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# Comparison of stakeholder management and change management factors in managing successful versus unsuccessful it projects

Ishita Viren Shah
*Purdue University*

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Is approved by the final examining committee:

JEFFREY L. BREWER
Chair

JEFFREY L. WHITTEN

JENNY DAUGHERTY

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Approved by: JEFFREY L. WHITTEN 4/16/2020
Head of the Departmental Graduate Program Date

# COMPARISON OF STAKEHOLDER MANAGEMENT AND CHANGE MANAGEMENT FACTORS IN MANAGING SUCCESSFUL VERSUS UNSUCCESSFUL IT PROJECTS

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To my parents Mr. Viren Shah and Mrs. Dolly Shah for their love, encouragement and blessings.

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TABLE OF CONTENTS

Page

# LIST OF TABLES

# LIST OF FIGURES

# LIST OF ABBREVIATIONS

BPR - Business Process Reengineering
BDM - Business Development Manager
CMMS - Computerized Maintenance Management System
CO - Commercialization Office
CRM - Customer Relationship Management
EIM - Equity Implementation Model
ERP - Enterprise Resource Planning
IT - Information Technology
PMBOK - Project Management Body of Knowledge
PMI - Project Management Institute
MIS - Management Information System
MU - Molecular Unit
RFP - Request for Proposal
SAP - Systems Application Product
SSC - Shared Service Centre
SML - Stakeholder Management Lifecycle
SU - Space Unit
TAM - Technology Acceptance Model
WU - Water Unit

# GLOSSARY

Change management: Change management is to apply the techniques and process to lead the change on the people side to achieve goals as desired. It focuses on managing people at different levels of organization like executives, senior leaders, middle managers and supervisors. When people work towards a common goal, understanding benefits and providing outcomes is when change management is done well (Prosci, 2013).

IT-driven change: IT driven change in this research mean organizational changes enabled by or driven by Information Technology (IT).

Project management: To meet project scope and requirements when there is an application of the techniques, set of tools, skills and knowledge is called project management. It can be achieved by performing and integrating the five process groups named, initiating, planning, executing, monitoring and closing (PMBOK, 2013).

Stakeholder management: Stakeholder Management includes "the process required to identify the people, groups, or organizations that could impact or be impacted by the change, analyze stakeholder expectations and their impact on the change, develop appropriate management strategies for effectively engaging stakeholders in change decisions and execution." (p. 391, PMBOK, 2013)

Stakeholder: A stakeholder is an "individual, group or organization who may affect, be affected by, or perceive itself to be affected by a decision, activity or outcome of the project. Some definitions suggest that stakeholders are those who have the power to impact an organization or project in some way." (p. 393, PMBOK, 2013)

# ABSTRACT

Shah, Ishita Viren. M.S., Purdue University, May 2016. Comparison of Stakeholder Management and Change Management Factors in Managing Successful Versus Unsuccessful IT Projects. Major Professor: Jeffrey Brewer.

The purpose of this study is to conduct a meta-analysis of published case studies of projects, which are driven by information technology (IT) and are using a formal organizational change management method to manage those changes. It also identifies the common factors that influence the success or failure of a project. Change impacts people directly or indirectly and much of the research proves that people tend to resist change. The study reviews recent research and discusses the evolution of change management and current practices. The study focuses on finding the case studies published in well-known journals. It also analysis the factors affecting the change management during the implementation of an IT system being communication and common knowledge, engaging employees and training them about the change and employees' interest for the change. The research concludes that there is gap in Project Management Body of Knowledge (PMBOK) and gives a conceptual model as a recommendation for future research.

# CHAPTER 1. INTRODUCTION

This chapter introduces the research study by presenting the problem statement and associated research questions. This chapter also defines the scope along with the significance of the problem. It defines the terms as understood by the author. The chapter concludes by stating the assumptions used in the study as well as limitations and delimitations of the research.

## 1.1 Problem Statement

Today, Information Technology (IT) has become a driver of business development and globalization (Khosrow-Pour, 2006). It is generally accepted as the key enabler of economic and technological development (Paper & Wang, 2006). IT could make changes in software functionality, data and information or user and system interfaces, which may affect budgets and accountability, people positions in the company and assignments, business policies and practices or business work flow and procedures. This can create anxiety among people in the organization. If not managed properly these changes could lead to employees losing interest in the project, declining productivity, schedule delays and budget overruns or the systems and solutions adopted could be underutilized, misused or not used at all. Therefore, it is important to manage changes in a way that helps people adopt it easily and benefits the project.

Change management is a process used for managing change the people side and is done to ensure that each change in an organizations produces the desired results (Hiatt & Creasey, 2012). If change not done efficiently can lead to acceptance at a slower speed, low efficiency, poor utilization of the system; stated simple, it results in less benefit from the change (Hiatt & Creasey, 2012). LaClair and Rao (2002) studied change processes at 40 establishments, including hospitals, banks, services and manufacturers to understand different responsibilities of people and process problems. Their study concluded that using a formal organizational change management process with proper involvement of employees, specific assignment of roles and proper knowledge about the change, yielding an average ROI of 143 percent. If they had problems with the three levels the return was 35 percent, which means if change management is done in an efficient way, it could lead to greater profits.

Prosci, a research foundation founded by Jeff Hiatt, conducts surveys on different ways to manage the changes on people side efficiently. In 2011, a survey conducted by Prosci which included 650 participants from 65 countries concluded that 73% of participants identified their organization as nearing, at or past the point of change saturation. About 77% of the participants said that there was still confusion about the definition of change management. It also states that nearly 72% were using a particular methodology for change management. Despite the investments by organizations made in software, materials, educational training and books on organizations applying change management, most studies still show a 60-70% failure rate. In fact, statistics have stayed constant from 1970's to the present (Ron, 2013). The above mentioned statistics show

that there is some gap in the change management methods which is being overlooked. This research helped identify some of those gaps.

Stakeholder management is used to gain support from people internal or external to the project by the project managers to make the project (Forman & Discenza, 2012). The main task in the stakeholder management process is to understand the relationships, know the power and interests and then manage the stakeholders for the success of the project and organization (Freeman & McVea, 2001). The Project Management Body of Knowledge (PMBOK) as defined by the Project Management Institute (PMI) in 2013 added stakeholder management as a new knowledge area which was formerly a part of communication management knowledge area within the PMBOK. Change management is not currently formally included in the PMBOK and therefore it is often considered separately while managing a project. Identifying important stakeholders and making a plan to manage and engage them, is a part of managing a project. As none of the reviewed formal change management methods mention anything about engaging stakeholders, it can be assumed that it is usually neglected while introducing and managing change.

The purpose of this study was to identify the factors of success and failure in formal change management methods by conducting a meta-analysis of published case studies of projects which are driven by or enabled by changes due to Information Technology (IT). It also described stakeholder management techniques which could help mitigate the gaps in change management methods.

## 1.2 Scope

The scope of the research thesis was limited to organizational changes enabled by or driven by Information Technology. IT changes that is all the changes affected by changes in software functionality, data and information and by user and system interfaces.

This research took into account different types of methods used by organizations to manage IT driven change while doing the case study review. The case study was confined to

- a book called *Cases on Information Technology: Lessons Learned* published in 2005, which includes different IT implementations.
- Also case studies from top journals according to SCImago Journal and Country rank. This journal takes its name from the SCImago Journal rank indicator which is developed from algorithm Google PageRank related to information technology and management will be considered:
    - *Journal of Information Technology Case and Application research,*
    - *MIS Quarterly: Management Information systems,*
    - *Journal of Information Technology,*
    - *Journal of Change Management,*
    - *Journal of Management Information Systems,*
    - *Journal of Cases on Information Technology and*
    - *Journal of Organizational Change Management.*

The case studies done during and after the year 2000 were considered. This was because technology and the latest methods related to change management have come a long way and have improved much since this year.

Stakeholder management is a separate but somewhat overlapping discipline from change management. Project management focuses on managing a project lifecycle starting with initiating, planning, implementing and closing of the project. Stakeholder management is a part of project management and it focuses on identifying, engaging and managing important stakeholders. Change management methods gives a process of smoothly integrating a change in the organization with minimal resistance. Stakeholder management is now a part of Project Management Body of Knowledge (PMBOK), defined by the Project Management Institute (PMI), a professional society for the advancement of knowledge, best practices, and certification of project managers. This study uses the definition of stakeholder management in the PMBOK® Guide as mentioned in the glossary section on page ix. Stakeholder management consists of four goals: Identify stakeholder, plan stakeholder management, manage stakeholder engagement and control stakeholder expectations.

## 1.3 Significance

Statistics show, the failure rate of change management projects has been between 60-70% since 1970 (Ron, 2013). Changes affect people and organizations due to changes in budgets, accounts, roles and responsibilities, business policies, workflow and procedures. This thesis helped in finding the factors that affect the failure or success of the project during an IT driven change initiative. Projects with better change management

are six times more likely to meet the goals of the project like schedule and budget, Return on Investment (ROI) and higher benefits (Prosci, 2011). Change management brings projects a step closer to success by providing proper techniques, tools and methods to manage people.

Today, to be successful, all organizations have to adapt to new technologies (Joshi, 1991). McNish (2001) concludes from his research that it continues to be challenging to implement new technologies. People are usually ignored in the league of managing and focusing on completing technical and financial details (Sherry, *et al.*, 2000). Maurer (2010) states: "When I wrote Beyond the Wall of Resistance in 1995, 70 percent of changes in organizations failed. As I prepared to revise the book earlier this year, I was shocked to learn that the failure rate is still around 70 percent" (p. 35). There are many other papers (Hammer & Champy, 1993; Kotter, 2008; Hughes, 2011; Ron, 2013; Ewenstein, Smith & Sologar, 2015) which concur that there is roughly a 70 per cent organizational change failure rate. Most studies still show a high failure rate in spite of a large of investment in books, coaching and tools. This leads us to the question of what is the gap in change management methods which will improve success rate. This research identified the factors of those failures by doing a meta-analysis of the case studies which are focused on IT-driven changes.

Paper and Ugray (2008) mention that change is challenging for several reasons one of the reasons they identified was the resistance of people to change because of the fear for their job. The literature review highlights that change management is mainly focused on managing the people. Change management methods focus on the steps of

integrating change into the organization with minimal resistance from the stakeholders using a structured approach.

## 1.4 Research Questions

1. What are the factors of success and failure in formal change management methods used in Information Technology driven change initiatives?
2. How might stakeholder management help mitigate change management failures in Information Technology driven change initiatives?

## 1.5 Assumptions

Assumptions are things that are not in the author's control, but if they vanish, the study would become unrelated (Simon, 2011). The following assumptions are inherent to the design of this study:

- The case studies from Prosci and Purdue University will be published and relevant.
- Case studies can be found related to IT-driven changes where formal change management has failed.
- Three or more case studies can point out the common factors affecting change management.
- There will be at least three case studies since the year 2000 that will mention the change management methods during an IT-driven change which will help the researcher understand the factors of success and failure.

