $N = 6$ ).

### *Summary*

This chapter presented the results of the study. The first section described the results of the PPMC survey which contained both quantitative and qualitative data. The survey respondents represented a sample of Media Works employees who use the PPMC tool ( $N = 88$ ). The survey results indicated the average of responses showing areas of satisfaction or dissatisfaction.

1. Positive responses: Users were satisfied with the following areas of the PPMC implementation: leadership and peer support (73%), training and support (67%), and organization strategy (58%).

2. Negative responses: Users were **not** satisfied with the following areas of the PPMC implementation: ease of transition (55%), voice of the customer (38%), system quality (30%), and PPMC usage and ease of use (37%).

The second section presented the focus group findings. The survey results were presented to the focus group participants for validation. Detailed pain areas also were documented during the focus group.

The third section described the similarities and differences between the survey and the focus group. This study revealed that although three of the seven

project implementation variables were considered successful, the overall tone and feeling toward PPMC is not positive, which is mainly due to the complexity of the tool. Chapter 5 draws conclusions on what happened with the PPMC implementation, why it happened, the implications for the future, and recommendations going forward.



## Chapter 5

### Discussion

This case study examined how a large-scale enterprise technology project was implemented and managed by the leadership team and how well the change was adopted by employees of Media Works during 2010. Two research questions were explored:

1. What attributes are necessary to have a successful implementation of enterprise technology?

2. Was the PPMC enterprise technology implementation successfully adopted by end users of Media Works?

This research reviewed relevant literature including a review of the enterprise technology landscape, change management theories, and trends for implementing enterprise technology. For example, this study examined Chua's (2009) findings on technology project failure and risk factors as well as early warning signs of project failure, such as lack of top management support, weak project management, lack of documented requirements, and lack of a change control process. Cummings and Worley (2008) provided research on change management theories and the importance for change implementers to understand how to properly manage the "people side" of technology change. The psychological impact of change management is supported by Herold et al. (2007), who looked beyond the process of change management to examine the impact of the consequences of the change for the affected individual.

### *Findings*

The simple “textbook” definition of what makes a successful project is that the project is implemented on time, on budget, and with the required features and functions (CIO Executive Board, 2007b). On paper, PPMC was a success. It was implemented on time, it was under budget, and it delivered the required number of planned features. However, statistics show that enterprise technology failure remains in the 67% to 90% range (Martin & Huq, 2007), and this project implementation is no exception. This research supports the fact that success cannot merely be measured by a project completed on time, on budget, with the required features. This study looked beyond time and budget and examined the individuals impacted by the change and how they received and adopted the change.

Based on this study, the key success factors of the PPMC implementation are:

1. Leadership and peer support. An average of 73% of respondents felt there was strong top-down support of the PPMC project. 85% ( $N = 75$ ) of the respondents indicated that their direct managers encouraged the use of the PPMC tool. 81% ( $N = 71$ ) of the respondents felt the senior leadership team supported the change to PPMC and conveyed that to team members. Meaning, most leaders informed their team about the PPMC project and encouraged or enforced the use of the tool. This supported the findings of Cummings and Worley (2008), and Kotter (1996), who contended that for a successful change to happen, change agents must develop political support and put together a guiding coalition of people who have enough power to lead the change.

2. Training and support. An average of 67% of respondents was satisfied with the training provided by the ePMO. Nearly 80% ( $N = 68$ ) of the respondents felt they had adequate support available to them after PPMC went live. Respondents seem comfortable with the training which is a positive variable for project success. It implies that any frustration with the tool can be related to the tool itself and not a lack of training. This variable directly relates to Cummings and Worley's (2008) model that outlined the activities that contribute to effective change management. The model holds that leaders must sustain momentum of a change by developing new competencies and skills with training programs. This also supports Chua (2009), who argued that part of IT project success is attributed to proper user training.

