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INTEGRATING PROJECT CHANGE MANAGEMENT LEARNING INTO AN ACADEMIC COURSE ON IT PROJECT MANAGEMENT

Mikaela A. Nweke Ms.

Purdue University - West Lafayette, mnweke@purdue.edu

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INTEGRATING PROJECT CHANGE MANAGEMENT LEARNING INTO AN
ACADEMIC COURSE ON IT PROJECT MANAGEMENT

A Directed Project Proposal

Submitted to the Faculty

of

Purdue University

by

Nweke, Mikaela A.

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of

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GLOSSARY

Critical Path Method – a method that identifies the set of tasks, when performed in sequence, that total the longest overall duration of time, which is the shortest time to complete the project (Brewer & Dittman, 2009).

Deliverable - a term used in project management to describe a tangible or intangible product, service, or document as a result of the project to be delivered to the customer (Kerzner, 2004).

Gantt Chart – a chart that illustrates the start and finish dates of a project's schedule, milestone, and deliverables; it also shows the dependencies of some tasks on other tasks (Brewer & Dittman, 2009).

Mind Maps – a diagram used to represent tasks, strategies, or other ideas linked to effectively express a centralized idea or keyword which serves as the resolution, deliverable, or organization in PM (Cleland & Gareis, 2006).

Organizational Change Management [OCM] - a structured approach to transitioning individuals, teams, and organizations from a current state to a desired future state (Goncalves, 2007).

Project Management [PM] – controlling project costs, time, and measures of profitability to gain market share through efficiency (Brewer & Dittman, 2009).

Project Change Management [PCM] – controlling changes that were made to a project's original scope, time, costs, or quality constraints; generally

involves redefining existing objectives and deliverables, or specifications of a new project (Peters, 2006).

Virtual Mind Map – software mind maps that are used as an aid for brainstorming, decision making, document drafting, project planning, and presentation preparation and delivery (Makar, 2009).

Work Breakdown Structure [WBS] – an outcome oriented list of tasks executed by a project team to accomplish stated project objectives (Brewer & Dittman, 2009).

ABSTRACT

Nweke, Mikaela A. M.S. Computer and Information Technology, Purdue University, December, 2010. Integrating Project Change Management Learning Into An Academic Course On Project Management. Major Professor: Jeffrey Brewer.

Within project management, little attention has been devoted to controlling and facilitating changes when constraints of a project have been changed such as scope, time, cost, or quality, also known as Project Change Management (Arami, 2008). Growing statistics prove it is imperative for students finishing IT programs to acquire an understanding of project change management (PCM) for industry preparation. The U.S. spent 3.28 billion dollars on global change management and accountability projects for technology (roughly one-third of the total budget for global change) in the year 2000; this percentage still continues to rise (Goncalves, 2007). As a result, students must understand the importance of project change management. This project addressed the research question; Can the introduction of tools like mind mapping software and the process framework of organizational change management improve student understanding of project change? These tools have recently emerged within industry and academic environments, but have yet to be integrated. This study demonstrates how the integration of both tools allows students to approach new concepts taught in the classroom while improving their understanding.

SECTION 1. INTRODUCTION

This section provides a synopsis of the project and contributing research. This section also details the significance and scope of project change management and guidelines used for information technology (IT) and non-information technology projects. The foundation, significance, organization, and summary are all discussed in this segment.

1.1. Significance

Project managers rely heavily on traditional project management tools such as Gantt charts for business decision making and project control. Although there are current guidelines project managers have been taught to use to better control projects, little attention has been devoted to managing changes when constraints of a project have been changed, such as scope, time, cost, or quality (Arami, 2008). Changes in IT projects often occur from new company processes or from the development of the project itself (Peters, 2006). Figure 1.1 shows that the U.S. spent 3.28 billion dollars on global change management and accountability projects for technology (roughly one-third of the total budget for global change) in the year 2000; this percentage still continues to increase (Goncalves, 2007). Technology became the most active management and accountability (M&A) sector since the late 1990's (Goncalves, 2007). Rising statistics prove it is imperative for students finishing IT programs to acquire an

understanding of project change management (PCM) for industry preparation. As a result, students must understand the importance of project change management. The use of two tools is suggested to enhance students understanding of change: the applied principles and methods of organizational change management and mind mapping software.

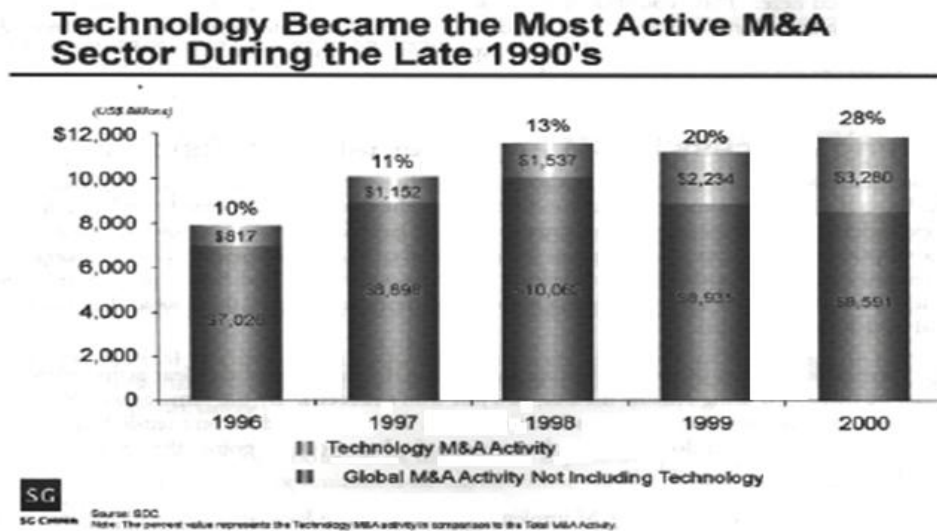


Figure 1.1

Figure 1.1 Technology Rising in Change Management Activity (Goncalves, 2007)

1.2. Scope

In this directed project, a learning unit of PCM was developed and integrated into a current project management course in the Computer and Information Technology department at Purdue University using methods of organizational change management and mind mapping tools. The Socratic Method, Constructivist Learning Approach, and Universal Design were instructional methods researched and chosen to develop course material.

1.3. Statement of Purpose

The purpose of this research was to improve student understanding of project change management through the use of mind mapping software and the framework of organizational change management to aid and communicate the change management process in an IT project management course. The importance of why change management is needed is also stressed in this research.

1.4. Research Question

The central question to this research was:

Can the introduction of tools like mind mapping software and the process framework of Organizational Change Management (OCM) improve students understanding of project change?

1.5. Assumptions

The following assumptions were applicable to this project:

- IT project managers, students, and professors provided the most current exercised material for this study.
- Instructors teaching IT project management courses would be able to incorporate a unit of project change management into the curriculum.
- Relevant case studies used as references to justify this project were not only ethical but accurate.
- Purdue University's OpenMind mind mapping software would be free of charge to students, and the acquisition of software would be accessible to

both graduates and undergraduates in IT labs upon the request of instructors.

1.6. Limitations

The following limitations were applicable to this project:

- This study was directed towards the lectures and labs taught at Purdue University in the Computer Information Technology department only.
- This study was limited to the number of subject matter experts (teaching project management and/or change management courses at Purdue University with industry level experience) that were willing to incorporate the presented unit material into the classrooms.

1.7. Delimitations

The following delimitations were applicable to this project:

- The unit created was integrated into current project management course material from the Fall /Spring 2009-2010 semesters only.
- 1 semester cycle (6 months) was used to analyze and integrate research into a case study.
- This project did not cover in depth implementations of project change management; only summarized core concepts and principles.

1.8. Organization

This project consisted of two main sections and covered several aspects including:

- Project management consolidated history and research
- Change management consolidated history and research
- A brief history and purpose behind mind maps
- Virtual mind map uses for management today
- Effective in-classroom learning theories and instructional design
- The need to integrate change management into academic project management studies
- The need to adapt mind mapping tools to aid the integration of communicating change management into project management curriculums

The next chapter outlines the concise history and assessments of project and change management research along with mind mapping examples used to improve efficiency of project management tasks and in classroom learning.

SECTION 2. REVIEW OF RELEVANT LITERATURE

Due to the growth and implementation of new technology, there is an increasing need for project and change management. Conceptually, change management is one of the most critical factors that leaders, particularly executive staff, must consider when facing company projects (Goncalves, 2007). This literature review provides pedagogical methods and fundamental concepts of project management (PM), change management (CM), and mind maps individually, as well as collectively. Additionally, this review framed the research question at hand: Can the introduction of tools like mind mapping software and the process framework of organizational change management improve students understanding of project change in courses?

2.1. Approach to This Review

The body of literature in project and change management in both IT and non-IT areas is extensive. This research, however, specifically focused on leading people through structured processes in communicating project change. This section provides accepted and effective methods within change management areas. Such methods serve as starting points for monitoring and controlling projects. Prosci is a research organization that offers a change management methodology for controlling organizational change. Prosci (2009), *Change Management Methodology* consists of three key principles:

1. "Change management requires both an individual and an organizational perspective

2. ADKAR presents an easy-to-use model for individual and organizational change
3. A 3-phase process gives structure to the steps project teams should take” (refer to Appendix I)

This report builds upon Prosci’s principles, along with other consolidated textbook best practices. Prosci is one of the few companies that have conducted longitudinal benchmarking studies over the past 12 years on managing the people side of change with data from more than 570 project leaders and change management practitioners across organizations within 65 countries (Prosci Best Practices in Change Management, 2009). Prosci’s data and research additionally proves change management within projects is emerging.

2.2. Consolidated History of Project Management and Research

“Project management is the process of applying knowledge, tools, and techniques to a project’s activities to deliver stated project requirements within agreed-upon scope, time, cost, and quality constraints” (Brewer & Dittman, 2009, p.525). Project management began to take effect only a few decades ago and still continually arises today in various disciplines. Project management began to grow in value for businesses and other organizations because they found it critical to communicate and collaborate with multiple departments and professions. Project management developed from several fields including construction, engineering, and defense activities to name a few (Cleland and Gareis, 2006).

In the early 1870s, the construction of transcontinental railroads demonstrated the need for project management. Business leaders became

overwhelmed in the task of manufacturing and organizing large quantities of raw materials. Without a systematic guide to follow, additional tasks of organizing more than a thousand labor workers became even more strenuous. As larger scaled government projects began to arise in the later part of the 19th century, so did the need for project management (Stevens, 2002).