## 1.6 Limitations

Limitations are the weaknesses in the study which cannot be controlled (Simon, 2011). The limitations in this study are:

- The results could be dissimilar in results as multiple case studies are reviewed.
- Positive case studies with successes are usually published as no organizations want to publish case studies that talk about failures about their organization (Hernandez, Kattan & Walker, 2008).

## 1.7 Delimitations

The delimitations limit the scope and dedicate a boundary to the study. They are usually in author's control (Simon, 2011). Following are the delimitations of this study:

- Change management and stakeholder management are the only areas of management chosen as they are closely relevant.
- The case studies during and after the year 2000 will be referred.
- The recommendations are theoretical and the real life implementations of recommended conceptual model could happen only during future research.
- This study does not include any data collection from survey or interviews from the company or organization. Therefore the results from those sources are not known.

## 1.8 Chapter Summary

This chapter introduced the research question, purpose and significance of this research thesis. This chapter also noted the assumptions used in the research study, along with the limitations and the delimitations according to the scope listed for the research study undertaken.

# CHAPTER 2. LITERATURE REVIEW

This chapter provides an overview summary of recent literature in the areas of change management, stakeholder management and the overlap and research gaps in organizational change management and stakeholder management as applied to IT-driven change. It helps the researcher to build on existing research for the purpose of identifying the weaknesses of organizational change management processes and stakeholder management techniques which can be used to mitigate those weaknesses.

The literature review will aim at reviewing the past research work done on organizational change management, more specifically the research will be focused on managing project teams and user communities during an IT driven change. The research will also review the research work published on stakeholder management. Papers, journals and books related to management, technology and computer science and information technology were chosen and were used to review the literature surrounding the issues of change management and stakeholder management.

The first part of the chapter discusses how organizational change management evolved and some case studies of implementations of organizational change management processes. In this research, organizational change management is referred as a "management of a planned alterations of organizational components to improve the effectiveness of the organization" (Cawsey, Deszca & Ingols, 2012, p. 2). The research

tries to illustrate the similarities between these cases in terms of challenges the organizations faced during implementing these processes. In the next part of this chapter, research work published around stakeholder management and the overlaps between change management and stakeholder management have been described.

## 2.1 Review of Change Management

Information technology projects deliver new products and new software applications that dramatically changes the way business is conducted and impacts daily routine of the workforce (Aziz, 2007). Technology helps people be more effective in working, sharing information, and reducing geographical boundaries. However, the focus of change managers should be on helping people move to a new state of being, using technology to facilitate change (Paper & Ugray, 2008). “Technology is seen as a primary and relatively autonomous drive of organizational change, so that the adoption of new technology creates predictable change in organizations’ structure, work routines, information flows, and performance” (p. 64, Orlikowski, 1996). In order to respond to change, several organizations have financed heavily in capital- intensive expenses such as new equipment and/or technology (such as ERP packages like SAP and Oracle) in the hope that this will decrease cost in future and increase productivity (Hornstein, 2008). IT projects often introduce disruptive change to organization. Therefore, there is a need to understand change management literature and the change management processes that can help us better manage IT driven change. Over the years change management process has evolved.

The roots of change management can be traced back about a hundred years. Frederick Taylor also known as father of scientific management and efficiency movement, in his book, *The principles of scientific management*, in year 1911, described how the application of the scientific method to manage the workers could greatly improve productivity. The classic Western Electric "Hawthorne Studies" of the late 1920s and early 1930s is when many modern theories of organizational change began. The management team of "The Hawthorne Works", a robust factory in Cicero, Illinois, maintained by the Western Electric Company were fascinated by scientific theories of Frederick Taylor. They decided to conduct some studies themselves and they came to be known as the "Hawthorne studies". The Hawthorne studies illustrated that workers were not merely simple pieces of equipment, they are social beings that respond to other social beings. Once the human element was acknowledged, the whole field of organizational behavior, from which the study and the practice of change management grew, was born (Jarocki, 2011). This is when the importance of human element during an organizational change was introduced.

It was not until the late 1960s that the term "organizational change management" started to find a place in research. It was in 1948 that one of the foundational principles of change management first made its appearance: the need to overcome "resistance to change." Two researchers, Coch and French, Jr. (1948), published an article in the academic *Journal Human Relations* where they described their work at the Harwood Manufacturing Corporation. This research found that workers at the Harwood plant regularly resisted necessary changes to production methods, and they set out to test various ways to help employees to overcome this resistance to change. Their solutions for

overcoming this resistance to change became two of the most fundamental principles of managing change:

- Management needs to communicate the importance of the change to their workers.
- Management should involve workers in the planning of change.

At this stage importance of communication and involvement of people was highlighted and introduced which shows that during 1900s also managing people was shown an important part of change management.

In 1947, Kurt Lewin developed one of the first models of change called the three-step model. It involves:

- Unfreezing. According to Lewin, the steadiness of human behavior was based on a quasi-stationary equilibrium supported by a complicated field of driving and restrictive forces. He argued that before the old behavior is discarded and new system is adopted, the equilibrium is required to be disrupted.
- Moving. This includes a repetitive approach of research, action and further research, which allows groups and individuals to move to more acceptable from a less acceptable set of behaviors.
- Refreezing. The final step of the 3-Step model seeks to calm the group at a new quasi-stationary equilibrium to make sure that new behaviors are safe from regression.

Lewin's three-step model was the first formal model introduced to manage change which focused on minimized the resistance of individuals to change and making it more acceptable.

Similarly, Kubler-Ross's model introduced in mid-1970, focused on human behavior and stages to change acceptance. It described the emotional stages of a person whose close one died and a person who is dying like denial, anger, bargaining, depression, and acceptance. This concept was modified to rename the stages to satisfaction, denial, resistance, exploration, hope and commitment. In 1992, Burke and Litwin published *a casual model of organizational performance and change*, which included 12 organizational dimensions:

- External environment: Any exterior conditions or situations that impacts the performance of an organization.
- Mission and strategy: It is what the organization's top management believes, and has declared to be the main purpose of the organization.
- Leadership: The officials that provide overall organizational direction and serves as communicative role models for the staff.
- Organizational culture: The assortment of rules, values, and principles that are lasting and guide organizational behavior.
- Structure: The arrangement of functions and people into exact areas and levels of responsibility, decision-making authority, communication, and relationships to assure efficient application of the organization's mission and strategy.
- Management practices: They are the course of events to use the human and material resources at their disposal to convey the organization's strategy.
- Systems: They are the standard policies and tools that enable work, primarily established in the organization's reward systems, management information systems

(MIS), and in control systems as performance appraisal, goal and budget development, and human resource allocation.

- Work unit climate: They are the collective current imprints, outlooks, and state of mind that members of work units have that can impact their relations with their seniors, with one another, and with other units.
- Task and individual skills: The required behavior for task efficiency, including precise skills and knowledge essential for people to complete the work for which they have been allotted and for which they feel directly responsible.
- Individual needs and values: They are the specific psychological factors, providing desire and value for individual actions or thoughts.
- Motivation: The aroused behavioral tendencies to move in direction of goals, take required action, and being persistent until satisfaction is achieved.
- Individual and organizational performance: The outcome or result, and the indicator of effort and accomplishment.

Then the processes to integrate change in organizations was introduced. Tom Peters and Robert Waterman came up with McKinsey 7S Model in early 1980s. They were at that time working for McKinsey & Company consulting firm. This model has been analyzing over 70 large organizations since then (Ravasan & Hanafizadeh, 2011). The model was shaped as a distinguishable and easily recollected model in business. The seven "levers" as termed by author which were the seven variables all start with letter "S". They include (Peters & Waterman, 1982):

- Structure: It is an action plan that company makes to respond to the changes.
- Strategy: Size and diversity that influences the specialty and co-ordination

- Systems: Official and casual events that support strategy and structure.
- Skills: The distinctive competences
- Style: The manner in which a manager implements the actions planned.
- Staff: The people/ human resource management
- Shared values: Culture, notions and theories on which an organization is built.

Till late 1900s, every model has described how important it was to involve and manage people and a structure of making that happen with minimal resistance. Soon after that there was an introduction in technologies like Enterprise Resource Planning (ERP), Customer Relationship Management (CRM), E-commerce and many more which led to more changes. IT-drive changes began to appear in late 1970's and since then, such IT-driven changes has remained constant. But most of this IT driven change was barely recognized by either IT professionals or user communities. The first consideration of IT driven change management may have been in 1985 with the TAM model.

It was in 1985, the Technology Acceptance Model (TAM) was introduced as a part of a doctoral thesis by Fred Davis at the MIT Sloan School of Management. TAM proposes that it is the qualities of the system, not the qualities internal to an individual's psychological makeup that affect the adoption of something new. The two factors proposed by Davis that influence someone's attitude are:

- Perceived ease of use: how much an individual believes that there will be minimal effort required.
- Perceived usefulness: how much an individual trusts the system would improve their performance.

TAM helped in making sure the technology being introduced was useful and employees have to put minimal efforts and learning into using it, but it still did not address the reasons of people being resistant in the first place, IT could make changes in software functionality, data and information or user and system interfaces, which may affect budgets and accountability, people positions in the company and assignments, business policies and practices or business work flow and procedures. This can create anxiety among people in the organization. This is still not mentioned in TAM.

Burke and Litwin's work is important because it is an organizational change model rather than a model of individual change. Another influential change management model from Harvard professor John Kotter was published in his book *Leading Change* (1996). According to Kotter, the eight steps to transform an organization are as follows (Appelbaum, Habashy, Malo & Shafiq, 2012):

1. Establish a sense of urgency about the need to achieve change: people would never change if they do not see the need to do so.
2. Create a guiding coalition: bring together a team with power and impact in the organization to make change happen.
3. Develop a vision and strategy: Develop an idea about a change, let people know the reason behind the change and the method of implementing it.
4. Communicate the change vision: talk to people about the why, what and how of changes.
5. Empower broad-based action: include people in the efforts to implement change, get them thinking on methods to achieve those changes.

6. Generate some short-term wins: Recognize and award the people accepting and working towards change.
7. Consolidate gains and produce more change: create energy for change by constructing successes in the change, stimulate people throughout changes.
8. Anchor new approaches in the corporate culture: include new styles and methods into the organization which would help in to lasting success and institutionalizing the changes.

Kotter's eight step model was when the structure included the need to explain people importance of change, explain the process change is going to be integrated, the effect of change, making people involved and recognizing work of people towards achieving change. During an IT-driven change, when there are drastic changes in the software and when people need to learn about new technology and adapt it, this structure was beginning to help adapt technological changes in the organization.

Hiatt (2006) defined the ADKAR process as an outline for accepting change. This model has five features. All of these should be integrated in to change to happen. The five features are:

- Awareness: This stage represents person's understanding regarding the change and reason for doing it and the risks lying behind not doing it.
- Desire: This stage represents the readiness of a person to participate in a change. This depends on person's personal conditions as well as internal motivations.
- Knowledge: This stage represents the material, teaching and learning necessary to know in what way to change. Knowledge comprises information about conduct,

performance, procedures, tools, structures, skills, job roles and methods that are needed to implement a change.