3. Organization strategy. The overall acceptance rate for this category was 58% which implies marginal overall acceptance, however, a question in this category revealed that 84% of respondents ( $N = 74$ ) agreed that they understand what XYZ Media Company is trying to achieve with an enterprise solution which is significant success factor. This indicates there was adequate communication about the PPMC project regarding the overall vision and goal. This also implies that people understand the need for an enterprise solution regardless of whether PPMC was the "right" solution. This supported the findings of a number of studies by Cummings and Worley (2008), Kotter (1996), Chua (2009), Herold et al. (2007), who all acknowledged that one of the most important variables for a successful change is to create and communicate a vision of the future state so the organization understands the reason for the change.

The key challenges of the PPMC implementation are:

1. Voice of the customer. Only 38% ( $N = 33$ ) indicated they were involved with the PPMC implementation and only 35% ( $N = 30$ ) believed their needs were considered during the design of PPMC. The lack of employee involvement resulted in low numbers for this category. Employees are more likely to resist change when they are not invited to be involved with the change. As a result, there was great resistance to the PPMC project and this could have negative implications for any future change initiatives in the company. A roadblock to future change could be present if the overall sentiment is that the organization does not consider employee needs. This finding supports Chua's (2009) research about the importance of employee involvement.

2. System quality. Only 23% ( $N = 20$ ) thought PPMC had adequate performance and response time. Therefore, 77% ( $N = 65$ ) think the tool is too slow. The qualitative data also indicated that users are frustrated with the slowness of the PPMC tool. Case in point, 98 out of 384 comments captured in the survey expressed frustration with the slowness of the tool and how the tool decreases productivity. Just this variable alone caused employees to start speaking poorly of PPMC and igniting bad press about the tool across the organization. This implies a huge miss from the technical implementers of the tool. The tool's performance should have been optimized by the technical team before rolling the tool out to production, as speed is one of the first variables noticed when logging into an application. This supports the findings of Chen et al. (2009) who conducted a case study on enterprise technology success factors including proper software selection.

3. PPMC usage and ease of use. An average of 37% of respondents indicated a positive response about the functionality of the tool, meaning 63% on average are frustrated with the use of the tool. Further substantiation can be drawn from the quantitative data written in the survey: 55% of the comments written in the survey were negative commentary about the use of the tool. Out of the 55%, 57 comments expressed frustration with the use of the tool, stating it was inflexible, cumbersome, and difficult. The focus group data further expressed participants' frustration with the tool by voicing that the number one reason for frustration is "the system lacks the ease of use as expected." Thirty comments (out of the 55%) expressed frustration that a secondary project management tool must be used because PPMC is too difficult.

Another frustration expressed in the focus group data was that PPMC does not match the way the organization runs projects. Meaning, the process does not match the tool.

The implication of selecting a difficult tool results in low user adoption and potentially decreased productivity if users are spending their time circumventing the tool. Furthermore, if users are circumventing the tool, that means the quality of data entered into the tool is compromised and the output of metrics that executives rely on are liable to err; thus, defeating the purpose of the tool. This supports the findings of Chen et al. (2009) on the importance of proper software selection.

3. Ease of transition. Although a high number of respondents believed that communication about the PPMC project was adequate (70%,  $N = 62$ ), only 30% ( $N = 26$ ) believed the change was easy with minimal disruption. This implies that

the communication may have been frequent, but the quality of the communication was not enough to mitigate the challenge of preparing people for such a large change initiative. The findings support Cummings and Worley's (2008) research on overcoming resistance to change through a variety of communication channels.

### *Support of Findings*

One of the challenges for the PPMC project implementation is that subjects believed their voice was not considered during the design of the PPMC tool. This lack of bottom-up support is consistent with other failed projects. As stated in the case study by Chua (2009), one of the key reasons for project failure is lack of adequate user involvement. Cummings and Worley (2008) contended that there are three major strategies for dealing with resistance to change, which are (a) empathy and support, (b) communication, and (c) participation and involvement. When people believe their concerns are heard, they are likely to be less resistant and defensive and more willing to provide useful information that will help resolve barriers to change. Cummings and Worley (2008) also contended that involving employees in planning and implementing a change is one of the most effective strategies for overcoming resistance. This strategy increases the likelihood that the employees' voices and interests are heard and accounted for during the change. Moreover, this strategy increases the likelihood that employees will be committed and willing to shepherd the process if their interests and needs are met.