Between 1861 and 1919, Henry Gantt began studies of management for Navy ship construction during World War I. Gantt developed charts (commonly called Gantt charts) which displayed milestone markers and task bars to illustrate the duration of a process. After World War II, newer structures such as PERT (Program Evaluation and Review Technique) charts, SWOT (Strengths, weaknesses, opportunity, and threat) analyses, and critical path methods were developed to facilitate and maintain greater control over projects (Cleland and Gareis, 2006). Microsoft Project software is commonly used in the 21st century as a technique in identifying and displaying items to be performed in a project; this is also known as the work break down structure (WBS) of tasks and deliverables (Brewer & Dittman, 2009).

2.3. Project Management Research Summary

The Project Management Body Of Knowledge (PMBOK) serves as a project management guide in describing the fundamentals of managing a project. The PMBOK consists of nine knowledge areas (Project Management Institute, 2008):

- a. "Project Integration Management – The processes and activities needed to identify, define, combine, unify, and coordinate process and project management activities.
- b. Project Scope Management – Describes all the work necessary to produce the final product (this is normally produced as a formalized document/agreement between the stakeholders and producer of deliverables).
- c. Project Time Management – Determines the project completion time and scope. Activities such as planning, organizing, scheduling, delegating, analyzing, and monitoring of specific tasks are performed to approach a project goal or milestone deadline.
- d. Project Cost Management – Cost estimation and control for a project in order to determine the amount of money being spent and the amount of money expected to be received within a limited budget.
- e. Project Quality Management – Project management technique or strategy that is implemented to assure that an awareness of quality is embedded in all phases of the project from conception to completion.
- f. Project Human Resource Management – Involves organizing and managing a project team which is made up of people with specific skills and responsibilities. The project team, also known as project

staff, should be involved in plans and decision making from the beginning of the project.

- g. Project Communication Management – Keeping all members of the project management team aware throughout each project phase. The project manager must know the communication process involved in effective project management. Communication between team members and project stakeholders is important; bad communication can lead to a negative impact on the final product.
- h. Project Risk Management – Identifying and mitigating risk on a project. The desired outcome of risk management is to increase probability (planning for the worse) to maximize the results of positive events.
- i. Project Procurement Management –Project management process in which products or services are acquired or purchased from outside the existing employee base in order to complete the task or project” (Method 123 Project Office Methodology, 2000; Project Management Institute, 2008).

These nine areas are mapped across five central phases:

- a. “Initiating – The starting stage towards project success which identifies the project team and project scope through a Statement of Work Document (SOW), as well as determine the relationship

between the project and its alignment with the organization's overall charter.

- b. Planning – Developing the relevant resources, timelines and milestones, and mapping project delivery to business priorities (i.e. risk management, communications, quality, cost/budgeting, duration and sequencing, external dependencies).
- c. Executing – Assigning of the project team and distribution of information to ensure the proper activities is instituted. This process also includes ensuring quality assurance methods are in place to address change management, organizational updates, possible changes to the plan, etc.
- d. Controlling and Monitoring – Ensuring the resulting deliverable maps back to the original plan, and risk from uncontrolled external actions is mitigated. Project Plan Methodologies (PPM) can have a significant impact by setting up a secure infrastructure to:
 - a. Monitor quality, costs and schedule;
 - b. Manage stakeholder relationships, risk and contract monitoring;
 - c. Identify discrepancies or variations within the project schedule;
 - d. Provide the PMO more control.
- e. Closing – Making sure all deliverables are met according to set

expectations of the project. Upon closing a project, project review should be initiated and compared to the project plan to ensure contract closure” (Method 123 Project Office Methodology, 2000; Project Management Institute, 2008).

The PMBOK addresses aspects of project change and the importance of it in project management, but does not devote a knowledge area to change management. It is seldom for a project to run perfectly in accordance to a project management plan, which is one of many reasons why change occurs. Change requests can apply or occur in any knowledge area. The PMBOK points out that every aspect of change should be identified, reviewed for approval and rejection, documented, and managed as it occurs from the project initiation stage through the project completion stage (Project Management Institute, 2008). The awareness factor of project change is indeed addressed within the PMBOK, however, there is no segment or examples composed of how to manage change if it occurs when applied to any knowledge area.

2.4. Change Management Consolidated History and Research

Change management is extremely important in today’s environment. Change is not easy to engage and even more challenging when incorporated into large businesses. Goncalves and Peters present two important principles of change. Goncalves (2007) states, to implement a successful project change, a structured management plan should be developed and executed. According to Peters (2006), the planning of change is one factor, but the implementation of change through communication is considered an even greater necessity. One

solution to handling pressures and transformations of an organization, is to increase in knowledge on what creates a successful project change. Good organizational change management (OCM) attempts to avoid project failure through the use of effective communication, leadership commitment, and visual transformation (monitoring the change as it happens) on projects along with the aligning of group expectations, integrating teams, and in managing people training (Peters, 2006).

Project change initiatives should be recommended by the change management leader. Although the change management leader or specialist performs as a key role in change initiatives, this person normally does not have people supervisory responsibilities. While a junior or senior level project manager can be appointed as a change leader to aid project teams in meeting business, schedule, or budget objectives, an outside specialist is sometimes recommended to deal with the people perspective of change to minimize employee resistance and engagement. This person coaches sponsors and forefront supervisors into delivering project change plans (Whitten, 2010).

There will be employees, including managers, that are neither willing to change nor willing to engage in the change management process. As the president of Prosci states, "The number one obstacle to success for major project change is employee resistance and the ineffective management of the people side of change" (Hiatt, 2006). For this reason, it is important to value high-ranked employees that are in support of project change. The change initiator can ideally

create a foundational pro-change coalition with visibly active managers and staff to influence the rest of the resistors along the way.

2.4.1. Research on Prosci's Modular Template ADKAR

Prosci is a recognized leader in change management research. Prosci introduces Awareness, Desire, Knowledge, Ability, and Reinforcement (ADKAR) principles and methods as a process improvement tool to manage change. The ADKAR modular template is popularly used for business reprocess design to incorporate change management (Prosci Change Management Methodology, 2009). There are five stages that structure this process. The following phases are depicted accordingly in table 2.4.1.

Phase	Strategy	Activity	Project Success
Awareness	Assess change	Communication	On time; On budget
Desire	Assess organization	Sponsorship	Achievement of business objectives
Knowledge	Assess sponsor model	Training	Lower costs; Increased revenue
Ability	Assess risks and challenges	Coaching	Increased quality of service
Reinforcement	Develop special tactics	Resistance management	Higher morale

Table 2.4.1 ADKAR Model

1. Awareness - Awareness is the first stage of change management.

This is the phase where one must define why the change is needed, the risk of not changing, why the change is currently proposed now

instead of later, and what is currently wrong with the existing process. In this phase a leader will experience pro and con attitudes. For example, “If it’s not broke why fix it?” or better yet, “This change was long overdue” (Whitten, 2010). This is also the current stage to visually see who is pro-change or reluctant to the change presented.

2. Desire – Everyone has their own personal view of the recommended change. So as a change leader, a desire to change must be instilled during this phase along with leader participation. Many may commonly mistake the ‘awareness’ phase to imply desire. However, this phase focuses more on the expected questions of “What’s in it for me?”, “Is this an opportunity for me to rank higher in position?”, or “Will this change serve as a threat to my job?”
3. Knowledge – It is imperative that the change management leader delivers the needed knowledge to staff, so that they may perform change as well as sustain it. This phase includes training in skills as well as behavior. Training must include both technical and non-technical dimensions because IT projects typically change business processes and practices; these can become barriers to achieving project goals such as deadlines, costs, and quality. If new technology or software is needed for the change, workshops or tutorials in using technology should be incorporated. If there is an increase of responsibility and accountability of staff duties, this would be the stage the change leader would address to all involved in the change as well.

4. Ability – During this phase, the ability to implement change must be displayed. This includes displaying the ability to achieve the intended level of performance for the change too. Proficiency or ‘talent’ is the emphatic key. A skill can be taught. However, a learned skill (where a process is known) does not imply talent; in essence, knowledge alone is not good enough. Tools and materials, coaching support, and access to mentors should be expressed and presented in this phase.
5. Reinforcement – This is the last phase of the ADKAR model where overall success should be noted along with sustaining the new processes and resistance. To ascribe meaningful reinforcement, the person receiving the changes and witnesses of the change must be respected. This is also a good phase to give optional rewards whether it’s financially, socially, or responsibility based. Some team members ideas of a reward might be valued differently, so creative incentives are not obligatory, but definitely recommended to let members of the team know their appreciation is valued (Whitten, 2010).

2.5. The Brief History of Mind Maps

Mind maps are used across disciplines to enhance learning, brainstorming, memory, and even problem solving. Mind mapping employs the full range of cortical skills (e.g. word, image, number, color, rhythm, and spatial awareness). Theoretical concepts of mind maps date as far back to eighteen centuries ago. However, the origination of mind maps is arguably claimed in the

late 1960's by a British psychologist named Tony Buzan (Abdeen et al., 2009; Beel, Gipp, & Stiller, 2009).

A mind map is usually constructed with the start of a term or phrase centered in the middle of a page and then further branched off into contextual words and concepts. To create a traditional mind map, the creator must start with the use of an unlined blank piece of paper and work quickly without pausing or over analyzing. This traditional mind mapping principle encourages users to think outside the box. Instead of judging and editing each idea, mind maps encourage the opposite. The original intentions of mind maps were to serve as 'rough notes', a way to jot down thoughts. Mind maps didn't entail hierarchical and sequential structures until later (Barth, 2006).

Before modern mind maps were used in relation to a project environment, the center of a mind map functioned as the start of a project and as the core of a mind map. Strategies and then action tasks relative to the resolution (the core of the mind map) were branches produced as ways to make the resolution happen. Mind maps avoid list formats to construct open possibilities. The key to using a traditional mind map is to get every possibility written down when collaborating ideas.

2.6. MindMapping Software

Freeware and commercial software tools exist to support the creation of mind maps. The most popular ones, such as Mind Manager and Free Mind, average about 1.5 million users and 150,000 downloads a month (Beel, Gipp, & Stiller, 2009). Mind mapping software allows an individual to organize and

present information to others as a form of communication. Creating mind maps with mind mapping software is a great way to capture abstract facts and reduce massive information. A virtual map is an innovative form of sharing 'virtual landscape'. It is also one of the most productive techniques used to aid learning. The less linear layout of a brain is more reminiscent of concept maps, which were developed back in the 1960's (Barth, 2006). In essence, visual learners would benefit from the use of mind maps in both academic and industry environments.