- Ability: This stage represents the implementation of the change. It is regarding how to implement the training and coaching. Ability is attained when a person or team has to prove the capability to implement the change at a particular level of performance.
- Reinforcement: This stage represents those factors that maintain a change. Acknowledgement, incentives, rewards and celebrations are the external reinforcements. Internal gratification with achievement or other aids derived from the change on a personal level are a part of internal reinforcements.

The stages of ADKAR process fall on the basis of how a person experiences a change. An ADKAR stages begins after a change has been recognized. ADKAR solved many of the issues driven by IT changes. It states the five basic steps like making people aware about the change, knowing their willingness and resistance towards a particular change. This will explain to them why and how the change is going to be incorporated and training them with using those software and technologies. In turn, help people understand the benefits of incorporating new technology and understand that if they don't learn and accept it, it could affect their work. Once they are trained, how to integrate those changes such that employees can apply their knowledge and use their training and last but not the least to recognize and reward them for their acceptance and performance. This was an important process where changes were IT driven, as new software requires training and enough knowledge and this process helps to explain and integrate both of them.

Jeff Hiatt also came up with ADKAR process which is shown in figure 2.1. This figure shows three phases. Phase one focusing to prepare and assess change. The deliverables for this phase are to define change management strategy, to prepare the change management team and to develop a sponsorship model. Phase two mentions managing change and the deliverables for this phase are to develop change management plan, communication plan, training plan, coaching plan, resistance management plan and implement plans. This is the phase where the five stages of ADKAR model are used. Phase 3 discusses about implementing change. The deliverables for this phase are to collect and analyze feedbacks, dragonize gaps and manage resistance, implement corrective measures and celebrate successes. These details were gathered from Professor Jeffrey L. Whitten's class (2014) who adapted it from Jeff Hiatt.

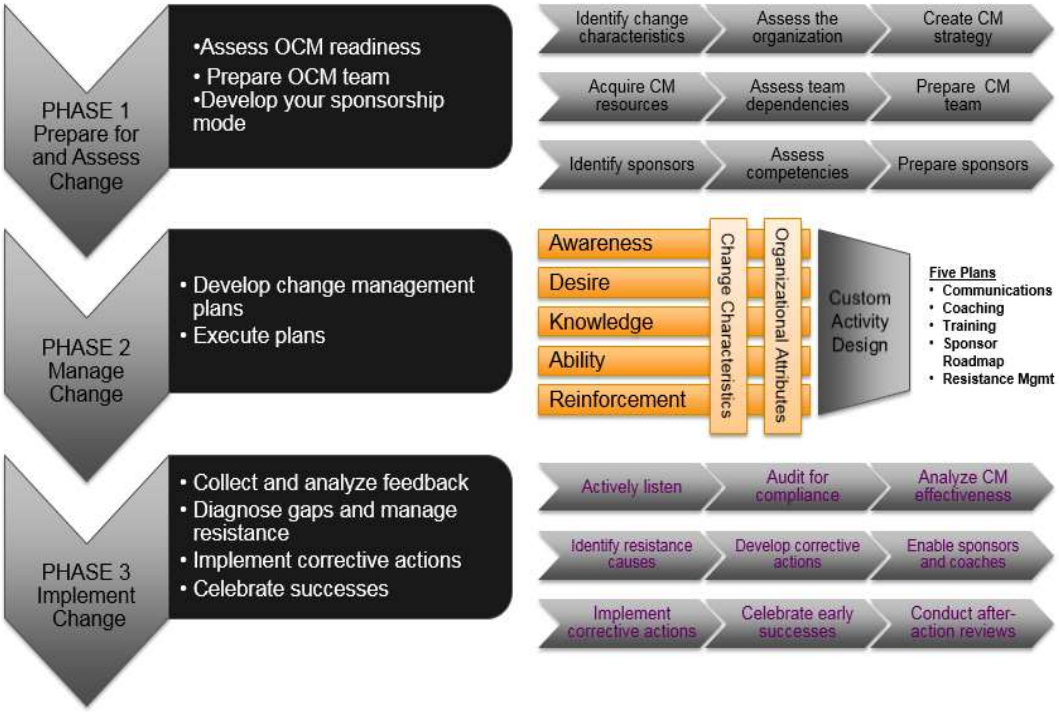


*Figure 2.1* ADKAR process

Jarocki (2011) mentions that "the main reason change management withered within most large system integration firms is that it was never truly integrated with their project implementation methodologies or practices. Instead, it was always offered as an optional, adjunct service" (p. 56). This is when project management and change management started being used together. Project management as defined by PMBOK (2013) is the use of information, skills, tools, and procedures to the phases throughout project to meet its scope. Project management is achieved through a suitable application and combination of 5 process groups such as:

- Initiating,
- Planning,
- Executing,
- Monitoring and Controlling, and
- Closing.

The Project Management Body of Knowledge (PMBOK) defined by the Project Management Institute (PMI) has been widely received and used throughout the world to manage projects (Harrington, Conner & Horney, 2000). It comprises of a standard for managing the projects through different industries. PMBOK defines ten knowledge areas. "A knowledge area represents a complete set of concepts, terms, and activities that make up a professional field, project management field, or area of specialization." (p.60, PMBOK, 2013) The knowledge areas are:

- Integration management
- Scope management
- Time management

- Cost management
- Quality management
- Human resource management
- Communication management
- Risk management
- Procurement management
- Stakeholder management

The features of each knowledge area and It's integration with the five process groups is defined in the PMBOK Guide. The PMI did not include Change management as a separate element, but placed a part of it under risk management knowledge area (Harrington, Conner & Horney, 2000). Current practices in many large companies that have an internal change management team is to place the practice into human resource department which is based on faulty reasoning that change management is about people and therefore, change management should be in HR, but change management isn't just about people, it is about successfully implementing project objectives (Jarocki, 2011).

Jarocki (2011) says that change management, when focused on achieving specific project objectives and is executed with a high degree of rigor, can lead to brilliant results. It means enhancing the approach by unifying the techniques, approaches and perspectives of both disciplines.

He mentions that applying change management and project management to the same initiatives is usually fraught with ongoing challenges that cause two work streams to limit their interconnectedness, and relationship usually devolves into one of the following work structures:

- The “Go Sell It” Approach: In this approach, change management plays a role in later part of project life cycle, usually during or immediately prior to the deployment stage. The role of change management is to prepare the organization for the impending change. Change management appears too late in the project life cycle to address critical executive buy-in and alignment needs or to build momentum and dedicated cooperation with other project contributors.
- The project support approach: Change management in this approach plays an occasional “support only” role to the project manager. Change management team has limited direct access to stakeholders and virtually no role in project planning or decision making.
- The silo approach: This approach occurs when there are concurrent project management and change management activities occurring on the same project, but because both teams rarely interact or coordinate with each other, the work in a “silo,” away from one another.
- The parallel approach: This approach is characterized more by occasional synchronization of activities. They occasionally meet up and exchange a few ideas.

At this point there was a need for a unifying methodology between project management and change management that is not characterized by handling back and forth different project tasks but rather by the joint execution of project tasks. Therefore, he came up with the Emergence one method. This method regularly engages both project management and change management, shares ideas on what the best route to take might be, supports each other and shares commitment. Now one set of project activities and deliverables is available to incorporate the tools, technique, and insights from both

project management and change management. The Emergence One Method promotes the idea that project managers and change managers are jointly responsible for ensuring that a project/change initiative comes in on time, within budget, according to specifications, and is embraced and utilized by all relevant stakeholders throughout the organization.

This method would be useful in IT driven changes as it would be considered whenever there is an IT project or any project with IT driven changes. Managers would focus on project objectives and try to unify the objectives and process of the project and the change. However, the data shows 70% of change initiatives still fail even after these processes being available in market and their application in companies. There are many papers (Hammer & Champy, 1993; Kotter, 2008; Hughes, 2011; Ron, 2013; Ewenstein, Smith & Sologar, 2015) which states that there is a 70 per cent organizational change failure rate. Therefore, it becomes important to identify the causes of those failures, which this research will help identify.

The success of Change management models reviewed previously in this research, identify the management of people as an important factor while managing change making it noteworthy to consider a formal process of stakeholder management. The next section examine stakeholder management in detail.

## 2.2 Review of stakeholder management

The key objective of change management is to effectively implement innovative procedures, products or organizational approaches while lessening adverse outcomes (Benedict, 2007). Failed initiatives could be due to unacceptance of changes which could be due to lack of engagement or lack of knowledge about the change and the processes.

This can affect clients and organization's reputation (Benedict, 2007). This shows the importance of engaging employees.

A survey in 2003 done by Prosci, a known lead in change management study, showed that a project's highest success factors are the following:

- Effective and strong executive sponsorship
- Buy-in from the front line managers and employees
- Exceptional teams
- Continuous and targeted communication
- Planned and organized approach

The Prosci (2003) study results also showed that a project's greatest hindrance factors are the following:

- Employee resistance at all levels
- Middle-management resistance
- Poor executive sponsorship
- Limited time, budget, and resources
- Corporate inertia and politics

These data show that the success and failures of the project depend on people impacting or getting impacted by the project. Stakeholder management is all about engaging with these people.

Change strategists often neglect the social issues involved in the IT based technological changes. IT based changes often limit the focus on technological issues and fail to notice the challenges faced by people to adapt to such changes (Berney, 2003). In an IT environment, there are various parties involved in the lifecycle such as sponsors,

the design and implementation team and users. Frequently it is the interaction between these players that makes IT projects so difficult to manage (Lu, Mandy & Smith, 2004). Therefore, the more time the project manager spends with the stakeholders, the better (Thomsett, 2002). Markus and Benjamin's (1996) mentions that many IT experts are scared that novel technologies may endanger their jobs and self-esteem. As they explain, "new technology makes these IT specialists vulnerable: unless they know everything about it, they will look technically incompetent when users inevitably experience problems. Further, even when a new technology's problems are known and traceable, the shakedown period increases their workload and working hours" (Markus & Benjamin, 1996, p.391). Stakeholder management helps in managing the social issues during changes. It focuses on the people side of issues.

Stakeholder management has become an important soft skill in projects (Crawford, 2005; Morris, Jamieson, & Shepherd, 2006; Winter, Smith, Morris, & Cicmil, 2006). This section describes who the stakeholders are, the lifecycle used to manage and engage the stakeholders throughout the project lifecycle and a proper process to do it. Achterkamp & Vos (2008) writes that taking into account the interests of significant stakeholders is important for project success. The roots of stakeholder theory lie in the year 1984 (Adlbrecht, Jujagiri, & Littau, 2010). At that time, Freeman (1984) defined stakeholders as "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman, 1984, p. 46). This definition is frequently quoted as a classic stakeholder definition (Achterkamp & Vos, 2008; Boonstra, 2006). Even though this term had been used before, Freeman's use of it was the beginning of stakeholder theory (Achterkamp & Vos, 2008).