Another challenge facing the PPMC project is the respondents' frustration with the quality of the tool and that the tool did not match the current business

processes. This is consistent with a project failure as illustrated in a case study conducted by Chen et al. (2009), who researched a Hong Kong based multinational company that implemented an enterprise sales and distribution system. In the case studied by Chen et al., the off-the-shelf software that was purchased did not match the business processes or needs of the business. This case study is a clear example of the negative consequences from not clearly evaluating an enterprise tool and not ensuring the business processes can be replicated in the tool.

Lastly, users of the PPMC tool felt the change to the tool was not easy and felt disruptive. There could be several explanations for this response. Cummings and Worley (2008) have theories as to why change can feel disruptive. Cummings and Worley stated that lack of information about a change can add to anxiety, fuel rumors, and increase speculation. Effective and timely communication can help mitigate fears and help employees mentally and physically prepare for the change. However, merely sending out emails is not always the most effective method of communication and should be complemented with face-to-face meetings and presentations.

### *Recommendations*

Recommendations were drawn based on the study findings. Recommendations are provided for large systems IT implementations and for the study organization.

### *Large Systems IT Implementation*

The impact of these findings indicates that the PPMC implementation was not a complete success. Based on this study, practitioners and organizations should address the following variables before considering an enterprise solution:

1. Process and tool evaluation: Before any tool selection, the organization must evaluate its process before automating it. First and foremost, is it the right process? If so, should the current process be “leaned” to reduce cycle time? Once these questions are addressed, an organization that decides to embark on an enterprise solution needs to determine if the tool can be aligned with the current business processes within the given budget. Additionally, the organization must consider what audience will use the tool. Are they highly skilled technical employees or entry-level employees? Does the functionality of the tool match the skill set of the employees? A complicated tool may actually decrease productivity if users find the tool to be cumbersome and intimidating.

2. Change plan: Leaders need to create the reason and vision for the change as part of the change plan. People resistant to the change should be identified and addressed. The change plan also should identify all key stakeholders and identify inspirational change agents who can assist with the change. Other change plan activities include creating a steering committee that has representation from all levels of the organization. The change plan also should include a communication plan and a project timeline.

3. Employee involvement: Research proves time and time again that an effective change cannot happen without employee involvement. When people believe they are part of the change, they are more willing to support, embrace,



and adopt it. Leaders can accomplish this by engaging the user community for their feedback and ideas, including an invitation to participate in testing and piloting the new solution.

4. Effective training: Enterprise solutions usually are complicated and unintuitive. Setting aside adequate time for quality training programs is necessary for effective adoption of an enterprise technology. Quality training involves getting users away from their day-to-day activities and putting them in front of the tool for hands-on training. If the users are well trained and comfortable using the tool, resistance to the change will most likely decrease (Stam & Stanton, 2010). The organization must consider the time and money it takes to train users properly and include that in the project budget and timeline.

5. Top-down support: Research has supported the idea that leaders need to demonstrate positive support of a change to be effective, and enterprise technology is no exception. Positive support can be contagious and can help mitigate users' fears about a large system change. Supporting the change includes frequent communication, encouraging conversation, soliciting feedback, and addressing fears.

6. Momentum: Momentum for the implementation can be driven by creating a tactical plan of action where the project can be broken down to tangible tasks and assigned to individual employees to create accountability. A project management team can oversee the tasks and ensure that deadlines are being met. After the enterprise technology has been implemented, leaders can then sustain momentum by enforcing new behaviors (such as establishing a reward system for utilizing the enterprise tool), celebrating accomplishments,

providing resources to end users to assist with the change, developing new competencies and skills, and continually engaging the community related to process and tool improvements.

### *XYZ Media Company*

The original intent of PPMC was to have better transparency of IT projects and find an easier way to obtain metrics for operating review meetings. This vision may have been a bit shortsighted. Metrics are only as good as the people entering them in the tool. Therefore, if the tool is complicated, unintuitive, slow, and cumbersome, the quality of the metrics will be compromised. As a result, the PPMC tool suffers from a poor reputation in the company and the ePMO will have to do some heavy campaigning to rebrand the tool and make it more efficient. The ePMO needs to foster the bottom-up support that was missing during the initial implementation and engage the user community by actively listening and implementing improvement ideas. The ePMO also will need to spend time and money positively publicizing the tool internally, increasing the tool's speed, redesigning and simplifying the tool (ensuring that current business processes are mirrored in the tool), and creating additional training to support the redesign.