2.6.1 Mind Maps Used in Project Management Professions

Mind mapping software allows the user to create both hierarchical and free-form structures for organizing thoughts. A free-form map should be used for collaborating ideas on a project while a hierarchical map should be used as a frame working template to present managed projects. There are mind mapping applications used to aid project managers in addressing issues and processes. Portfolio management, governance, and the selection phases of the project management life cycle can all be facilitated with mind mapping tools. Mind maps have been used for change management kickoff stages and mid project review checkpoints. As a result, important clues were gathered to reveal a persons' desire, knowledge, and intended project outcome (B. Coryell, personal communication, April 19, 2010).

The illustration in Figure 2.6a displays how mind mapping software can be used to record schedule duration of each project's phase. For example, the scope statement and project schedule is developed within the planning phases

by either a project manager or analyst. The start and ending date of those deliverables can be drawn in detail to record task completion as shown.

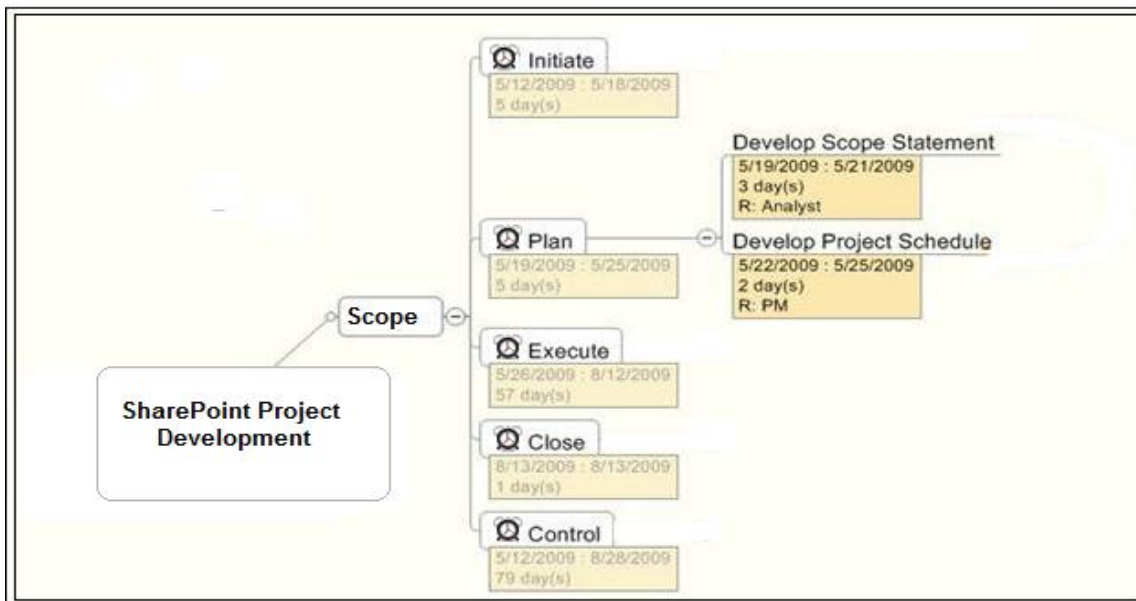


Figure 2.6a Mind Map PMBOK Example Using Mindjet Software (Makar, 2009)

Virtual Mind maps, mind maps created with computer software, can be limitless in information and not only pertinent to outline just the PMBOK phases of a project. It can further be used to enlist and map detailed descriptions about a project's status, team members, stakeholders, schedule, task completion, dependencies, and other assessed constraints as depicted in Figure 2.6b. The map shown below demonstrates members of a project, their role within the organization and duration of tasks (inscribed in the tan boxes), detailed task responsibilities (branched off from their name), percentage of task complete (the shaded blue squares), and dependencies (the arrows) of a preceding task.

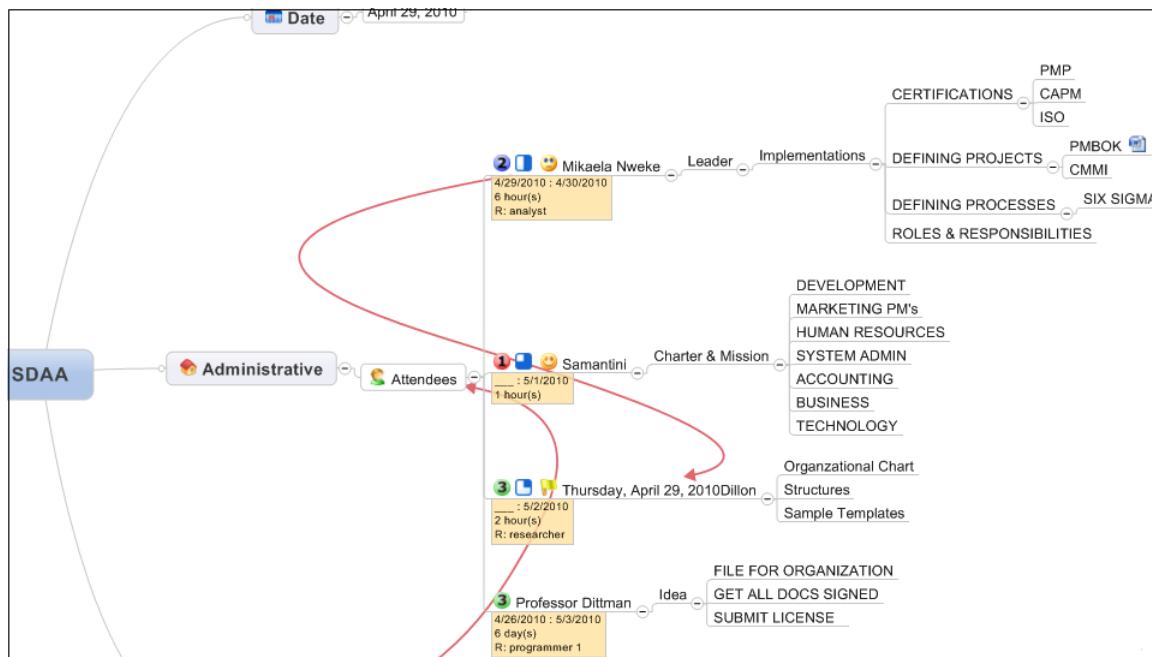


Figure 2.6b Project Overview using Mindjet Software

Before a project release date, a project manager reviews whether each stakeholder's deliverable has been met based on stakeholder expectations and prospective deadlines; this is known as the 'go-live date when used in status reports (B. Coryell, personal communication, April 19, 2010).

Newer versions of mind mapping products allow import and export features to and from common applications such as Microsoft Word, Excel, and Project. With open sources such as Free Mind and Mindmeister, mind maps can easily be exported into HTML, XML, JPEG, or Open Writer applications. This allows a user to spend more time in preparing for a presentation rather than using an extensive amount of time to create one.

Mind maps can be used as an alternative delivery method individually or collectively. Node features are provided within mind mapping software to display

or hide zoomed key points when a topic is presented. To make the delivery and clarity of a message more engaging, nodes are minimized and expanded alongside a branch of sub information until discussed. Nodes are also used to prevent overcrowding of information (Makar, 2009).

Figure 2.6c displays a virtual mind map being used as a tool to brainstorm, collaborate, deliver, and agree on document requirements for a real-world project. The name of the project serves as the central idea (shaded), the four branches extended from the title are the chosen domains the project outlines, and the detailed branches extended from the four domains entail the material needed to complete each domains' objective.

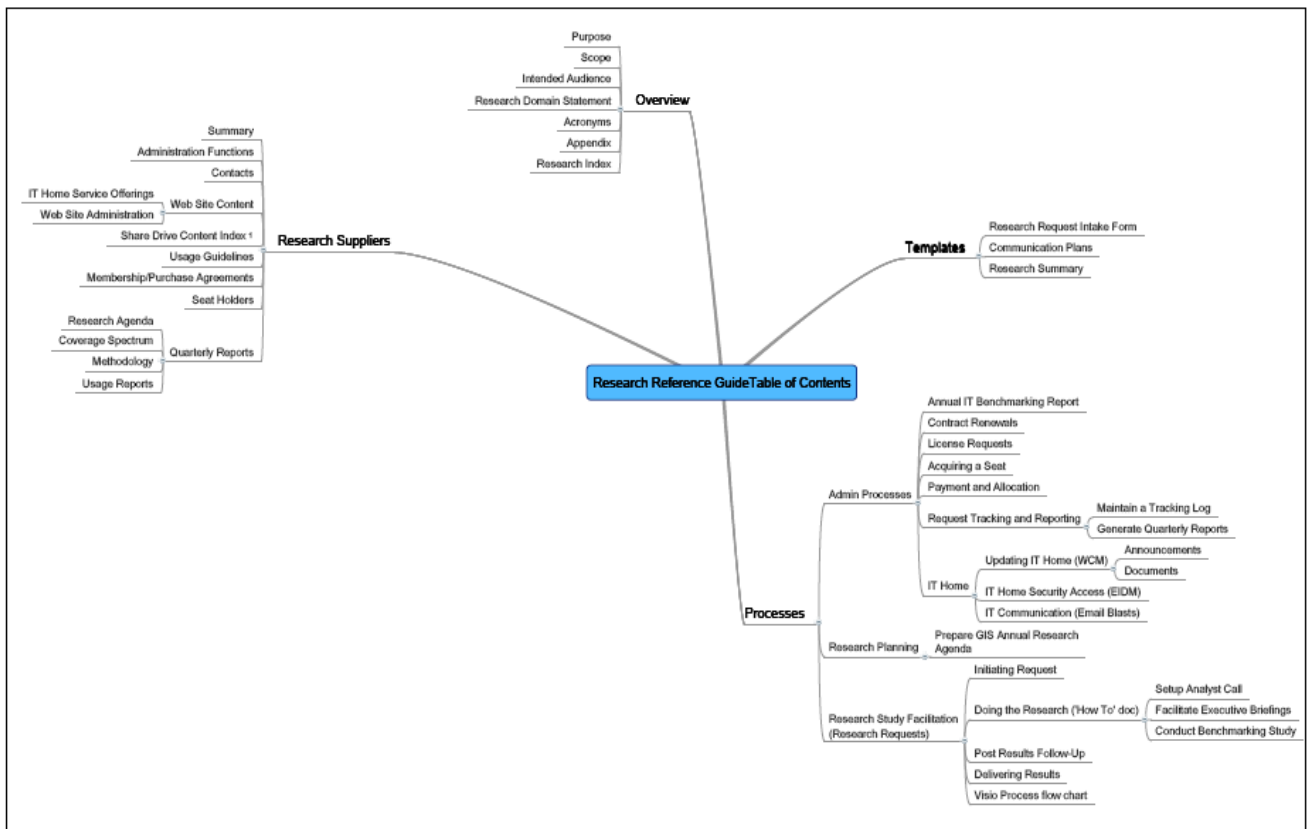


Figure 2.6c Changes to Project Doc Requirements Using Mindmeister

Assigned icons, colors, and map markers can be applied to any process or task of a project to label task completion, priorities, budget awareness, status of deliverables, checkpoints, issues, and 'traffic light statuses' (refer to Figure 2.6d). The task priorities tool (encircled numbers) allows the user to rank a task according to deadline, the task complete tool (shaded time boxes) allows a user to mark the completion of a task, the resources tool allows a user to assign a role or name to the task, the flags tool allows a user to capture issues, and traffic light statuses of tasks can be set using fill colors shown below.