Stakeholder management was recently added to the project management body of knowledge as its tenth knowledge area. It comprises of the process essential for recognizing a person, teams, or establishments that could influence or be influenced by the project, examining stakeholder hopes and their powers on the project and evolving suitable management plans for successfully engaging stakeholders in project decisions and implementation (PMBOK, 2013). It is a strategy used by project managers to gain support for their project from others and make the project successful (Forman & Discenza, 2012).

A stakeholder is someone who can influence or is influenced by a project. They can be interior or exterior and they can be at lower or higher level and technical or non-technical role. The definition of a stakeholder is "an individual, group or organization who may affect, be affected by, or perceive itself to be affected by a decision, activity or outcome of the project" (p. 393, PMBOK, 2013). Other definitions of a stakeholder is, "People or small groups with the power to respond to, negotiate with, and change the strategic future of the organization" (Eden & Ackermann, 1998, p.117).

The three groups of stakeholders mentioned in PMBOK are, those considered within the project like the project team, those external to the project but which are part of organization like sponsor, managers and subject matter experts and third are those not a part of organization business partners, sellers, customers, government regulators and possible others.

Figure 2.1 shows an expanded view of those groups. It characterizes categories of stakeholders on a project. The middle circle in purple signifies the first group that are part of project. The three circles in various shades of blue show the stakeholders' external of

the project, but inside the organization and the shades of green signify those stakeholders that are not a part of organization.

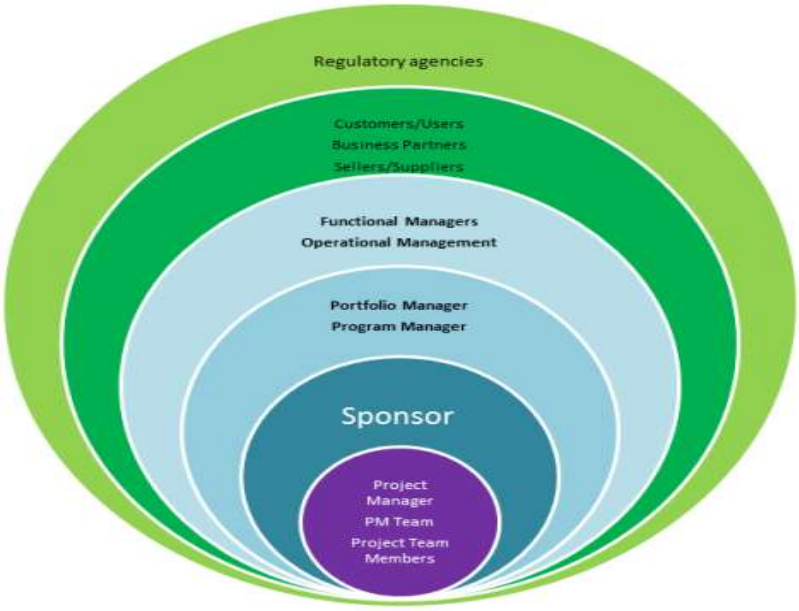


*Figure 2.2.* Categories of Stakeholders on a Project (PMBOK, 2013)

### 2.2.1 Stakeholder Management Lifecycle

The stakeholder management lifecycle is a series of steps that provides a systematic process of managing stakeholders. Figure 2.2 is a flowchart diagram that provides a graphical view of the stakeholder management lifecycle. The Stakeholder management lifecycle (SML) was created to understand the flow of the stakeholder management techniques that could be used in a step wise manner. It wasn't take from any paper, books or articles. The SML was created from many sources (Freeman (1984); Gray (2006); PMBOK (2013) to aid in understanding a generic process flow for conducting the stakeholder management process during a project.

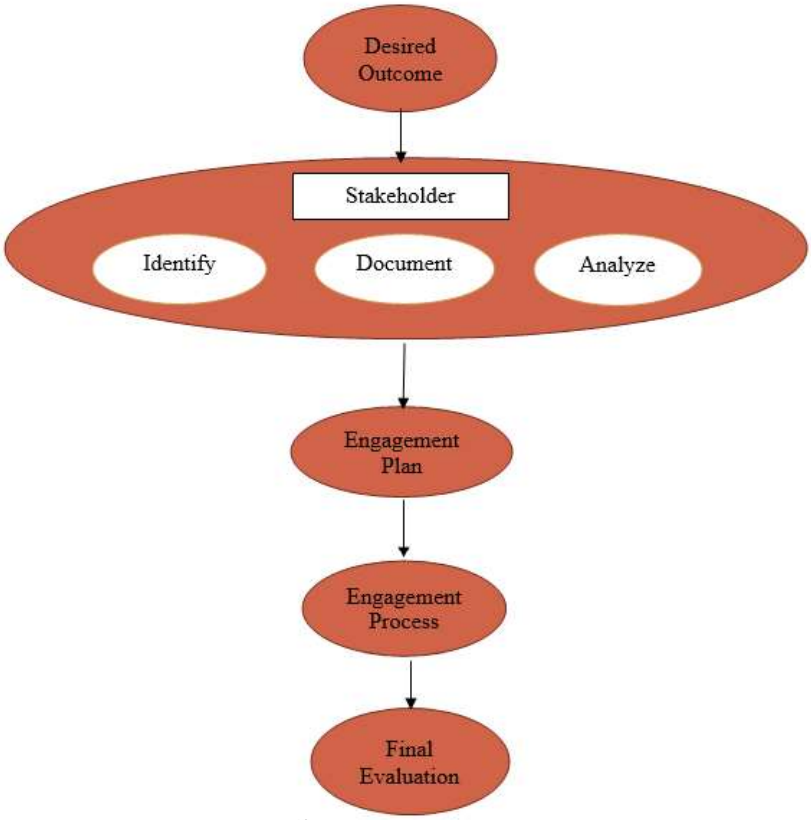


*Figure 2.3.* Stakeholder Management lifecycle

The lifecycle starts with identifying the desired outcomes, analyzing stakeholders, developing a stakeholder engagement plan, following the stakeholder engagement plan implementation, and then reviewing results. Each of these process steps will be examined in the following sections.

1. Identify Desired Outcomes

Identifying the desired outcomes from the stakeholder management process helps to identify which methods will most likely deliver these outcomes. Desired outcomes are the total goals of a process (Gray, 2006). Some of them include:

- Improving private and/or at work relationships
- Changing opinions
- Improving communications
- Agreeing on scope and course of a project
- Generation of new concepts
- Formation of new formal partnerships
- Policy change
- Enhancement of social capital
- Gaining support for a new idea

Identifying and agreeing to the desired outcomes helps in selecting the best technique and to make sure for the achievement of all the aims (Gray, 2006).

2. Stakeholder Analysis

The stakeholder analysis process is the project manager's first line of defense and at the same time, the project manager's first step towards taking control of his or her project. Stakeholder management, an iterative strategic process, is built on the foundation of a stepwise and thorough stakeholder analysis (Forman & Discenza, 2012).

Steps for stakeholder analysis include:

a. Identify Stakeholders

Recognizing who should be involved in the process of engagement is very difficult. The list of questions mentioned below is to make sure no important stakeholder is forgotten:

- Who takes the decisions on the matter?
- Who is influences the part, community or organization?

- Who runs organizations with attentiveness?
- Who affects a particular problem?
- Who can hinder a decision if uninvolved?
- Who has been a part this issue before?
- Who should be involved, but is not?

b. Document stakeholder information

Maintain a document that serves the project manager and team for the life of the project called a stakeholder register. It is the index of all project stakeholders and their essential attributes as shown in Table 2.1.

As per the PMBOK, a stakeholder register contains:

- Documentation information like name, title, branch, role in project, etc.
- Valuation information like anticipation, impact on project outcome, etc.
- Stakeholder classification like internal/external, enthusiast, neutral, resistant, etc.

Table 2.1. *Sample Stakeholder Register (Brighthub, 2011)*

| **Project:** | | | | **Date:** | | | |
|---|---|---|---|---|---|---|---|
| **Individual stakeholder analysis** | | | | | | | |
| **Stakeholder name** | Designation | Department | Role in project | Influence on project outcome | Type of stakeholder | Type of communication | Expectations |
| **Ishita Shah** | PM | IT | Internal PM | Positive | Internal | Daily meeting, weekly checkpoints | On time and on budget completion |
| **Pat Herrod** | Data Analyst | IT | Team Member | Positive | Internal | Weekly meetings | On time project completion |

Start by collecting information to fill in all the data fields of the stakeholder register. The project manager and project leads should try to arrange an interview with each stakeholder to capture information. Following the stakeholder interviews, use a Wideband Delphi approach to combine each team member's assessment of power and interest into one data point for each stakeholder as represented in Table 2.2 so that these can be plotted on a set of axes.

"The Wideband Delphi estimation method was developed in the 1940s at the Rand Corporation as a forecasting tool. It has since been adapted across many industries to estimate many kinds of tasks, ranging from statistical data collection results to sales and marketing forecasts." (p. 10, Stellman & Green, 2006)

Table 2.2. *Stakeholder Power and Interest scores (Project Management Docs, 2012, p.4)*

| **Key** | **Department** | **Name** | **Power (high/low)** | **Interest (high/low)** |
|---|---|---|---|---|
| **A** | IT | Ishita Shah | High | High |
| **B** | IT | Pat Herrod | High | Low |

Another stakeholder analysis tool collects data about stakeholder's project interests/expectations and then weigh them by their importance to the project (Applegate, 2008).

c. Analyze stakeholder information.

After stakeholder data and information collection is complete, analysis of the collected data begins. The goal of analysis is to provide the basis to develop stakeholder strategies and finally, a stakeholder management plan (Forman & Discenza, 2012).

Plot power/interest scores for each stakeholder on a set of axes to provide a visualization of stakeholder power and interest as shown in figure 2.3.

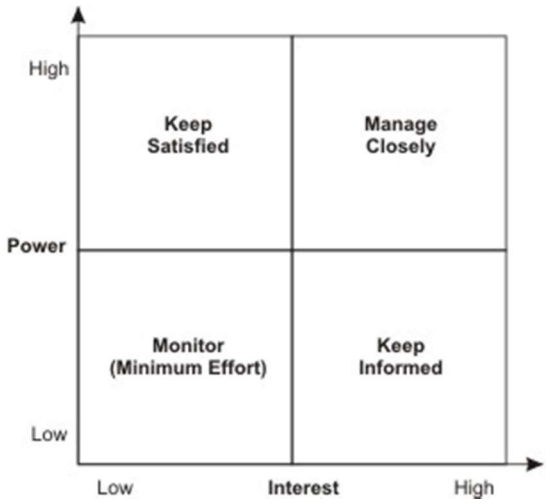


*Figure 2.4.* Grid plot of stakeholder power and interest (BusinessCatalyst)

This will help project managers and their teams to understand, measure importance, impact, and then prioritize project stakeholders. Understanding stakeholder's needs and level of project interest is critical to creation of a stakeholder strategy and management plan (Forman & Discenza, 2012).