Most importantly, it is recommended that ePMO defines what its identity is as an organization. Is the ePMO a bureaucratic department that enforces the use of a project management tool to extract metrics? Or, is the ePMO a project services organization that builds capacity in project managers and enables project managers to efficiently execute projects? It is recommended that the ePMO look beyond merely having an expensive metrics tool and focus on

building better project managers. As evidenced by the survey data, there is a gap in project manager skill set, given that 25% of respondents do not use a formal project management methodology.

If the ePMO decides that it is indeed an organization that builds capacity in project managers, then further analysis needs to be conducted on the organization's current project managers and their skill set. Some project managers are more skilled than others, and that gap needs to be identified and addressed. From there, the IT organization can decide what project management methodology is best suited to execute projects for the organization, and then invest resources to train and enable project managers to better deliver IT projects. If the ePMO invests in its project manager community, it will result in swifter time-to-market of projects, increased efficiency, and quicker return on project investment.

#### *Study Limitations*

The limitation of this study is that the researcher was part of the PPMC project team; thus, researcher bias may be present. This effect was accounted for in the research design of the study by using an independent auditor to confirm or modify the coding, data entry, and data analysis completed by the researcher. Additionally, using a multiple-choice survey minimized the risk of bias.

Another study limitation was the low survey response rate of 23%. The low response rate could be attributed to a few factors. First, the survey was sent out to a distribution list of 380 employees who were indicated as users of the PPMC tool (via direct report extracted from PPMC) without verification if they actually do use the tool. As a result, many recipients may have dismissed the survey

because they never actually used the tool. Second, survey bias could result from not getting a balance of subjects who felt positive about the PPMC project.

### *Suggestions for Future Study*

A large part of organization development is concerned with interventions for improving organizations. Having proper interventions during a large-scale technology change is no exception. Therefore, a replication of this study in the future with a larger sample size would be advantageous. The study could be replicated using another organization that recently implemented the PPMC tool and compare the results. If the PPMC tool was implemented with high user acceptance, it would be interesting to see which variables contributed to the project implementation success. The success factors would provide necessary data for other organizations to leverage when considering implementing an enterprise solution. Additional future studies should also challenge the current definition of IT project success, which simply states that a successful project is one that is implemented on time, on budget, and with the required number of features and functions. What is missing from this definition is end user and customer satisfaction. How can an enterprise solution be successful if the majority of end users and customers find the solution difficult and cumbersome to use? As globalization continues and enterprise technology implementation is on the rise, organization development practitioners and project managers alike would benefit from research around how to achieve user satisfaction with large scale technology changes.

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Appendix A  
Study and Consent Form