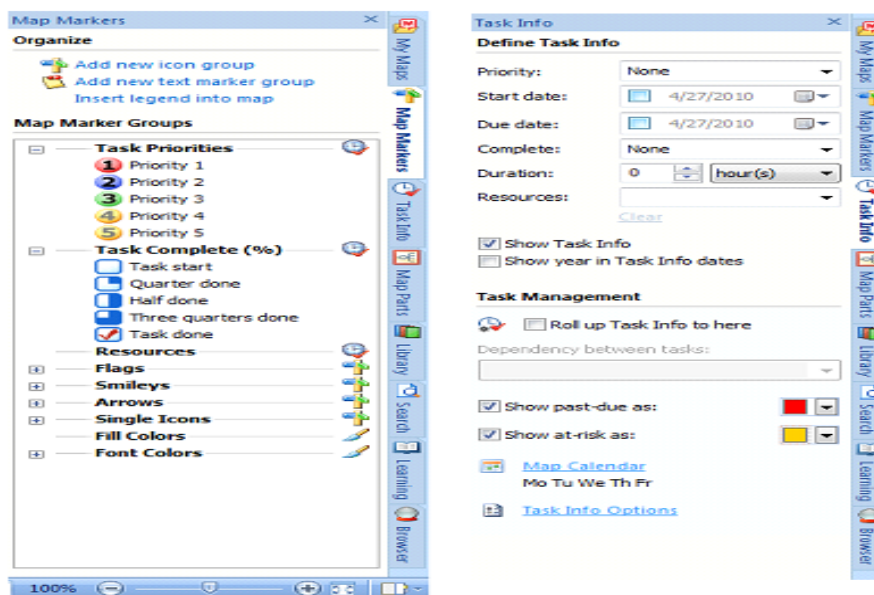


Figure 2.6d Map Markers & Tools Defined (Makar, 2009)

2.6.2 Mind Maps used in Academic Professions

There are numerous benefits teachers and students can gain from using mind mapping software. A significant amount of time can be saved using mind mapping tools to document meeting notes, tasks, or lecture slides. Virtual mind maps can be used in academic environments as well as business environments

to aid in the efficiency and effectiveness of communication. Conceptual understanding can also be enhanced with mind maps when used in classroom settings (Pollard, 2010).

Farrand, Hussain, and Hennessy (2002) conducted a case at the University of London School of Medicine and Dentistry to examine whether mind maps improved factual recall of written information. The study consisted of 50 participants who were 2nd and 3rd year medical students alternatively assigned to one of two groups, a mind mapping group and a self-selected study group. Three trials were given to test students over assigned material read within 5 minutes, 10 minutes, and a week later. Although both groups showed test improvements, the mind mapping group exhibited more correct recalled information in trials 1 and 2 than the self-selected group; the mind mapping group also had a 24% statistical increase of correctly recalled information in the third trial. The author concluded that even minimal exposure to mind maps can aid in memory retention (Pollard, 2010).

Mind maps can be used as a tool for instructional delivery in classroom settings to teach students with diverse learning styles. In 2001, a mind mapping case study was presented in an economics course at the University of Minnesota. The instructor introduced mind mapping techniques to the students for two classroom assignments which was followed by an administered survey a year later for feedback. There was a 60% response rate on surveys that revealed students with 'doing' learning styles favored mind maps, while the students with 'thinker' learning styles preferred lecture techniques only. Students

who favored mind maps also felt it was important to have varied classroom exercises and active collaborative learning (Budd, 2004).

Mind maps can be used as a visual aid to introduce new concepts within a classroom. At the University of Southern Mississippi, a mind mapping case study was used as a method in a college algebra and trigonometry course to introduce relationships and steps in an algorithm. The instructor would draw a mind map using key words to depict students' developed questions and suggestions. The students would apply symbols to the mind maps in correspondence to their addressed keywords. When given tests, the students would sketch a mind map along the side or corner of the sheet to recall information to solve a problem. The author concluded mind maps can be used as an effective teaching and learning tool to introduce new topics while gaining participatory learning (Pollard, 2010).

2.7. Teaching Theories and Models Used for Relative Case Studies

Teaching principles are used and applied in classroom settings relative to this project. Referenced material on effective teaching strategies for unit planning will be illustrated and defined in this section.

2.7.1. Unit Planning

According to Moore (2005), "Courses are usually divided into a sequence of manageable units. A unit is a series of learning activities and experiences that surround a cluster of related concepts. Unit plans are organized around a specific theme to support the overall chapter of a topic. A unit plan links the

goals, objectives, content, activities, and evaluation an instructor has in mind”
(p.114).

Roberts and Kellough (2008), emphasize a well structured unit should capture six components:

1. “A topic: the subject suggested by a course outline or textbook
2. Goals and objectives: a list of your learning intentions in broad and specific terms
3. Content outline: an outline of the material to be covered with as much detail as you feel is needed to clarify the subject and help you with the sequence and organization
4. Learning activities: teacher and student activities – introductory, developmental, and culminating activities – arranged in a lesson
5. Resources and materials: list of materials to be selected to prepare for the unit
6. Evaluation: an outline of your evaluation procedure – homework, test, and special projects which should be planned and prepared prior to instruction”

2.7.2. The Socratic Method

Moore (2005), presents the socratic method as a verbal technique used to draw learned information from students through a questioning-and-interaction sequence. Many teachers use the socratic method to logically challenge students to think and carefully scrutinize their answers through a series of posing questions. The Socratic method can be summoned into a general pattern as follows:

1. “A broad, open ended question that most students can answer is asked first.
2. A second questioning series begins to narrow the range of responses and focuses the students’ thinking onto the topic of the questioning strategy.

3. Review lectures and/or statements are interspersed among the questions in order to keep the salient points in the forefront.
4. A concluding question then brings students to the desired end point.” (Moore, 2005)

2.7.3. The Constructivist Learning Approach

The constructivist learning approach is a theory that promotes questioning, problem solving skills, critical thinking skills, and active participation. This theory explains how humans generate knowledge and meaning from an interaction between their experiences and ideas. Akinoglu and Yasar (2007), emphasize that the constructivist learning approach contributes to classroom participation and conceptual understanding in the learning process. This theory underlines ‘active inquiry, independence, and individuality in learning a task’ (Pollard, 2010).

2.7.4. The Universal Design

“Teachers routinely use partner learning, cooperative group learning, integrated thematic units and lessons, and hands-on learning experiences for classroom and lab interaction. This ultimately brings the community to the classroom and the classroom to the community for learning opportunities. Universal design learning (UDL) provides students with multiple means of representation, engagement, and expression” (Thousand, Villa, & Nevin, 2002). There are five characteristics used to encompass this design (refer to table 2.7.4.); this design helps gain facts about the learner (Thousand, Villa, & Nevin, 2002).

1. Pro-active	It is assumed that students have different needs. Educators provide students with multiple means of representation, engagement, & expression.
2. More qualitative than quantitative	It is more than giving some students additional work to do and some students less to do. Differentiated instruction involves changing the nature of the assignment.
3. Provide multiple approaches to content, process, and product	By adjusting each of these teaching elements, teachers design different approaches to what students learn, how students learn, how they integrate and apply what they have learned, and how they demonstrate proficiency.
4. Student centered and student led	Learning experiences are most effective when they are engaging, relevant, and interesting to the learner.
5. Lend of whole-class, small-group, and individualized instruction	Differentiated instruction utilizes a variety of instructional groupings depending on the desired outcomes.

Table 2.7.4 Five Characteristics of Universal Design

SECTION 3. FRAMEWORK AND METHODOLOGY

3.1. Approach to Research

This study favored the belief that little attention has been devoted to managing changed constraints of a project, such as scope, time, cost, or quality. The foundation to this project was to understand that new tools exist to support learning and understanding. Recent research supports the concept that mind mapping has become an additional tool for fostering constructive learning, memorization, interaction, creativity, and interpretation of complex concepts in higher education (Meagher, 2009). This project addressed how mind maps can be used as an effective tool to aid students in applying organizational change management principles to project change management.

This research was designed to collect qualitative data. This research report allowed the researcher the opportunity to:

- Review and analyze best industry change management practices and benchmarks
- Evaluate the use of mind maps in graduate studies across various universities and disciplines
- Provide examples of how to incorporate change management practices using mind mapping software into PM courses at Purdue University

3.2 Theoretical Framework

Syllabi guidelines, lecture notes, and PowerPoint slides in PM curricula exhibited how prominent lessons were being taught for managing projects, but neglected to show information on how to manage project change. Virtual mind maps were used as an interaction tool to help reconcile the gap between students learning change management (CM) and delivering changes to a project. To respond to changes, the ADKAR methodology suggests individuals must first become aware of the need to change. Awareness (the first step in the ADKAR phase) addresses all of the following:

- The reason behind the change
- Why the change must be implemented
- What will be the risk factors if resistant to change

Goncalves (2007) states, “change management is one of the most paramount factors leaders must consider when facing project change within the industry.” In conclusion, there was a need to teach students effective forms of communication for delivering and managing project change.