3. Stakeholder Engagement Plan

The stakeholder analysis produces substantial information and data. The next step is to understand, organize, and then apply the analysis results to drive project success. The stakeholder engagement plan should describe the strategies and actions that will be used to manage the stakeholders according to their power and interest in the project.

In making the engagement plan, some things to do include (Gray, 2006):

- It should start only once the stakeholder analysis is done.
- It might or might not be a precondition to proceed with making of the plan, still it is always important to take the support from institution before making the plan.
- Dedicate a committed team to make the engagement plan.
- These elements are critical to make an engagement plan:
    - Time schedule
    - Resource allocation
    - Desired outcomes
    - Communication strategies
    - Delivery logistics
    - Selection methods to be used in the engagement
- Schedule assessment periods, during and after the process.
- The evaluation process should also be used after the planning phase, to assess the quality of the engagement plan.

4. Stakeholder engagement implementation process

The best stakeholder management plan is useless if action doesn't follow planning. The outcomes are the best noticeable "measurable" for how the process is

taking place. These things should be taken care of during the process (Warner & Sequiera, 2007):

- Be transparent
- Keep people informed by encouraging participation.
- For long term profits, be more dedicated to transparency and accountability.
- Document the events and their results to successfully managing the process.
- Follow up with stakeholders and keep them informed about what is happening and the next steps of the process.
- It is important to inform what is going on to the group getting affected the most.
- Following stakeholder communications modalities should be considered throughout the project:
    - Group meetings
    - One-on-one meetings
    - Written approvals
    - Informal written correspondence
- The desired outcomes being achieved can be known through a process of constant review.

Having an iterative and flexible approach to manage the process would help respond to unpredictable situations. These reviews should to include the view of all those involved in the process, including people leading the process, decision-makers and contributors. A good review process is an important criterion for successful management of any stakeholder engagement process.

5. Final Evaluation

A final evaluation will need to assess the following criterion (Gray, C., 2006):

- If the process met its objectives that were agreed upon.
- If the process met the demands of the stakeholders
- If the process met satisfactory standards.
- If the level of participation was proper to the situation and type of contributors
- If the methods and techniques were suitable and functioned as predicted.
- If the techniques and methods worked attaining the desired outcomes
- If the responses from the process were managed effectively.

One can make an evaluation matrix by including the steps of the stakeholder management lifecycle and rating them on the scale of 1 to 4 (Strong to weak) as shown in Table 2.3.

Table 2.3. *Stakeholder Engagement Process Evaluation Matrix*

| Elements to include | 1 (Strong) | 2 | 3 | 4 (weak) |
|---|---|---|---|---|
| Desired outcomes | | | | |
| Stakeholder analysis | | | | |
| Stakeholder engagement plan | | | | |
| Stakeholder engagement implementation process | | | | |
| Final Evaluation | | | | |

Then make a lessons learned log as shown in Table 2.4 which states each activity, issue related to each, and the corrective measures taken. This log should be documented for future references. The ideas of table 2.3 and table 2.4 were taken from the stakeholder management toolkit written by Gray (2006).

Table 2.4. *Lessons Learned log*

| Project: | | |
|---|---|---|
| Activity | Issue | Corrective measures |
| Identifying stakeholders | All stakeholders were not listed | List all people getting affected by the proje |

Managing stakeholders is important to the accomplishment of each project. It is used to engage and manage stakeholders. Project managers need to do careful and timely stakeholder research to identify, classify, prioritize, and assess stakeholder's abilities to affect their projects, both favorably and unfavorably.

## 2.3 Bringing Stakeholder management and Change Management together

Project Stakeholder Management comprises of the procedures required to recognize the person, teams, or organizations that could affect or be affected by the project (PMBOK, 2012). Stakeholder Management is the tenth knowledge are in the project management body of knowledge. It was first included as a part of communications management.

Change management is a less developed area than is project management, and there are no broadly known governing bodies, nor is there even much transparency about

what actually creates “change management” (Jarocki, 2011). Because of this, the area of change management is said to evolving and “devolving” at once (Jarock, 2011).

Change management a structured process with a set of tools and techniques to lead the people during a change to achieve a desired results. When done well, people will be engaged in the process and give collective efforts to achieve the same results as anticipated (Prosci, 2006). For example ADKAR gives steps like making people aware about the change, answering questions like why and how the change will be implemented, getting to know the desire an willingness of people to accept the change, providing them with training and knowledge about the particular software as we are focusing on IT driven changes and then making them implement those knowledge and training and then rewarding and recognizing the employees who worked towards it. But, changes could also have a negative effect like cutting down of employees who are not willing to change, it could lead to over time and over budget if the people who are not important and are truly affected are not correctly identified.

Change management process fails to give a process to identify those people who can impact or are impacted by the project or change. It doesn’t mention the techniques that could be used to evaluate those stakeholders, to prioritize those stakeholders, to engage those stakeholders throughout the project and techniques to control them. Stakeholder management helps in giving those techniques.

The strengths of Stakeholder Management may fill the weaknesses of change management aiding to more successful outcomes.

## 2.4 Chapter Summary

This chapter summarized the existing literature on the organizational change management processes used for implementation of organizational change. It also signified the importance of change management and why it should be used with stakeholder management for improving organization's ability to affect change. Additionally the chapter also covered the stakeholder management process and previous work in the same area. It also provides a certain amount of motivation for further research in the area.

# CHAPTER 3. PROCEDURES AND DATA COLLECTION

This chapter will cover the study design and the research methodology used in this thesis.

## 3.1 Research Methodology

Research methods can be classified in three types; qualitative, quantitative and mixed methods. Quantitative research is "a means for testing objective theories by examining the relationship among variables." (p.4, Creswell, 2009) These methods include surveys, research, and experimental research. "Qualitative research is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem."(p.4, Creswell, 2009) Examples of qualitative research are narrative research, case study method, ethnography, grounded theory, and phenomenology. Mixed methods research is an approach to inquiry associating both qualitative and quantitative research forms. These include sequential, concurrent, and transformative research.

The author chose to use a Qualitative Meta-analysis method in this thesis. Meta-analysis is a technique of combining the results from different studies and providing a more persuasive conclusion than could be provided by a single study.

This study will focus on meta-analysis of different case studies. Case study is the most common qualitative method of research used in information systems (Alav &

Carlson, 1992). Case studies focus on a particular issue of analysis. They are the detailed investigations of a single individual, group, or an event to explore the cause-effect relation in order to find underlying principles (Yin, 1981). Meta-analysis is an analytical technique aimed to sum up the results of multiple studies (Hernandez, A. V. & Kattan, 2008). The purposes of meta-analysis is to:

- Recapitulate and integrate results among studies
- Examine variances in the results from different studies
- Increase accuracy
- Determine if further studies are required for additional investigation of an issue

Identifying and selecting of case studies, variability of results, accessibility of information and examination of the data are critical factors in conducting a meta-analysis. This thesis conducts a meta-analysis of case studies to analyze different examples of the success and failure factors of the change management method during an IT-driven change. The sources of information used for this research are limited to the published studies and reports identified for inclusion in this study.

While doing a qualitative case study method, author interviews or collects detailed documents from the employees and the people who worked in that project which lead to success or failure. There is a personal touch to all the case studies. The interviews give a clear idea about their experiences and what they faced during a major change. The reason behind doing a case study analysis was to find the common factors affecting the project success of failure during a change where an IT system is implemented. Case study analysis gave a detailed and in depth idea and knowledge about those factors from the

people themselves. Case study analysis helped in identifying the factors which helped answering the second research question as well.

The first step is finding the case studies. This study looked upon the following sources to look for published and relevant case studies:

- A book called “Cases on Information Technology: Lessons Learned” which covers a variety of IT initiatives, comprising of enterprise systems, wireless technologies and reconstruction operating systems after destruction.
- Also case studies from top journals according to SCImago Journal and Country rank which takes its name from the SCImago Journal rank indicator which is developed from algorithm Google PageRank related to information technology and management will be considered because they were ranked in the top fifty in the related field:
    - Journal of Information Technology case and Application research,
    - MIS Quarterly: Management Information systems,
    - Journal of Information Technology,
    - Journal of Change Management,
    - Journal of Management Information Systems,
    - Journal of cases on Information Technology and
    - Journal of organizational change management.

This study was going to see Prosci research data by contacting them, but couldn’t get access to their case study research data. This research was going to mention about the case study related to IT driven change at Purdue University but found that it wasn’t published yet and so it could not be taken into account. This study took into account different types of methods used by the organizations to manage IT driven change while

short listing the relevant case studies. The researcher attempted to find the most current case studies. The case studies done during and after the year 2000 were considered. This is because technology and latest methods related to change management have come a long way and have improved much since this year.

The second step was to select the case studies using specific search terms. The search terms included are: Information Technology (IT), Enterprise Resource Planning (ERP), Business Process Reengineering (BPR), Systems Application Product (SAP), Oracle, Customer Relationship Management (CRM), change, change management, stakeholder management, stakeholders, success, failures, and case studies. The inclusion criteria for the analysis for the present study included the following:

- Information technology driven changes i.e. changes made by implementation of software like CRM, ERP, BPR, SAP, Oracle and likewise.
- Factors of failures or success during an implementation other than technological success or failure.
- Case studies that mention different ways to manage change.

The exclusion criteria during the selection of case studies were:

- Case studies that were not published
- Case studies dated before the year 2000
- With changes that are not driven by information technology

The third step was analyzing the selected case studies. Summaries of each of the included case studies are provided in a tabular form in chapter 4 and 5. The case studies are all organized chronologically, from earliest to the most recent. Each summary consists of the title of the case study, the date it was published, the authors, the summary

of the case, conclusions of the case, factors of success and factors of failure will be used to summarize the case studies and their outcomes. Those are then used to do analysis, provide conclusions and recommend future work.

The analysis of case studies was done by finding out the common factors mentioned the most number of times (highest frequency) in the case studies selected. Those were given a common name by the author, which were then explained in detail pointing out each case study describing that factor. This helped answer the first research questions about the factors of failure or success while managing an IT driven change in an organization. This also showed the factors being lack of involvement of top management, lack of communication and knowledge, lack of interest in employees, all of which mentioned are linked with stakeholder management as well, as it is all about managing and engaging people during a project. So, this analysis also helps answer the second question about if stakeholder management might help mitigate those failure.

After the analysis, those factors yielding give conclusions which are discussed in Chapter 5, followed by recommendations for future work. The last step was validating the results and the suggestion, by subject matter experts, Professor Jeffrey Brewer, Professor Jeffrey Whitten and Professor Jenny Daugherty who have been in the field of project management and change management for many years.

## 3.2 Chapter Summary

This chapter has given an insight into research methodology employed in the thesis along with research goals and the verification criteria.