Investigator	<p>The investigator is available if you want to know more about the study</p> <p><b><u>Principle Investigator:</u></b>          Holli Hudson, Project Manager Digital Content Solutions, B.S. Business Administration, current graduate student at the Graziadio School of Business, Pepperdine University, Malibu, CA.          This research is in partial fulfillment of the requirements for the degree of Masters in Science in Organizational Development.          [contact information]</p> <p><b><u>Faculty Advisor:</u></b>          [contact information]</p>
Purpose of the Research Study	<p>The intent of this interview is to provide insight into the factors that contributed to the adoption rate of the PPMC tool and the criteria that impacts the adoption rate. Knowledge gained from this study will be useful for future enhancements to the PPMC tool, or enhancements to our current business processes, or as part of our “lessons learned” research to benefit future projects.</p>
Subject Inclusion	<p>End users of the PPMC tool who utilize the Project Management and/or Resource Management modules occupying one of the following positions or roles:</p> <ul style="list-style-type: none"> <li>Business Analyst</li> <li>Project Manager</li> <li>IT Manager</li> <li>IT Director</li> <li>IT Vice President</li> <li>IT Senior Vice President</li> </ul>
Study Procedures	<p>Your participation involves a one-on-one interview (or focus group) that will last no longer than 1-2 hours. Questions will focus on your experience with the PPMC tool, your likes, your dislikes, and suggested improvement ideas.</p>
Benefits	<p>By participating in this interview or focus group, you will be providing invaluable data that the organization can use to enhance the PPMC tool and our business processes.</p>
Risks	<p>The only risk is the accidental release of participation data. See <u>Privacy</u> section below. The only link to the research study would be a written agreement to participate.</p>
Right to Refuse	<p>Your participation is voluntary. You are under no obligation to continue with this project and have the option to withdraw from the study at any time.</p>
Privacy	<p>The researcher will take notes. All data will be stored securely in the researchers locked cabinet for two years, after which, all of it will be destroyed. No names will be used to identify anyone. No comments will be attributed to any individual. Only aggregate data will be reported to the project management office and in the thesis. Only aggregate data will be used for any subsequent analysis beyond the thesis and possible future publication of the results.</p>
Consent	<p>I have read the above description of the study. All of my questions have been answered and I understand the study. I understand that I may choose not to participate. If I agree to participate, I understand that I may choose either verbal or written agreement. If I have questions about subject’s rights or other concerns, I can contact S. Quinn, Human Resources Manager, XYZ Media Company</p>

Appendix B

Certificate of Ethics Training Completion



### **Certificate of Completion**

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Holli Hudson** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 11/02/2009

Certification Number: 331623

Appendix C  
PPMC User Adoption Survey

## PPMC User Adoption Survey

**End user Information**

**1. Which of these high-level groups do you belong to? If you are a contractor, select the group you do the most work with:**

International IT  
 Technology Plan  
 Technology Build  
 Technology Run  
 Technology Govern  
 Technology Govern – Corporate Systems  
 Technology Govern – TAM's  
 The SAP CoE  
 One of the Application / Business Technology Groups  
 Finance  
 HR  
 Other

**2. Please select the PPMC training class you attended: (Select all that are applicable)**

PPMC Proposal & Project Management class  
 PPMC Resource Management class  
 I did not attend a training class, but I was trained by a peer or manager  
 I did not receive any training

**3. What method did you use to manage your projects or resources prior to PPMC go-live? (Select all that apply)**

Email  
 Excel spreadsheets  
 Google docs  
 ISR tickets  
 MS Project  
 Shared folders  
 Support Central workflow (i.e. PPM 2.5)  
 TGLP  
 TimeSolutions  
 Other

If "other," explain\_\_\_\_\_

**4. What project management methodology do you use to manage your projects?**

Agile  
 ASAP

CCPM  
 FTP  
 PMI  
 Prince  
 RUP  
 Waterfall  
 Other  
 I don't use any particular project management methodology

If "other," explain \_\_\_\_\_

**5. What is your position in Media Works?**

Administrative Assistant  
 Business Analyst  
 Project Manager  
 Technical Project Manager  
 Manager  
 Director  
 Vice President  
 Senior Vice President  
 Other

**6. How many years of formal project management experience do you have?**

0 – 2 years  
 2 – 4 years  
 4 – 6 years  
 6 – 8 years  
 8 – 10 years  
 10+ years  
 Not applicable

**7. Are you currently using the PPMC tool exclusively to manage your project?**

Yes  
 No

If "NO," why and what are you using? \_\_\_\_\_

**Ease of Transition**

**8. I received adequate communication about the PPMC tool before it was implemented.**

Strongly disagree   
  Disagree   
  Somewhat disagree   
  Neutral   
  Somewhat agree   
  Agree   
  Strongly agree

**9. I feel that I was sufficiently prepared for the transition to the PPMC tool before it was implemented**

Strongly disagree   
  Disagree   
  Somewhat disagree   
  Neutral   
  Somewhat agree   
  Agree   
  Strongly agree

**10. The change to the PPMC tool was relatively easy and caused minimal disruption to my work**

Strongly disagree   
  Disagree   
  Somewhat disagree   
  Neutral   
  Somewhat agree   
  Agree   
  Strongly agree