‘In-person’ communication is the best delivery method to communicate project change and cannot be expressed enough. Although email is most commonly used, Prosci’s Best Practices in Change Management (2009) concludes face-to-face and verbal communication is the most effective. With mind mapping tools and associated software, students can better organize major concepts (Lamont, 2009). In an Entekin report sample, this is illustrated as a visual representation to students by relating unknown concepts to known

concepts. A new subject is introduced, then the teacher draws or presents a pre-made mind map to the class of where the new material correlates or evolves in later lessons (Brinkman, 2003). In relation to project management, change management research would be introduced, a mind map of project management phases (refer to Figure 2.6a) would be drawn, and then change management concepts would be discussed and figured into the map somewhere between the initiation and execution stages of where change is likely to occur. Mind mapping software offers nodes as a tool to hide information until needed for this example.

Desire is the second phase in the ADKAR method. The intent is to build desire for the anticipated change. The personal motivation and organizational drivers in support of this report is to enhance students knowledge on how to manage change using industry examples and exhibit how mind maps can be utilized as a learning tool for conceptual understanding (Brinkman, 2003; Meagher, 2009). Both of these motivational drivers could be illustrated by taking Sakaguchi's classroom exercise approach (refer to Figure 3.2) used at Oregon Health and Science University (OHSU). Have the students create a personal mind map to outline knowledge gained in groups from the lesson presented. Then, provide a one page virtual mind map to the students to summarize the lectures' major concepts of the unit presented after each group activity (Lamont, 2009).

As a lab activity, a professor could issue a business case endeavor (refer to Appendix E and F) where unexpected changes occur during the execution

stages of a project. In doing this, students can illustrate learned material on managing change and apply material to a real-world business case.

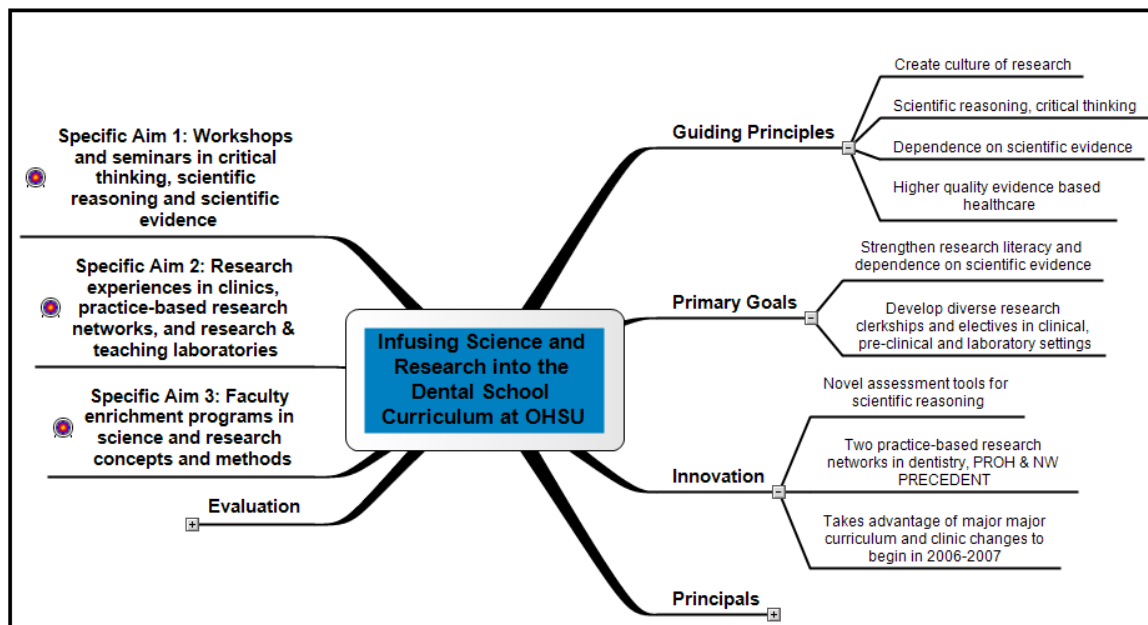


Figure 3.2 Infusing Science and Research into the Dental Curriculum at OHSU (KMWorld.com)

The knowledge phase of ADKAR, as applied to this project would require teaching and educational skills from instructors. As stated by Professor Whitten, “Capability does not infer desire, desire requires malleability” (J. Whitten, personal communication, April, 2010). Detailed change management material will have to be learned first by instructors before it is taught to students. Mind mapping training can be learned through an on-line tutorial provided within Purdue’s OpenMind mind mapping software. A workshop could be taught by an in-house professor that is currently proficient in both areas of project and change management to save costs. Using an outside professional/resource would be the alternative approach (e.g. subject matter experts, professional or incidental

instructors/trainers, facilities, books and materials, or on-line training technologies).

Demonstrated ability to implement the change and achieve desired change management performance relies a great deal on training materials and the willingness to be trained. Instructors and corresponding teaching assistants should use the mind map approach for taking core concept notes on learned change management during the workshop. An assessment test can be generated afterwards by the workshop instructor to measure personal proficiency on criteria learned for integrating CM into PM practices; this is for instructors' personal use only, not to be surveyed. This activity will allow instructors to undergo the student experience of using mind maps for learning change management curriculum.

Reinforcement was the last stage for implementing this project. Goncalves (2007) and Hiatt (2006) states leadership involvement in one on one coaching is the best reinforcement approach to manage resistance. This would include assistance from junior/senior level project managers and experienced change management professionals within technology departments; not necessarily meaning outside or limited to the university itself.

3.3. Data Sources

Validity and credibility of this qualitative research relied on case study reports and dissertation studies. This research also relied on textbooks and Prosci's Best practices for managing change.

3.4. Deliverables

In conducting this project, the following deliverables were produced:

1. Determined through research which best practices on communicating project change was more highly effective by examining Prosci's principles (Prosci Change Management Methodology, 2009).
2. Determined through research which learning theory and instructional design technique should be applied to the case study to best introduce new unit material.
3. Developed a lesson plan schedule outlining objectives, introduction, notes, assignments, and instructional aids/tools for the new unit on PCM.
4. Generated a lecture PowerPoint instructional slide presentation outlining core project change management principles and concepts for delivering change.
5. Generated a set of PowerPoint slides describing and demonstrating the use of mind maps.
6. Developed project and classroom exercises for students to illustrate conceptual understanding of project change management.

SECTION 4. UNIT COMPOSITION

4.1. Methodology

The delivery of unit course materials was created using the Constructivist Learning Approach Model of Moore (2005) and the Universal Design Model of Thousand, Villa, and Nevin (2002). Unit course material also demonstrated the use of the Socratic Method of Moore (2005). These models were chosen because they (refer to 2.7.1- 2.7.4 in Literature Review) encourage collaborative learning and student-teacher interaction with the implementation of real-world examples.

The Constructivist Learning Approach Model is a theory that is used in higher education to promote questioning, problem solving skills, critical thinking skills, and active participation (Moore, 2005). To apply method, instructional lecture slides were created along with real world case study assignments. The instructional lecture slides included questions to ask students and suggested in-classroom examples for instructors to use as a way to obtain student-teacher interaction. The case study assignments were set up as laboratory handouts for the students to complete in order to challenge their problem solving skills while gaining hands on experience.

The Universal Design Model is a theory that promotes teaching techniques should be diverse because students have different learning styles

(Thousand, Villa, & Nevin, 2002). Mind maps, video clips, and an individual/group in-classroom activity were incorporated into the creation of the new unit material. The case study assignments created also illustrated diverse learning styles. These assignments provide students an opportunity to practice the information presented in the instructional lecture slides.

The Socratic Method is a verbal technique used to draw learned information from students through a questioning-and-interaction sequence (Moore, 2005). Every inquisitive question is based on a student's response after the first question is asked. A sample dialogue of the Socratic Method was demonstrated in the produced instructional lecture slides. This material was also created to encourage in-classroom participation.

4.2. Unit Lectures and Assignments

Mind maps are used in the beginning phase of the instructional lecture unit to outline core objectives (refer to Appendix B, slide 2) of organizational change management (OCM) to approach project change. Mind maps are also used to summarize the instructional lecture unit (refer to Appendix B, slide 40) to capture abstract information of OCM for project change management. The mind maps used in this unit demonstrated how to introduce and communicate new concepts to project management. Mind maps are further used to demonstrate how to address project change using the ADKAR model (refer to Appendix F). An informational clip on mind maps is presented in lecture slides prior to the introduction of project change management. A brief tutorial of OpenMind (Purdue's free mind mapping software) is further used as a laboratory

assignment before change management projects are issued (refer to Appendix E, F, G, and H). The developed lesson plan created for this unit outlines the full incorporation of lectured and assigned materials (refer to Appendix A).

SECTION 5. DISCUSSION

This project generated new unit course materials with the Socratic Method described by Moore (2005), the Constructivist Learning Approach Model of Moore (2005), and the Universal Design Model of Thousand, Villa, and Nevin (2002). This project also illustrated how OCM can be used to manage project change and stressed the importance of project change management. Prosci's Change Management Methodology framework and ADKAR modular template were both used and summarized for this project. Deliverables relative to the methods used will be discussed in this sector.

The Constructivist Learning Approach Model of Moore (2005) is illustrated in Appendix B (slides 2,15, and 34) notes. As the unit is covered, students are encouraged to incorporate mind maps as a note taking method to abstract key facts of the information presented. When the lecture is complete, groups can be created to combine mind mapping content. The note slides also pose questions to students for classroom interaction when discussing common forms of business communication and rewards of change completion when monetary value is not an option.

The Universal Design Model of Thousand, Villa, and Nevin (2002) is illustrated in Appendix C (slides 3-4), E, and F. Two video clips are provided for the students to view in the classroom. The first video clip is a four minute video on the fundamentals, laws, and techniques behind creating mind maps. The second video clip is a two minute video on mind mapping techniques used in

both business and personal life. A case study is also presented as a laboratory handout to issue to students. The students are asked to take the role of a project manager and team lead the launch of a new SharePoint collaboration site; a Microsoft technology that allows a company to host intranet based web pages and share Microsoft Office documents between users on the intranet. The students are instructed to create mind maps to entail the project's document requirements and work development plan as a project manager to complete the project assignment. However, scope changes occur and the student has to communicate to the team the project changes under stressed circumstances. Students are further asked to create another mind map to address project change to the team using the ADKAR model and change management best practices learned within the developed unit.