# CHAPTER 4. ANALYSIS OF CASE STUDY

## 4.1 Case Studies

After going through more than thirty case studies, six case studies were chosen on the basis of the factors of failure or success during an implementation other than technological success or failure. The case studies that were not published or were dated before the year 2000 were eliminated. The chosen studies were based on the implementation of an Information Technology system or software application. They mentioned different methods used to manage the change process. There were six case studies selected out of all the case studies from the sources mentioned in the methodology. Table 4.1 lists the title, date, authors and the system implemented in that particular case study. Following this list are the details associated with each case study.

Table 4.1 *Selected case studies*

| Case study number | Title | Date | Authors | System Implemented |
|---|---|---|---|---|
| Case Study 1 | A Case of Information Systems Pre-Implementation Failure: Pitfalls of Overlooking Key Stakeholders' Interests | 2006 | Christoph Schneider and Suprateek Sarkar | Computerized Maintenance Management System (CMMS) |
| Case Study 2 | The Sociomaterial Practice of IT-Enabled Change: A Case Study of a Global Transformation | 2011 | Einar Iveroth | Enterprise Resource Planning System (ERP) |
| Case Study 3 | Change Management of People & Technology in an ERP Implementation | 2006 | Helen m. Edwards & Lynn P. Humphries | Enterprise Resource Planning System (ERP) |
| Case Study 4 | Understanding User Resistance and Acceptance during the Implementation of an Order Management System: A Case Study Using the Equity Implementation Model | 2005 | Kailash Joshi | Order Management System |
| Case Study 5 | A Case of an IT-Enabled Organizational Change Intervention: The Missing Pieces | 2006 | Bing Wand & David Paper | BATON Technology |
| Case Study 6 | The Importance of Social Structure in Implementing ERP Systems: A Case Study using Adaptive Structuration Theory | 2006 | Kimberly Furumo & Arlyn Melcher | Enterprise Resource Planning System (ERP) |

### 4.1.1 Case study 1

The first case study, A Case of Information Systems Pre-Implementation Failure: Pitfalls of Overlooking Key Stakeholders' Interests (Schneider, C. & Sarkar S., 2006), was about a maintenance department (Umaint) of a large public university (BigU) in the northwest United States. Umaint handles close to 60,000 service calls, apart from scheduling and completing 70,000 preventive maintenance projects for 69,000 pieces of equipment. In mid-1990's, Umaint's management decided to implement a Computerized Maintenance Management System (CMMS). This project started in 1995 and was halted in 2003. The project was a failure. The authors haven't clearly mentioned the method used for the case study but it seems they have interviewed all the different people involved in this project. The purpose and scope to implement the new system was to eliminate redundancy and simultaneously reduce the errors, to provide more efficient and better quality service, and timely obtain accurate information for top management. The case starts with discussing the steps the implementation team followed, starting with inquiring about the system and vendors. Committees were made in order to include employees from various departments. The CMMS Evaluation Team consisted of members of each department of Umaint, who were nominated by their own department heads. The deployment of the CMMS was planned in three phases; starting with Request for Proposal (RFP) process, followed by decision-making process, and last phase being the actual implementation. There were challenges during the RFP and the decision making phase, therefore this project didn't reach the actual implementation phase. Some groups did not contribute necessary efforts during the RFP. Information flow didn't happen as it was supposed to, employees were unaware of the system, IS members and

other organizational members were not in agreement during the decision making process, and vendors didn't accept the decision.

### 4.1.2 Case study 2

The second case, The Sociomaterial Practice of IT-Enabled Change: A Case Study of a Global Transformation (Iveroth, E., 2011). This case examines the practice of change agents during IT change in the multinational telecommunication company Ericsson. The data was collected both retrospectively and in actual time. The internal documents were collected between 2004 and 2006 retrospectively, and between March 2006 and June 2009, the interviews and document collection were collected in real time. Twenty-nine interviews took place open-ended with 17 who were responsible for initiating, designing, sponsoring and implementing the transformation, i.e. they were the actors that made the IT enabled change happen. Ericsson has over 80,000 employees worldwide. They decided to convert their department of finance and accounting from a decentralized structure into a Shared Service Centre (SSC). They decided to implement an Enterprise Resource Planning (ERP) system. Through that system they hoped for a good feedback mechanisms, and integrate different departments to create accountability and transparency. This implementation was a success. This led to different changes discussed in the case. New job titles were made that connected to global networks, local finance and accounting practices vanished, and instead were transported as a service by a distant SSC organization. Information system was substituted by a global system. Also, national regulations and procedures were altered into new global ones. Their

implementation was a success and their practice by the change agents are described in detail in the case study. Agents' practice consisted of four analytical dimensions:

- Common ground: provide a common work logic
- Common meaning: Talk, teach and train people about the change
- Common interest: Bring into line interests among various stakeholders
- Common behavior: Recipients' adoption and acceptance of the executed change.

It was found that greater similarities in each dimension equals higher possibility of change reception and a smoother change process.

### 4.1.3 Case Study 3

The third case, Change Management of People & Technology in an ERP Implementation (Edwards, H. M. & Humphries, L. P., 2006) is about a company, PowerIT Ltd., based in the north of England. It has two business units, a production unit and PowerIT services. In 1999, they decided to implement an Enterprise Resource Planning (ERP) system and it was implemented by 2000. However, one year after the full implementation, some sections of the organization viewed the system as a failure. The management and operational staff were interviewed independently and the team spent six months in the organization carrying out interviews, document analysis and observations. This case provides the results of this investigation. The purpose of this project was to manage all aspects of business, like production planning, purchasing, manufacturing, sales distribution, accounting and customer service. Another goal was to improve data quality by reducing errors and redundancy. The focus was to replace the current inadequate manufacturing resource planning system (MRPII). They started with

identifying the need of the system and invited different vendors. Next, they shortlisted vendors. Then, they chose their system, produced a detailed specification and rolled out the system. Eighteen months after initial acceptance, the system was still unable to fulfill some fundamental requirements of business. Resistance and decreased user morale were reported. A team was brought to investigate the situation and show the managers the way forward. The team interviewed the employees to understand the challenges they had during system implementation. One of the challenges was very little involvement by top management, who did not consider the project a high priority activity. Second, was that the staff felt that the Business Development Manager (BDM) lacked social skills even though he was very good with technical skills. The staff didn't actively participate as there was lack of communication between BDM, CEO and senior managers which lead to choosing wrong vendors. Finally, there was inappropriate levels of teaching, and the staff were not trained to use the system well.

### 4.1.4 Case Study 4

The fourth case, Understanding User Resistance and Acceptance during the Implementation of an Order Management System: A Case Study Using the Equity Implementation Model (Joshi, K., 2005) is about Marian Enterprise, a large, privately owned company located in the mid-west US. It sells home fashion products that include draperies, window coverings, wall paper, artwork, accessories, and textile materials. An order management system was implemented to eliminate the long lead-time. Also, to have a consistent way in examining the status of the order, to have better and clear specifications and integrate various business functions. The case study describes the

Equity Implementation Model (EIM) which was used to analyze user reactions. EIM found out that struggle to accept a change was not common among user groups. Some users welcomed a new system, while others repelled. The details of this case were attained from the MIS manager and staff. Respondents were requested to describe the new system and then asked to categorize various significant user groups. For every user group, information regarding early acceptance/resistance response to the system during the implementation and post implementation reaction was noted. Users were divided into four groups: Salesperson, Order Checkers, Production personnel and customer service personnel. The focus was on the reactions of users to a new system during the initial and post implementation. It was noted during the initiation stages of implementation that there was a lot of resistance in the user groups, but the system was later accepted and a success. Different user groups had different reasons for resistance. For example, the salespeople had strong initial resistance because of extra work, risk of losing jobs brought resistance among order writers/checkers and the thought about more work regarding updating created resistance among production personnel. Despite the resistance to accept the new system by other groups, customer service personnel welcomed the new system.

### 4.1.5 Case Study 5

The fifth case study, A Case of an IT- Enabled Organizational Change Intervention: The Missing Pieces (Wand, B. & Paper, D., 2006) describes a university owned research organization. It has three research units, the Space Unit (SU), the Molecular Unit (MU), the Water Unit (WU) and the Commercialization Office (CO). The tremendous growth and expansion of the research organization demanded an alteration

from a university-owned organization to a business focused corporation. It was necessary to have better management of intellectual properties and automate the core management processes. To help achieve this goal, a new IT solution (BATON technology) was presented into the organization. This case study explores the change involvement enabled by IT and the reactions by various constituencies to the changes during the intervention process. It used a deep qualitative case study approach with a repetitive cycle consisting of interview-analyze-refine-interview. Data was collected mainly through unstructured and semi-structured interviews. Participants in the interviews were from different levels and various functionalities of the organization. Each interview was 60 to 90 minutes long and was recorded and carefully writen out. The case study begins with explaining the steps the organization went through during the transformation. It describes the four groups that were involved, top management, external IT consultants, business managers and in-house IT specialists. Each group was assigned roles and responsibilities within each phase. The three phases of the change project were envisioning change, implementing change and managing reactions. This case study points out that the key challenges faced for the successful implementation of BATON technology. One of it is the disparity between legacy IT culture within the organization and the change to the new one. Other challenges seen were insufficient energy from top management to communicate and promote vision to lower levels of the organization, IT people resisted as they didn't understand the change benefits for them, external consultants were considered outsiders and responsibilities were not clearly assigned to those involved in the change.

### 4.1.6 Case Study 6

The sixth case study, The Importance of Social Structure in Implementing ERP Systems: A Case Study using Adaptive Structuration Theory (Furumo, K. & Melcher, A., 2006) was used to assess a failed implementation of a human resource system at a mid-sized university in the mid-west United States. This public university had a budget of $150 million and student admission of around 10,000 students. This university tried to implement ERP and after more than two years of attempts decided to cancel the project. Initial unstructured meetings were held with the Vice President for Business Affairs, the chief Information officer, the Directors of the Budget, Payroll, human Resources, and Accounting Offices, the Project Teams manager and members of the project team. To build questions for a follow-up structured interview these feedbacks were used. Interviews were approximately 30 minutes long. Interviews were held to know about the different problems during the implementation process. Different participants identified different problems. First, the project team members from user departments mentioned that the team leader did not know how all the sub units of ERP systems came together. ERP system didn't enhance worth beyond the current system and they were asked to take too much responsibility. Second, the project team members from IT department mentioned that they were resistant as they didn't want to take responsibility of a system that they did not have full control over. The project team leader pointed out that the team members did not sufficiently learn how their subunits worked with other subunits and that there was insufficient support from the Vice President. The Chief Information Officer complained about the employees from user departments being resistant to learn the new system. Upper administration including the vice president and directors of the

user departments mentioned that the project team couldn't get team members working together. The case study describes the adaptive structuration theory which provides an explanation of how advanced information technologies influence social structures which in turn impact interaction and ultimately behavioral changes among the individuals.

### 4.1.7 Summary of case studies

All six case studies described the interviews with people talking about the challenges they faced during the implementation of IT systems like ERP, CMMS, order management system and BATON technology which was a major reason to select these case studies. These case studies were published after the year 2000 so they meet the selection criteria.