**11. I know how to use all the functionality in PPMC to get my work done**

Strongly disagree   
  Disagree   
  Somewhat disagree   
  Neutral   
  Somewhat agree   
  Agree   
  Strongly agree

### **Training and Support**

**12. I received adequate training to use the PPMC too successfully**

Strongly disagree   
  Disagree   
  Somewhat disagree   
  Neutral   
  Somewhat agree   
  Agree   
  Strongly agree

**13. The training provided me with useful resources to refer to for future questions**

Strongly disagree   
  Disagree   
  Somewhat disagree   
  Neutral   
  Somewhat agree   
  Agree   
  Strongly agree

**14. I have adequate support available to me if I have questions or need help with PPMC**

Strongly disagree   
  Disagree   
  Somewhat disagree   
  Neutral   
  Somewhat agree   
  Agree   
  Strongly agree

**15. I find the communications from the ePMO team regarding PPMC are useful**

Strongly disagree   
  Disagree   
  Somewhat disagree   
  Neutral   
  Somewhat agree   
  Agree   
  Strongly agree

### **System Quality**

**16. I think the PPMC tool is reliable (i.e. It does not crash or freeze).**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree

**17. I think the PPMC tool has adequate performance and response time**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree

**18. The PPMC tool operates the way I expected**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree

### **PPMC Usage**

**19. The PPMC tool has all the functionality I need to do my job**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree

**20. I think the PPMC tool has improved Media Works productivity**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree

**21. PPMC dashboards, reporting, and real-time data has improved the visibility and/or quality of my data**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree

**22. PPMC dashboards, reporting, and real-time data has increased the effectiveness of my business operations and/or managing my project**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree



**23. As a result of the PPMC tool, my colleagues and/or manager has more visibility into my work**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree

### **Leadership and Peer Support**

**24. My peers encouraged me to use the PPMC tool**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree

**25. My direct manager had a positive and supportive attitude toward the PPMC tool**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree

**26. My direct manager encouraged me to use the PPMC tool**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree

**27. The senior leadership in my department supported the change to PPMC and conveyed that to myself and my team**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree

**28. The CIO supported the change to PPMC and conveyed that to myself and my team**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree

### **Organization Strategy**

**29. Regarding the statement, "I understand what NBCU Media Works is trying to achieve with the PPMC tool" would you say you...**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree

**30. The PPMC tool provides improved transparency for Media Works projects**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree

**31. The PPMC tool provides improved transparency for Resource Management**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree

**32. The PPMC tool compliments my current business processes**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree

**33. Overall, the PPMC tool provides value for the organization**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree

**34. Overall, I am satisfied with the PPMC tool**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree

**Voice of the Customer**

**35. I was involved with the implementation of the PPMC tool**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree

**36. I feel my needs were considered in the design or implementation of the PPMC tool**

Strongly disagree   
 Disagree   
 Somewhat disagree   
 Neutral   
 Somewhat agree   
 Agree   
 Strongly agree

**37. My pain points with the previous IT Business processes were heard and addressed with the PPMC Enterprise solution ( think in terms of how we used to deliver projects from the “idea” phase, to proposal, to project, and resource management)**

Strongly disagree     Disagree     Somewhat disagree     Neutral     Somewhat agree     Agree     Strongly agree