Appendix B (lecture slides 3-4) stresses the importance of project change management and (lecture slides 10-34) summarizes the ADKAR modular template. Growing statistics on accountability projects for technology is used to demonstrate the importance of project change along with contributing factors that lead to project failure. The ADKAR stages, Awareness, Desire, Knowledge, Ability, and Reinforcement is defined in great detail within the note section of the slides in conjunction with how the same model can be demonstrated when addressing project change. This is also illustrated within the business case assignment as a solution to address a project team on scope changes (refer to Appendix F). The ADKAR model can be applied to any constraint changes of a project such as time, cost, and quality; not just limited to scope. Prosci's Change

Management Methodology framework consist of three principles (Preparing for change, managing change, and reinforcing change) which is also presented in Appendix B (slides 35-38) to help illustrate how OCM can be used to manage project change. The note section provides summary details of each principle along with expected deliverables that should result as an output of the framework.

The Socratic Method described by Moore (2005) is represented in Appendix B (slide 15) to introduce best channel forms of communicating project change. Students are asked for the most common form of communication to begin open discussion. Another probing question is then asked based on the student's continued response; the example provided captures the student's reasoning and personal viewpoints. Once the instructor chooses a stopping point for questioning, information within the slide is further presented on preferred best practices for communicating change.

5.1 CONCLUSION

This directed project demonstrated how mind maps can be used as an effective tool to aid students in applying organizational change management principles to project change management. The literature review (illustrated in Chapter 2) provides examples on successful mind mapping exercises used to approach new concepts in higher education. The created deliverables of unit material also provide examples on how ADKAR stages and organizational change management best practices can be communicated through mind maps to manage project change. Due to these results, the researcher strongly believes the introduction of tools like mind mapping software and the process framework

of Organizational Change Management can improve a students understanding of project change management.

5.2 Future Work

This directed project presents a case study for future efforts. To validate the effectiveness of the produced material, experimental testing across disciplines can be used within academic environments. The growing of technology is limitless. Therefore, updated and continual research on both industry and academic learning tools would be desirable.

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APPENDIX A

Unit Lesson Plan

Topic: Managing IT Project Change

Objectives: To maximize the student educational experience who bring an appropriate, sincere effort and interest of the subject matter to the classroom.

This unit will provide students with the following:

1. Information on an Organizational Change Management (OCM) framework to Approach project change
2. Understanding the importance of why project change management is needed.
3. Demonstrate knowledge of change management techniques using project management tools to control PM constraints
 - Microsoft Project
 - OpenMind mind mapping software

Introduction: The primary objective of this unit is to provide students a rich and robust learning experience on how to approach project change using organizational change management best practices, tools, and techniques. This unit is structured around the material found on change management using Prosci's benchmarking report (2009) on change management and M. Goncalves (2007) Change Management Concepts and Practices Survival Guide. The unit material will be covered in class according to the general course outline. The class will use actual business case study examples to get hands on experience working as a project manager facing project change. The class will also receive hands on experience working with a computer based project management software package.

Resources: Mind Map video clips and PowerPoint slides


Procedure:

1. Use mind mapping video clip as an attention grabber to start lecture.
2. Explain how mind maps are a rising tool for both industry and academic environments.
3. Ask students to mind map abstract key points of unit material presented when discussed to capture conceptual understanding.
4. Ask students posing questions using the Socratic Method for student-teacher interaction.
5. Present virtual summary mind map of unit material at the end of the lesson to students and assign laboratory project once mind maps have been introduced.

Evaluation: Observe student participation and see if they actually incorporate mind maps into note-taking practices. (In-class mind maps may even be collected at the end of the lecture from students)

APPENDIX B

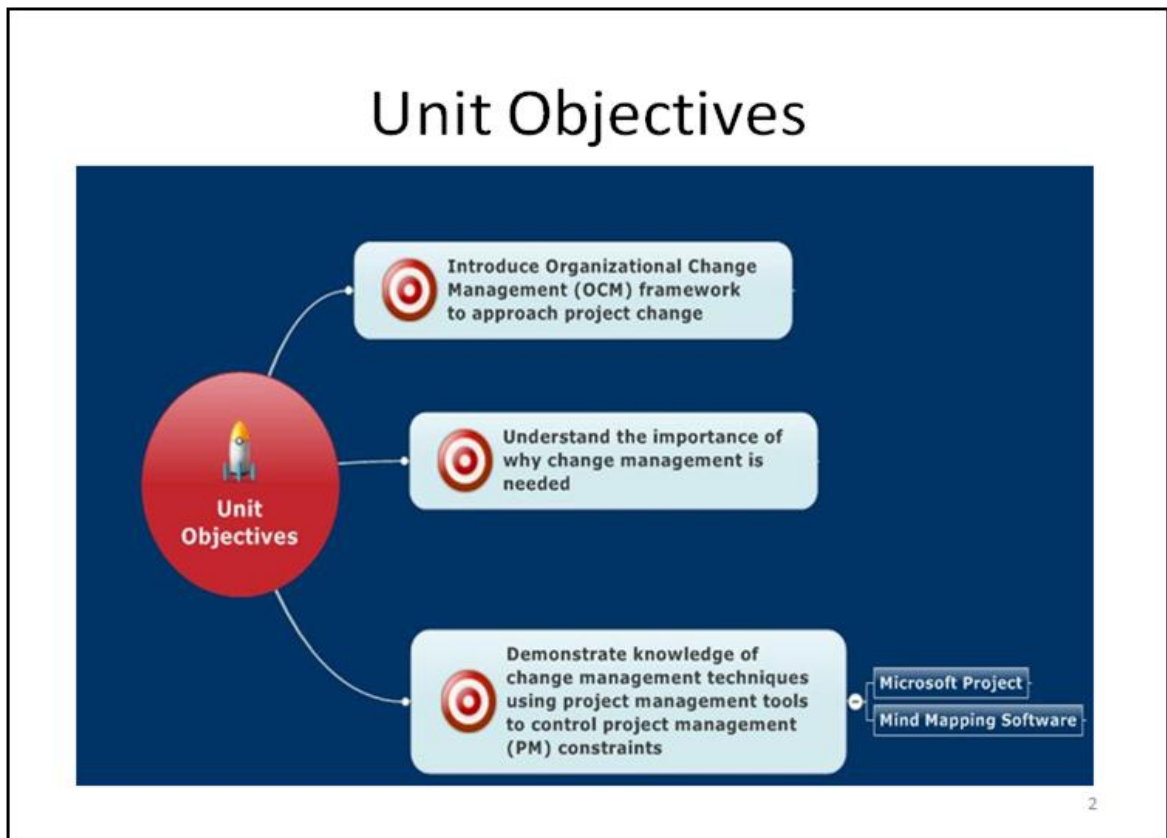
Instructional Unit on 'Introducing
Organizational Change Management to
Approach Project Change Management'



Created By: Mikaela Nweke

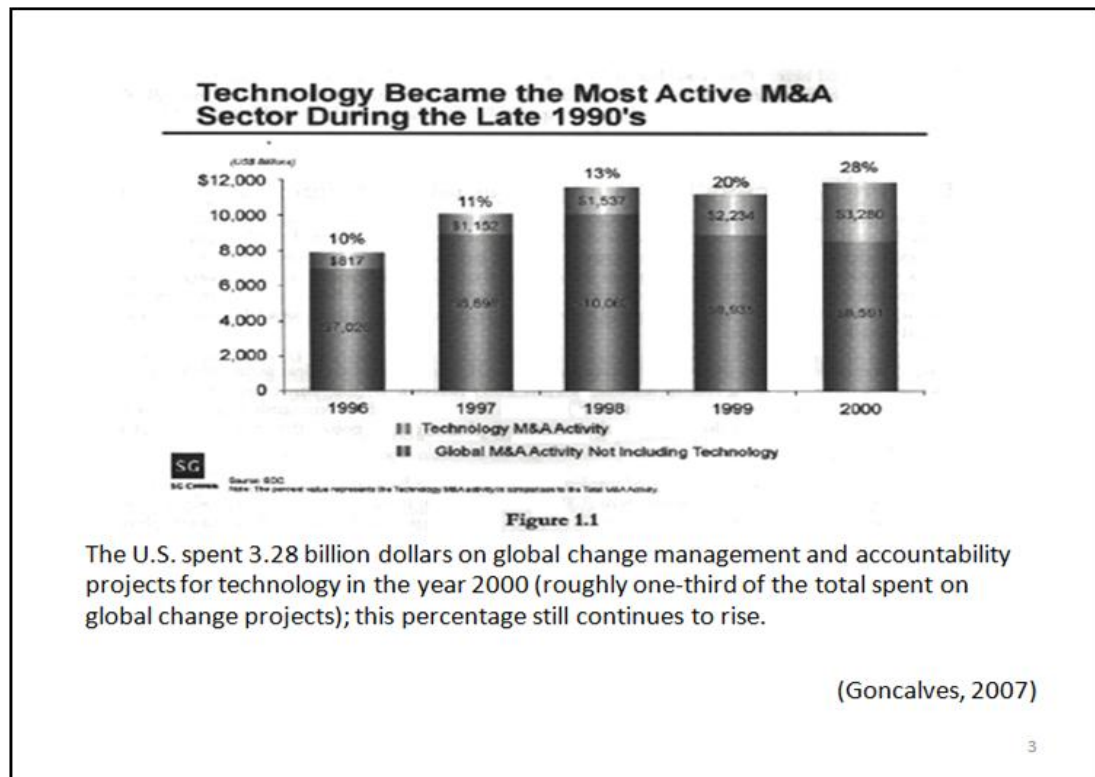
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APPENDIX B



Unit Objectives are as follows: [Read off the objectives. Emphasize the last objective will be obtained through the assigning of real business case projects. As the unit is covered, encourage students to incorporate mind maps to abstract key facts of the information covered. As the instructor, you may choose to walk around the classroom to evaluate the use of mind maps or simply collect notes at the end of the lesson for observation. The instructor may also have students break into groups after the presented lecture to combine mind mapping content].

APPENDIX B



Changes in IT projects often occur from new company processes or from the development of a project itself. [Read statistic]

Change is not easy to engage and even more challenging when incorporated into large businesses. Research presents two important principles to implement a successful project change: 1) a structured management plan should be developed and executed and 2) the implementation of change should be communicated.

One solution to handling pressures and transformations of an organization, is to increase in knowledge on what creates a successful project change. Good organizational change management (OCM) attempts to avoid failure through the use of effective communication, leadership commitment, and visual transformation on projects along with the aligning of group expectations, integrating teams, and in managing people training.