## 4.2 Analysis of Case Studies

After selecting and looking into the six case studies, the author analyzed the case studies by looking at the common factors that were pointed out in each of the case studies. The challenges pointed out most frequently were chosen and given a common name by the author. Each of the factors affecting change management process during an IT driven implementation are listed next. Author has provided a statement or an example from each case study which shows what factors affected the project's success or failure. The following list describes the factors affecting the project during an IT driven change:

- Communication and common knowledge: Case study 1 distinctly mentions, "even though the process team members were intended to funnel down the information, the information flow did not take place as expected; indeed, many employees did not

receive much information about the proposed system. This problem was of great concern to upper management, as information sharing was seen as critical to the success of the process." (p. 238, Sarker, S & Schneider, C.)The case study 2 from the previous chapter, section 4.1, writes about the success of a global transformation and the social material transformation of IT-enabled change. It mentions that one of the initial dimensions is the fact that everyone involved in the change (actors) should share a similar 'language' and work logic. It says that "unsuccessful change is often corrected by repeating or reinventing the form and message of change." (p.383, Iveroth, E., 2011). Case study 3 mentions that organizational issues remain as central areas requiring change: these can be subdivided into "Communication and Relationship" and "Understanding the Business". Lack of clarity was found from the workforce about the business processes they worked within during the investigation and interviews. Case study 5 reveals one of the challenges faced during the technology implementation they faced which lead to failure was lack of energy from senior level management to converse and stimulate the vision to lower levels of the organization. Case study 6 while describing the social structure in ERP implementation writes about the problems with the ERP implementation identified by different participants. Project team members from user departments mention the lack of knowledge the team leader has about the system.

- Engaging employees and training them about the change: A latest meta-analysis establishes that in information systems development process, user involvement can affect IS success (Hwan & Thorn, 1999; Sarker & Schneider, 2006). In the case study 1, the information systems manager, mentions that in his talk with other school that

have been through technology implementations and after reading a lot he saw the weakness were people not getting involved. Case study 2 writes about the success of the implementation lies in giving a common meaning about the change and system to the change recipients through training and teaching. If they do not have a common meaning, the recipients may interpret and understand change differently. Case study 3 identifies specific instances where the system was used inappropriately because staff had not received relevant training as a result of the probing of the investigators. Case study 5 mention one of the challenges they faced during implementation being the lack of clarity of assignment of responsibilities. They mention, "Without such clear responsibilities, the normal management structure were not sufficient to support the change effort given that managers are already busy" (p. 154, Wang & Paper, 2006). Case study 6 also states the issues with the WRP implementation being inadequate learning about the subunits and its interaction with other subunits.

- Employees' interests for the change: In case study 1, a big concern during the initial phase itself was when there was a lack of participation from employees even when top management formed committees to involve people from all departments, this showed lack of interest in them. Case study 2 mentions the dimension of common interest as a success factor for an IT driven change. It says, "Just because the recipients share a common ground and a similar meaning of the IT does not imply that they have the same interest in using the new technology. It is therefore of central concern to align interests among different stakeholders - to create common interest" (p. 386, Iveroth, 2011). One of the change agents explains that change includes both logical and emotional elements and both should be achieved correctly. It is important

to understand the situation the people going through the change are in and that would make it easier for you to help them explain and go through the change. Case study 4 mentions that different user groups have different level of resistance, like salespeople had strong initial resistance due to extra work and extra time they had to invest, order checkers and writers had initial resistance with the fear for losing their jobs while customer service welcomed the new system as they got a better product, easier implementation and improved customer interaction. So the resistance and reactions of users depended on their benefits and interests. Even in case study 5 it is mentioned that, they failed in dealing with resistance from IT department as it is harder for them to realize how changes will benefit them. Case study 6 mentions one of the problems were the employees resisting to learn the new system. They did not want to be responsible for managing a computer system that they did not have full control over. It can be concluded with this that stakeholders resist when they don't find interest or benefits from the implemented system.

## 4.3 Chapter Summary

This chapter talks about the selected six case studies, starting with explaining the criteria used to select those case studies. Then it mentions about each case study in detail. Starting with about the organization, the scope and purpose of the project, the methodology used while doing case study, if the project was a success or failure and the challenges mentioned as a factor of failure or success.

After that, author analyzed all the case studies and provided with the factors affecting an IT driven change in an organization based on highest frequency of that factor

in the six cases. The case studies point out the factors of failure being, the lack of knowledge and training, fear of losing control, lack of involvement and lack of communication. The factors of success being the common understanding among all employees, training and teaching for them to have common meaning and knowledge, to align the interest in all stakeholders and to help them adapt to the new system by checking on their behaviors constantly.

# CHAPTER 5. CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Conclusions

The first research question was, “what are the factors of success and failure in formal change management methods used in Information Technology driven change initiatives?” The conclusions drawn from the case study analysis and research have been described next in a tabular form. The first column in each case study table contains a summary describing the organization. The second column the scope and purpose of the project explaining why the new system was decided to be implemented. The third column describes details of the case. As all the case studies have different approaches, this is a general column used to mention the steps taken during implementation or changes during the implementation or what the case study is about. The fourth column lists the methodology used in the case study. The fifth column provides the result of the project, either a success or a failure and the sixth column points out the reasons or factors identified for the success or failure.

Table 5.1 *Case Study 1*

| About the Organization | Scope and Purpose of the project | Methodology | Was it a Success/ Failure? | Factors of Success/Failure |
|---|---|---|---|---|
| • UMaint is the maintenance Department of a large public university (BigU), names have been disguised to ensure confidentiality. | • Eliminate redundancy<br>• Provide efficient and higher quality service.<br>• Obtain timely and accurate information for top management | Haven't mentioned the method very clearly, but seems to have interviewed the staff and employees at various levels | Failure | • Some groups did not put necessary efforts during RFP.<br>• Information flow did not take place as expected<br>• Employees were unaware of the system<br>• IS members and Other Organizational members were not in agreement with one another. |

Table 5.2 *Case Study 2*

| About the Organization | Scope and Purpose of the project | Methodology | Was it a Success/ Failure? | Factors of Success/Failure |
|---|---|---|---|---|
| • Ericsson, a multinational telecommunication company.<br>S | • Centralizing their departments<br>• Improving integration<br>• Lowering the cost | • Internal documents were gathered<br>• 29 open ended interviews were conducted | Success | • Common ground<br>• Common meaning<br>• Common interest<br>• Common behavior |

Table 5.3. *Case Study 3*

| About the Organization | Scope and Purpose of the project | Methodology | Was it a Success/ Failure? | Factors of Success/Failure |
|---|---|---|---|---|
| • PowerIT Ltd. Is based in the north of England.<br>• It has two business units, production unit and PowerIT services. | • Manage all aspects of business<br>• Improve data quality<br>• Replace the current manufacturing resource planning system (MRPII) as it was inadequate. | • Management and operation staff were interviews<br>• 6 months long procedure<br>• Interviews, document analysis and observations | Failure | • Very little involvement by top management,<br>• Business development manager (BDM) lacked social skills.<br>• Personality clashes<br>• Inappropriate levels of teaching |

Table 5.4. *Case Study 4*

| About the Organization | Scope and Purpose of the project | Methodology | Was it a Success/ Failure? | Factors of Success/Failure |
|---|---|---|---|---|
| • Marian Enterprise is a large, locally owned company located in mid-west US. | • To eliminate the long lead-time to complete the process<br>• Have a consistent way in checking the status of the order<br>• Have better and clear specifications.<br>• Integrate various business functions. | Interviews were taken during and after implementation | Success | • Salespeople has strong initial resistance because of extra work<br>• Risk of losing jobs brought resistance among order writers/checkers |

Table 5.5. *Case Study 5*

| About the Organization | Scope and Purpose of the project | Methodology | Was it a Success/ Failure? | Factors of Success/Failure |
|---|---|---|---|---|
| • University owned research organization | • Transform into a business-oriented corporation<br>• Better management of intellectual properties<br>• Automating core management processes | • Interview-Analyze-Refine-Interview<br>• 60-90min long and carefully transcribed<br>• Interviewed top management, external IT consultants, business managers and In-house IT specialist | Failure | • Insufficient energy from top management to communicate and promote vision<br>• IT people resisted as didn't understand the change benefits<br>• Responsibilities were not clearly assigned |

Table 5.66. *Case Study 6*

| About the Organization | Scope and Purpose of the project | Methodology | Was it a Success/ Failure? | Factors of Success/Failure |
|---|---|---|---|---|
| • Human resource system at a mid-sized university in the Midwest United States. | • Integrated work flows across the University<br>• Shared control of the computer and data among user departments, upper management and IT | • Initial unstructured<br>• Follow up 30 min structured interview<br>• VP for business affairs, CEO, directors of budget, payroll, HR and accounting office, project team managers and teams were interviewed | Failure | • Resistance due to responsibilities, fear of losing jobs<br>• Fear of losing control brought resistance<br>• Lack of knowledge about the system<br>• Lack of support from Vice President<br>• Resistance to learn new language<br>• Failure to make members work together |

Tables 5.2 to 5.7 highlights the summary of each case study and points out the factors or failures and success for each one of them. These factors answer the first research question. The factors affecting the change management projects to fail were lack of knowledge, lack of involvement from top management, resistance due to fear of losing jobs and increase in workload to mention a few. Stakeholder management as described in detail in chapter 2 describes the techniques to manage and engage employs throughout the project.

An important conclusion while answering the second research question was that there is a gap in the PMBOK instead of the researched change management method. A formal change management method was seen, the ADKAR process mentioned in the literature review, chapter 2, in the review of change management. When seen in detail, it had all the details needed to manage a change project well. But, there is no such formal change management methods mentioned in any of the case studies. This means they probably were following project management methods to implement such a big change. They haven't mentioned any particular method they followed to manage those projects. PMBOK doesn't have any knowledge area focusing on change management and thus many project managers might not know how to manage projects that involve implementing changes. And this gap in the PMBOK may be the reason behind such high failures in the change management projects. Stakeholder management knowledge area which is all about managing people and engaging them is the closest to change management and could be a possible area where change management principles could be implemented. This answers the second research question.

This thesis started with finding out the gap in change management processes, but with all the findings and analysis, the gap seems to be in the project management body of knowledge principles. Change management and project management have always been two different areas and have been handled differently using different guiding principles. Further recommendations is based on these conclusions and tries to fill in this gap.

## 5.2 Recommendations

As discussed in the conclusion section, there seems to be a gap in the project management principles versus the change management process. The Project Management Body of Knowledge (PMBOK) categorizes ten knowledge areas for project management. The Project Management Institute (PMI) offers certifications to project managers on the basis of their knowledge of PMBOK and their experience in managing different projects. PMBOK doesn't include change management as a separate knowledge area. This usually leads to challenges while dealing with the project that requires managing organizational change.

In the PMBOK, stakeholder management is the closest knowledge area to change management, as both are closely related to managing people. This thesis, in its previous chapters has described stakeholder management, only recently added to the PMBOK, as its tenth knowledge area. It includes the procedure essential for recognizing people, teams, or organizations that could affect or be affected by the project, examining stakeholder expectations and their influence on the project and developing suitable management strategies for efficiently engaging stakeholders in project decisions and execution (PMBOK, 2013).