**38. Do you have improvement ideas? Please explain\_\_\_\_\_**

**39. Is there information that you need to know that you aren't receiving?\_\_\_\_\_**

**Thank you for your participation!**

Appendix D

Detailed Focus Group Feedback

## Detailed Focus Group Feedback

	Subject Priority 1	Subject Priority 2	Subject Priority 3	Total
<b>Focus Group One Feedback (27 total comments)</b>				
<b>PPMC Usage: 12 comments (44.44% of total)</b>				
Task scheduling in the work plan is inflexible				
Lacking some of the features contained in MS Project (VB Scripting / Export)				
Work plan is not linked to the budget				
Resource pool names are not intuitive		2	1	3
Report summary page is too slow to load				
All project related tasks are too slow (opening project/work plan/tasks)	2	2		4
System is not compatible with other web browsers				
<b>In general, the system lacks the ease of use expected</b>	<b>4</b>		<b>1</b>	<b>5</b>
It takes to many steps to manage a task in a work plan		2		2
Assigning a resource to the project plan is too complex		1		1
Resource should be notified when assigned to project tasks			1	1
Because of the inflexibility of the work plan, the data must be maintained in two places (MS Project)				
<b>Process 6 comments (22.22% of total)</b>				
Too many steps in the proposal process (business owners should not be involved)		1		1
Only high-level data is needed for proposal			1	1
Proposal should be contained on single page/screen			2	2
The existing finance process causes the need for data to be entered twice	1			1
Often times work is being done outside the tool and then retroactively entered to satisfy requirement				
Would like access to the Ops review report (disconnect between ops review scorecard and PPMC)				
<b>Reporting 4 comments (14.82% of total)</b>				
Need ad hoc reporting capability			1	1
Would like to view both cap & expense dollars in reports. Tool doesn't currently label dollar types.				
Portlets time-out.	1			1
Search/Reporting filters are not intuitive need pre-configured portlets and cheat sheet			1	1
<b>Training and Support 5 comments (18.52% of total)</b>				
Need a cheat sheet for resource management				
Need better visibility to dollars and hours recorded in work plan				
Want regular training sessions and portlet/report training				
Would like to have PPMC trainer work with each BTG to demo how tool can be used for that business				
Want trained SME's in each group				

	Priority 1	Priority 2	Priority 3	Total
<b>Focus Group Two Feedback (39 total comments)</b>				
<b>PPMC Usage 17 comments (43.59% of total)</b>				
Loading of project summary page to extremely slow				
In general system performance needs improvement	2		1	3
There is no 'Round-Trip' functionality with Microsoft Project, better integration is needed	1	2		3
No way to easily update % complete in the work plan				
Eliminate the duplicate effort caused by having to manage 2 project plans			1	1
It is too time-consuming to work with tasks in PPMC (vs. MS Project)		1		1
Due to the interface it is hard to manage large project plans				
There needs to be better integration of the budget and staffing profile	1	1	1	3
Need ability to reference a fixed bid resource to a work plan			1	1
There is a lack of transparency and flexibility of charge rates	1			1
Finding the correct resource pool is not intuitive			1	1
Finding resources should drive identifying business unit				
The system lacks the flexibility to match business processes	1	1		2
There is not enough resource visibility during the proposal phase			1	1
Tasks don't provide enough detail				
Tool needs to help keep project updated as we go				
Need ability to associate an ISR to a project task		1	1	2
<b>Process 14 comments (35.90% of total)</b>				
The Proposal/Project workflows are too long		2		2
Need better integration with development/management tools	1			1
Everything except resource allocations is being done outside the tool				
Where are resource estimates (for S2) coming from?				
<b>PPMC does not match with how we run projects</b>	<b>3</b>	<b>2</b>		<b>5</b>
The process is too cumbersome for small projects	1	1	1	3
Resources are not posting time, causing projects to show as 'red'		1		1
Lean the proposal process	1			1
Better support for integrative processes (as opposed to creating separate projects for each iteration)				
Projects are being updated to satisfy CIO reports not actually reflect accurate project status				
Leadership team needs to communicate what they are looking at in terms of project health				
Finance is not getting the data they need from PPMC and thus a separate process is needed		2		2
Process issues should be resolved before adding functionality (Issues/Risks/Scope Changes)	1		2	3
How does leadership leverage PPMC / What is the value?		1	2	3
<b>Reporting 6 comments (15.38% of total)</b>				
Need more robust reporting capabilities				
Long wait time on queries - time-out issue			1	1
Financial Report times out				
Search criteria on financial report does not work	2		1	3
Would like monthly / quarterly reporting (financial report)				
PDF used for ops review should be accessible in the tool				
<b>Training and Support 2 comments (5.13% of total)</b>				
Need full time support person				
Need more education / help / training around dashboards and reporting (Preconfigured Dashboards)				