APPENDIX B

Why Manage Change? Some Projects Fail To Succeed When Change Occur Due To Contributing Factors

- Should have communicated better
- Should have had more people involved
- Should have encouraged management to be more supportive and visible in the project
- The project was undermined by managers/users who felt threatened by the change
- Did not support the vision, or just plainly were resistant to the change
- Culture barriers
- Lack of change management expertise or best practices
- Employee uncertainty and fears

(Whitten, 2010)

4

Some projects fail to succeed when change occurs due to various contributing factors. [Read off contributing factors].

APPENDIX B

When To Start Change Management Activities?

-Project initiation/ problem identification stages

- >60% said they **should have** started there
- <30% **actually did**

-Most did incorporate change before a new system design was implemented (which is good)

- Usually during the system design phase

-11% waited until the system implementation phase (which is not good)

(Whitten, 2010)

5

Most project change should start in the initiation stage of the project life cycle. However, this is not what necessarily happens across vast organizations. [Read off bullet statistics to follow through]

APPENDIX B

Prosci's Key Principles

- Change management requires both an individual and an organizational perspective
- ADKAR presents an easy-to-use model for individual change
- The 3 phase process gives structure to the steps project teams should take
 1. Prepare for change
 2. Manage change
 3. Reinforce change

(Prosci, 2009)

6

Prosci is one recognized leader in organizational change management research popularly used. There are three key principles that frame Prosci's Change Methodology.

- 1) Change Management requires both an individual and an organizational perspective
- 2) The ADKAR model is an easy-to-use model for individual change
- 3) The 3 phase process: preparing for change, managing change, and reinforcing change gives structure to the steps a project team should take

APPENDIX B

Change Management Requires Both An Individual And Organizational Perspective

Individual Change Management

- Organizations don't change themselves, individuals change them
- The success of a project relies upon each employee
- Effective change management requires understanding and an appreciation of how one person makes a successful change
- Without an individual perspective, we are left with activities instead of a goal or outcome to be achieved

(Prosci, 2009)

7

To approach project change, an individual and organizational perspective should be considered. Individual change management focuses on how one person makes a change successfully. Organizations change through the collective change of individuals. The success of a project relies upon each employed individual. Every employee has their own different way of doing things. Effective change management requires both an understanding and appreciation of how one person makes a successful change. Without an individual perspective, activities are all that is left without an overarching idea of the goal or outcome to be achieved.

APPENDIX B

Change Management Requires Both An Individual And Organizational Perspective

Organizational Change Management

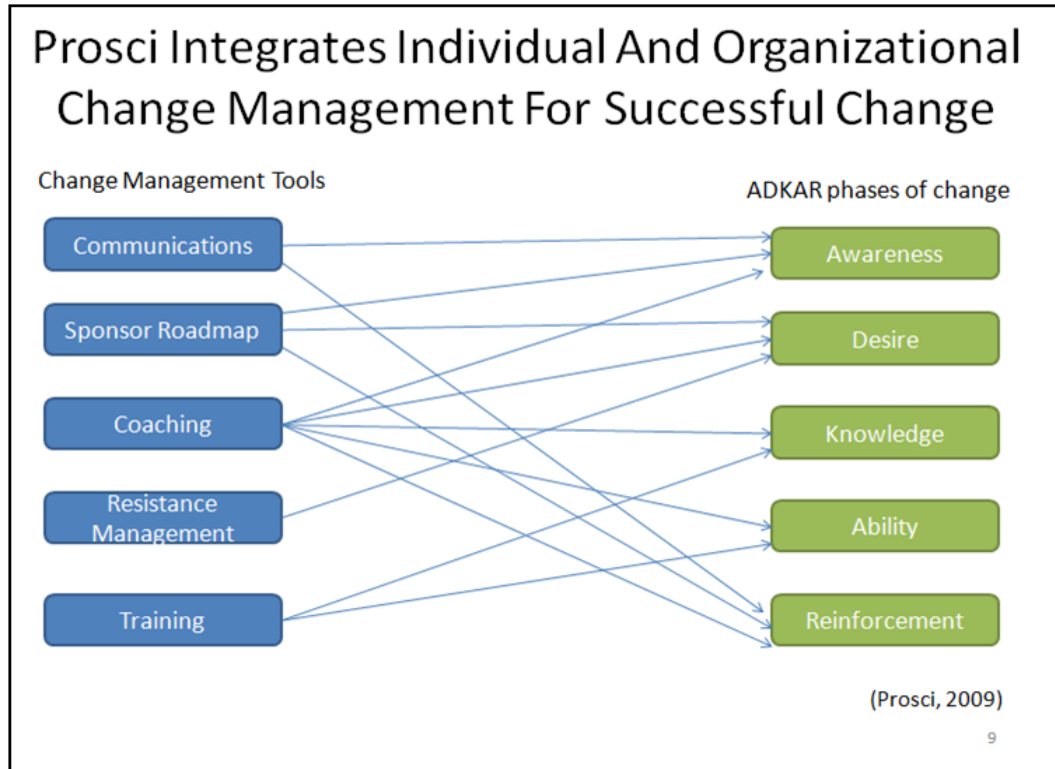
- There are processes and tools that can be used to facilitate change
- Communication and training tools are often the only activities used when no structure approach is applied
- A process should be put in place to scale change management activities
- A process should be put in place on how to use the complete set of tools available for project leaders and business managers

(Prosci, 2009)

8

While individual change management focuses on the understanding of how an individual makes a successful change, organizational change management focuses on understanding what tools are available to help individuals make changes successfully. There are communication and training tools along with processes that can be used to facilitate change. Communication and training tools are often the only activities used when no structure approach is applied. A process should be put into place to scale change management activities and instruct project and business leaders on how to use the complete set of tools available.

APPENDIX B



The development of change management tools in Organizational Change Management (OCM) process and phases of individual change described by the ADKAR model represents Prosci's methodology of assessing effective change.

APPENDIX B

ADKAR'S Easy-To-Use Model For Individual Change

Phase	Strategy	Activity	Project Success
Awareness	Assess change	Communication	On time; On budget
Desire	Assess organization	Sponsorship	Achievement of business objectives
Knowledge	Assess sponsor model	Training	Lower costs; Increased revenue
Ability	Assess risks and challenges	Coaching	Increased quality of service
Reinforcement	Develop special tactics	Resistance management	Higher morale

ADKAR Principles:

- Awareness
- Desire
- Knowledge
- Ability
- Reinforcement

(Prosci, 2009)

10

Prosci introduces Awareness, Desire, Knowledge, Ability, and Reinforcement (ADKAR) principles and methodologies as a process improvement tool to manage individual change. Each ADKAR stage assesses a strategy and activity type to deliver expected project results. The ADKAR model can be used to address project change as it does for organizational change. Anytime a project's constraints (scope, time, quality, costs) changes, the same model stages can be used to address a project team on the need for the project change.

APPENDIX B

**STAGE 1:
BUILDING AWARENESS**

APPENDIX B

Building Awareness

- Develop effective communication to the business organization the consequences and risk of not changing
- Sponsor the change effectively
- Initiate managers and supervisors to be effective coaches during the change process
- Provide employees with ready access to business information

(Whitten, 2010)

12

Awareness is the first stage of the ADKAR principles. This is the phase where one must define why the change is needed, the risk of not changing, why the change is currently proposed now instead of later, who is affected by the change, and what is currently wrong with the existing process. In this phase a leader will experience pro and con attitudes. When a project's constraint changes, it is important to build awareness.

For example, if a stakeholder changes the scope of a project, the reason for the change needs to be addressed; e.g. budget issues, lack of resources, client need.

The project manager should sponsor the change effectively and inform everyone involved on the project about the project change as soon as possible.

The project manager should also appoint forefront managers and supervisors that are respectable leaders, to be effective coaches during the project change. Leaders can serve as coaches as well as provide ready access information to employees in regards to the project change.

APPENDIX B

Building Awareness Engagement

- Individual views of the current state
- Individual perceptions of the problems that are motivating the planned changes
- Credibility of the sender
- Misinformation and rumors

(Whitten, 2010)

13

Remember when promoting project change, all constraints such as scope, time, quality, and costs can be affected variables. It is important to acknowledge individual views of the project's current state and perceptions of the problems that are motivating planned changes in the awareness stage. The credibility of the sender (person delivering project change) is also important and can vary based on the individual. The awareness phase is also the best time to clear up misinformation or rumors of why the project change is needed.

Awareness Presentation Reaction Examples:

"We've heard all this before."

"This is just another attempt to reduce costs."

"OK, we need to change to remain competitive."

"OK, we are losing business because our product costs more than the competition."

-Professor J. Whitten

APPENDIX B

Tactics For Building Awareness

Tools & Techniques → Activity	A	D	K	A	R
Communications	X				
Sponsorship	X	X			X
Coaching	X	X	X	X	X
Resistance Management		X			
Training			X	X	

(Prosci, 2009)

14

Communication, sponsorship, coaching, resistance management (managing the people resistant to change through project evaluation), and training are all tools and techniques that can be used enlisted under 'Activity' within the ADKAR model. Ready access to business and/or technology implemented information, effective communication, effective sponsorship and coaching by managers and supervisors all help build awareness as illustrated.