Based on this research it is recommended that a structured method for integrating formal change management methods into the PMBOK be considered. This section would consider stakeholder management to help mitigate change management impacts into a traditional IT project management. The stakeholder management process mentioned in the PMBOK (2013) and ADKAR model defined by Hiatt (2006) to manage change are integrated to suggest one possible structured method to mitigate change management into project management.

Figure 5.1 shows a conceptual method with five phases and their deliverables. These phases (Identify desired outcomes, stakeholder analysis, engagement plan, implementation process and final evaluation) are the same as shown in the Stakeholder management lifecycle (SML) (Figure 2.3 on page 22), created to understand the flow of the stakeholder management techniques that could be used in a step wise manner. Some phases have additional tasks and deliverables which were taken from a well-known change management process, ADKAR process. It is explained in detail in chapter 2.

This deliverables mentioned in a grey box and the flow of that phase in the arrow form on the right half of the figure. Phase 3 and phase 4 include the ADKAR stages while the manager plans and implements in the project lifecycle. This way the important stages required in change management are integrated with the stakeholder management which is then used during project management. Next, Figure 5.1 shows a schematic of the model of the model followed by its detailed description of the model. In the figure 5.1, bold and underlined letters show the new ADKAR stages added in the stakeholder management.

This section only highlights the new tasks added in the conceptual model and does not repeat the phases and points already mentioned in chapter 2.

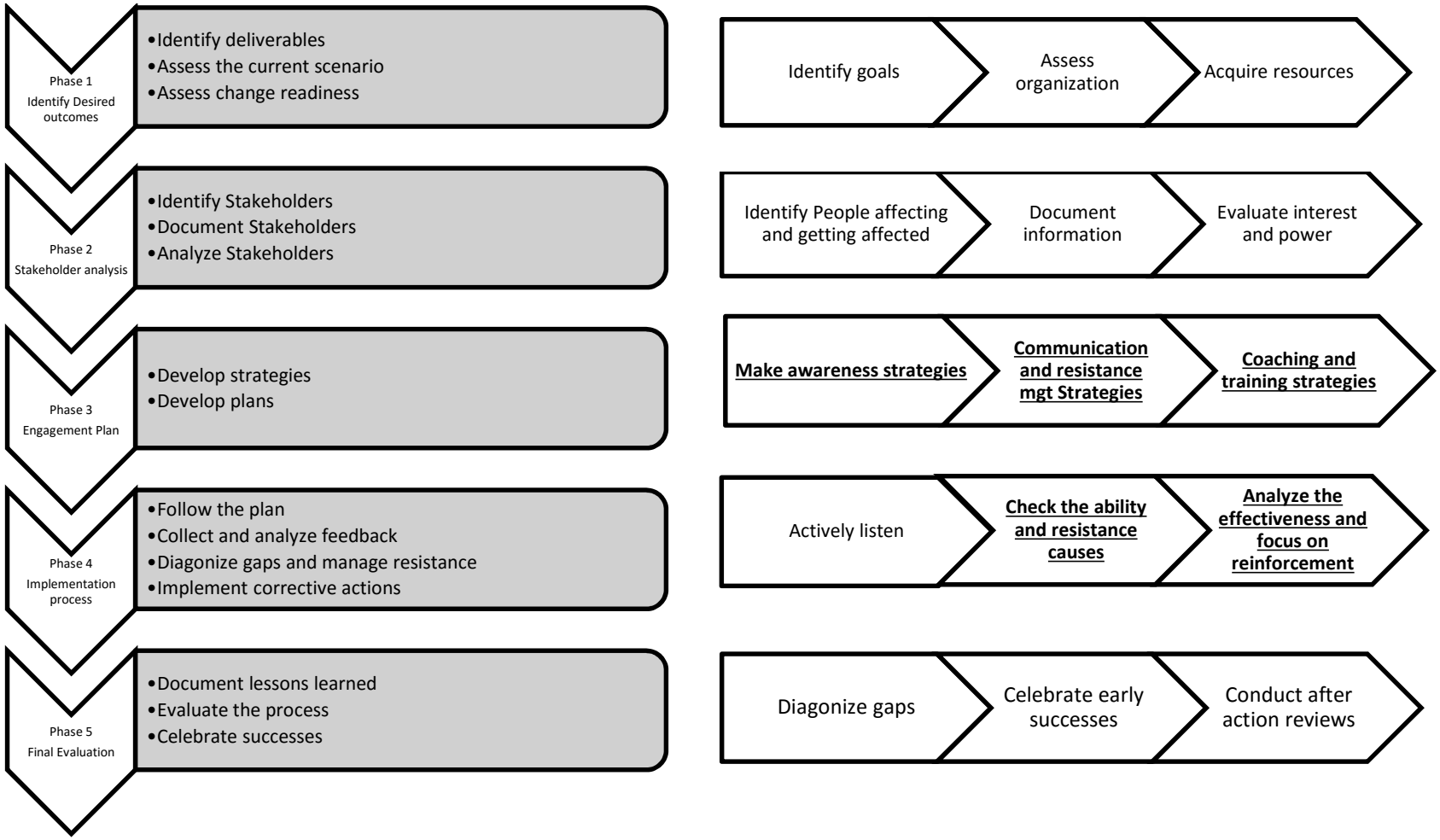


*Figure 5.1.* Integrated conceptual model of an improved Stakeholder Management Process

Phases 1 and 2 do not have new addition from ADKAR process because those phases mention how to identify the objectives or outcomes and how to identify important stakeholders, document the important details and analyze them to use it to make a good plan to manage and engage the stakeholders. Described next are phases 2 and 3 where the ADKAR stages have been added. Only the additional details have been mentioned here. All the other details are already mentioned in chapter 2 under review of stakeholder management.

- Stakeholder Engagement Plan: The stakeholder analysis produces significant information about the stakeholders. The plan should also include the ADKAR stages by Hiatt (2006) because as per the conclusions from the research, lack of awareness among employees, lack of willingness to participate, lack of knowledge and training on the system and lack of ability to use the system were pointed as factors of failures during an Information Technology driven change management. ADKAR focuses on these five elements: Awareness, Desire, Knowledge, Ability and Reinforcement.

  Integrating this into the stakeholder engagement plan will make sure that these elements are being focused on while planning to engage the stakeholders. In commissioning this plan, some additional steps to consider include:

  - Make sure to include the steps that could be used to create awareness about the change, to bring everyone on a common ground to support and engage in the change. The answers to the following questions should be communicated with change recipients (Hiatt, 2006):
    - Why is the change important?

  - Why is this change taking place now?
  - What is incorrect with what we are undertaking today?
  - What will happen if we don't change?
  - How does the change line up with the vision for the organization?
  - How will the change affect our organization or our community?
  - What's in it for them?
  - Check for the factors influencing awareness of need for change
    - A person's interpretation of the current state
    - How a person identifies problems
    - Trustworthiness of the sender
    - Flow of misinformation or rumors
    - Contestability of the reasons for change

- Understanding the reasons that influences a person's desire to change is an important step to receive their support. Following factors help achieve that desire to change (Hiatt, 2006):
  - The nature of change (what the change is and how will it affect them)
  - Their insight of organization during change
  - Person's own situation
  - Motivational factors
- Make sure to embrace plans on giving change recipients with knowledge about the system, change, new responsibilities and roles. Knowledge includes (Hiatt, 2006):

    - Coaching, training and education on the behaviors and skills essential for the acceptance of change
    - Thorough information on how to use new tools, systems and techniques
    - Understanding of the new roles and responsibilities are related with the change
    - Following factors will affect the successful accomplishment of knowledge:
        - A person's present knowledge
        - Ability of the person to learn
        - Resources accessible to provide education and training
        - Access to or presence of, the necessary knowledge

- Stakeholder engagement implementation process: The best stakeholder management plan is unusable if action doesn't follow it. In this section you make sure you include the fourth element, Ability, from ADKAR model. The outcomes are the best measurement for how the process is proceeding. The following points should be added to the implementation process:
    - Documenting activities and their results is important to successfully managing the stakeholder engagement process. Check if the person or group has proved the capability to implement the change at the satisfactory performance levels. Many factors impact this capability (Hiatt, 2006):
        - Psychological blocks
        - Physical capabilities

    - Intellectual ability
    - The time available to mature the required skills
    - The accessibility of resources
        - Financial provision
        - Appropriate tools and materials
        - Personal training
        - Access to tutors and subject experts

- Award those who perform well. Include the fifth element reinforcement form the ADKAR model. Reinforcement includes any action or event that strengthens and reinforces the change within an individual or organization. Examples include recognition, rewards, celebrations or acknowledgement of progress. Several factors influence reinforcement to sustain change like (Hiatt, 2006):
    - Meaningful reinforcements
    - Association of the reinforcement with accomplishment
    - Absence of negative consequences for desired behavior
    - Accountability systems
- For any project it is significant to understand how employees are responding to the change. Collecting feedback through interviews or surveys can aid the project team understand where the change is struggling and where is the progress taking hold (Hiatt, 2006).

This conceptual method integrates ADKAR model elements into the stakeholder management techniques covering the success and failure factors during change

management. This method may help mitigate the obstacles to the success of change management.

The conceptual model discussed above can be used for future study and research. All the projects in the case studies mentioned in chapter 4 were big projects affecting most users in the organization and were as long as 1 to 5 years. One of the recommendations for the future work would be to apply this conceptual model in one of such projects and doing a case study on how this model was implemented and which parts of it helped the project managers and which parts didn't help. Stakeholders' reaction to this process could be noted. Interviews can be conducted to know what the change recipients think and feel about the process, their reactions, rate of acceptance. The case study of success or failure of the implementation might reveal further research in this area. The case studies mentioned in chapter 4 have gone about with this path and that is what gives ideas for this recommendation.

This conceptual method could be used for future research by putting it forward to different project managers and change agents and ask them questions on how they find this method. Prosci research institute usually does this kind of surveys over different countries and with different group of people. That gives ideas for this recommendation. A survey could be taken which would present this model and ask questions about it to them. Survey will first take information about the people taking the survey, like age, gender, level of experience, the area they are working on, the type of organization, number of years of experience. And then ask about their experiences with the change management in the projects they have worked on. The challenges they have faced and what they think is missing in the project management or change management processes. Then they should

be showed the conceptual model and be asked questions to know if they feel this model will help them and the organization for successful implementation of the change, does this model cover all the important aspects that they were looking for to manage stakeholders and change.

### 5.2.1 Further Research Recommendations

This case study points about the factors affecting change but needs a lot of future research to make a stronger case and help decrease the failure rates while managing change.

One recommendation is to use the failure/success factors and do further research on how those challenges could be solved. To contact different project managers and know about their experiences and suggestions to build a better case.

In addition to that, contacting the Project Management Institute (PMI) to ask them about their research regarding this and what do they think about these factors would a good start for future research.

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