APPENDIX B

Forms of Communication

- Face-to-face
- Group meetings (large or small)
- Email
- Intranet
- Executive presentations
- Workshops
- Phone conferences
- Voice messages
- Posters and banners
- Memos and letters
- Videos
- Social events
- Flyers
- Video conferences
- Demonstrations

(Whitten, 2010)

15

There are various forms of communication channels to deliver project change. [Ask students which is commonly used to communicate today from the bulleted list e.g. 1) Q: What is the most common communication tool used within a business environment? A: Email 2) Q: When shouldn't you use email to communicate information? A: When the tone of the email can be considered unclear. 3) Q: Can you explain your reasoning? A: For example, addressing a statement made that you don't agree with that might come off as offensive rather than concerned to someone of a different (business or ethnic) culture. 4) What is an alternative form that can be used in place of email? A: Phone 5) What if the time zone or the sender's schedule availability is not convenient to meet via conference call, etc.] Although email is most commonly used, Prosci's Best Practices concludes face-to-face and verbal communication is the most effective depending on what the message is. It is important to identify and determine which message would be most appropriate for your audience by:

- 1) Determining what types of communication will be most effective (this could vary by age groups, department cultures, and type of message)
- 2) Determine when is the best time to send message

- 3) Make note of what channels have been most or (least) effective in the past before addressing your audience

After collecting responses to the following questions, it is then necessary to:

- 1) Identify preferred senders (maybe a high-level respectable supervisor over an equivalent level co-worker)
- 2) Execute the plan (getting the message out there)
- 3) Follow-up as necessary (to monitor the action behind the message)

APPENDIX B

Why Verbal Communication Over Written Communication

- Not everyone reads their emails, letters, memos, etc.
- Interpretation between what receiver reads versus what the sender thinks and actually writes is sometimes misunderstood
- Many times the author of the message is not the sender
- Tone and body language can't be seen through written communication

(Whitten, 2010)

16

Verbal communication is more effective than written communication for these reasons:

- 1) Not everyone reads their email, letters, memos, etc.
- 2) The interpretation between what the receiver reads versus what the sender thinks and actually writes is sometimes misunderstood; this leaves less room for clarification
- 3) Many times the author of the message is not the sender or the person calling the action; just the message deliverer
- 4) The tone and body language the author uses cannot be communicated through written communication

APPENDIX B

Project Change Initiator

- The project change initiator is the spokesperson for the change rationale
 - Normally does NOT have people supervisory responsibilities
 - Coaches identified sponsors of change

- Identified sponsors (managers and coaches with supervisory responsibility over a department or organization) should be trained to
 - Stay engaged with project team through the change
 - Stay engaged with the community to be impacted by the change
 - Build the sponsorship coalition of managers and coaches
 - Communicate directly with employees

(Whitten, 2010)

17

Project change initiatives should be recommended by the change management leader. Although the change management leader or specialist performs as a key role in change initiatives, this person normally does not have people supervisory responsibilities. While a junior or senior level project manager can be appointed as a change leader to aid project teams in meeting business, schedule, or budget objectives, an outside specialist is recommended to deal with the people perspective of change to minimize employee resistance and engagement. This person coaches sponsors and forefront supervisors into delivering project change plans. [Read 2nd bullet and the lists that follows]. Managers and supervisors must build the awareness of change themselves and then think through impacts of change on an individual before presenting awareness of change.

APPENDIX B

**STAGE 2:
CREATING DESIRE**

APPENDIX B

Creating Desire

Change initiators create the desire to change and should participate in the change.

Desire is personal influence and addresses:

- The nature of the change
- The organizational context of the change
- Each employee's personal situation
- Each individual's personal motivators

(Whitten, 2010)

19

Everyone has their own personal view of the recommended change. So as a change leader, a desire to change must be employed during this phase along with leader participation. Many may commonly mistake the 'awareness' phase to imply desire. However, this phase focus more on the expected questions of "What's in it for me?", "Is this an opportunity for me to rank higher in position?", or "Will this change serve as a threat to my job?" Desire is personal influence and addresses [read bulleted list]

APPENDIX B

Attributes That Motivate Individuals

- Desire to help others
- Desire to make a difference
- Avoidance of pain/obstruction (pay cut or job loss)
- Desire for recognition
- Respect
- Advancement (promotion)
- Power (higher ranked position)
- Financial security

(Whitten, 2010)

20

There are inherent attributes that motivate individuals [Read bulleted list]. Voluntary participation is sometimes achieved when any of the above can be accomplished as a personal motivator from employees.

APPENDIX B

Creating Desire Is All About Power And Authority

1. Effectively sponsor the change with employees
2. Equip other managers and supervisors to become change leaders
3. Assess risk and anticipate resistance
4. Engage employees in the change process
5. Align incentive programs

(Whitten, 2010)

21

There are ethics the change leader should follow throughout the project change process:

- 1) Effectively sponsor the change with employees. Some employees can figure out how to change, other employees might have to be shown the way.
- 2) Equip other managers and supervisors to become change leaders. It is necessary for managers and supervisors to be trained about the change through either effective group or one-on-one conversations. Employees usually go to their immediate supervisor or manager for any questions or concerns, and for this reason, leaders need to be prepared for any employee inquiries about the change.
- 3) Assess risk and anticipate resistance. Evaluate the scope of change, groups affected, number of employees in each group, the degree of change (process, role, technology), impact of past changes, etc.
- 4) Engage employees in the change process. Always keep the organization involved of changes, especially if the group is affected as the result of change. Too, this helps gather insight about how the culture responds to change.
- 5) Align incentive programs. Is there any impact of compensation involved or other measurable incentives?

APPENDIX B

Tactics For Creating Desire

Tools & Techniques → Activity	A	D	K	A	R
Communications	X				
Sponsorship	X	X			X
Coaching	X	X	X	X	X
Resistance Management		X			
Training			X	X	

(Prosci, 2009)

22

Sponsorship, coaching, and resistance management are all used to help create desire as illustrated and discussed in the ADKAR model.

APPENDIX B

**STAGE 3:
DEVELOPING KNOWLEDGE**

APPENDIX B

Developing Knowledge

- Assess each individual's current knowledge and skills
- Capability of each individual to learn
- Resources available for education and training
- Access to or existence of the required knowledge

(Whitten, 2010)

24

It is important that the change management leader, the project manager, delivers the needed knowledge to staff so that they may perform change as well as sustain it. This phase includes training of skills as well as behavioral changes. If new technology or software is needed for the change, workshops or tutorials in using technology should be incorporated. If there is an increase of responsibility and accountability of staff duties, this would be the stage the change leader would address to all involved in the change as well. Developing knowledge addresses [Read the bulleted lists]

APPENDIX B

Tactics For Developing Knowledge

Tools & Techniques → Activity	A	D	K	A	R
Communications	X				
Sponsorship	X	X			X
Coaching	X	X	X	X	X
Resistance Management		X			
Training			X	X	

(Prosci, 2009)

25

Coaching and training are both used to help develop knowledge as illustrated in the ADKAR model.

Tactics used include:

- 1) Effective training and education programs; which should not be mistaken as interchangeable. Training is not equivalent to education. Training focuses on hands-on demonstrations and education focuses on readings, lectures, seminars, and other similar learning aids.
- 2) Job aides; resources, tutorials, and tools available within the work environment (both software and hardware)
- 3) One-on-one coaching (training coach or an experienced fellow co-worker)
- 4) User groups and forums; forums are useful for employees to teach one another in larger groups and user groups are for post-implementation support to reinforce learning such as the 'help desk' within organizations.

APPENDIX B

**STAGE 4:
FOSTERING ABILITY**

APPENDIX B

Fostering Ability

- Psychological blocks
- Physical abilities
- Intellectual capability
- Time available to develop needed skills
- Availability of resources to support skill development

(Whitten, 2010)

27

During this phase, the ability to implement change must be displayed. This includes displaying the ability to acquire the intended level of performance for the change too. Proficiency or 'talent' is the emphatic key. A skill can be taught, but that does not necessarily imply the talent is there to execute performance, even though the process is known to get there; in essence, knowledge alone is not good enough. Tools and materials, coaching support, and access to mentors should be expressed and presented in this phase. To demonstrate the ability to carry out change, [Read bulleted lists] should all be addressed.

APPENDIX B

Fostering Ability

- Knowledge does not infer ability
- Ability = f (Knowledge)
- There is a possibility that training or knowledge development could be insufficient

(Whitten, 2010)

28

Knowledge does not infer ability. Knowing how to do something and actually having the capability to do that thing is completely different. Ability is a function of knowledge. Some will catch on fast and get it, while others may require more time. Too, there is a possibility that training or knowledge development could be insufficient. Training could be poorly designed or there could be a lack of awareness and desire for the need to change.

APPENDIX B

Tactics For Fostering Ability

Tools & Techniques → Activity	A	D	K	A	R
Communications	X				
Sponsorship	X	X			X
Coaching	X	X	X	X	X
Resistance Management		X		X	
Training			X	X	

(Prosci, 2009)
29

Coaching and training are both used to help foster ability as illustrated in the ADKAR model.

Tactics used include:

- 1) Fostering the day-to-day involvement of supervisors
- 2) Providing access to subject matter experts; an expert in the prospective change which includes the use of any new technology or software
- 3) Implement programs for performance monitoring [Can use an example of how you get evaluated for your job]
- 4) Provide hands-on exercises to reinforce training

APPENDIX B

FAQ's For Fostering Ability

- Is it possible that poor performance (or ability) is actually disguised as resistance to change?
- What do you do with employees who cannot perform with acceptable throughput or quality of the new system?

(Whitten, 2010)

30

Two main frequently asked questions should come to mind when dealing with change [Read bulleted lists]. It is possible for poor performance to be disguised as a resistance to change. However, it is up to the head supervisors and managers to decide the consequences to both questions; not the change initiator or leader. In most cases, if an employee is not willing or not able to maintain job responsibilities after personal training or coaching, they get released after a warning or confrontation meeting.

APPENDIX B

**STAGE 5:
REINFORCING CHANGE**

APPENDIX B

Reinforcing Change

- Degree to which reinforcement is meaningful to the person impacted by the change
- Association of the reinforcement with actual demonstrated progress or accomplishment
- The absence of negative consequences
- Accountability systems to reinforce change

(Whitten, 2010)

32

This is the last phase of the ADKAR model where overall success should be noted along with sustaining the new processes and resistance. To ascribe meaningful reinforcement, the person receiving the changes and witnesses of the change must be respected. Reinforcing change addresses the [Read bulleted list]. This is also a good phase to give optional rewards whether it's financially, socially, or responsibility based. Some team members ideas of a reward might be valued differently, so creative incentives are not obligatory, but definitely recommended to let members of the team know their appreciation is valued.

APPENDIX B

Tactics For Reinforcing Change

Tools & Techniques → Activity	A	D	K	A	R
Communications	X				
Sponsorship	X	X			X
Coaching	X	X	X	X	X
Resistance Management		X			
Training			X	X	

(Prosci, 2009)

33

Sponsorship and coaching are both used to help reinforce change as illustrated in the ADKAR model. Once change is complete, it is imperative that steps continue to be followed for communicating project change. Both managers and supervisors should share responsibility for celebrations and recognitions as a result of successful project change. This is an appropriate phase to give rewards to those who helped make change possible. This is also the stage where the change initiator or leader should gather feedback from employees of the process and results implemented, conduct audits, implement performance measures, and build accountability mechanism before celebrating successes.

APPENDIX B

Rewards Of Change Completion

- Events
 - Stress relief events
 - * Company dinner , lunch, or happy hour
 - * Company outing to a sports event
(after key milestones or the end of a project)
- Gifts
 - Things of value or token of appreciation
 - * Appreciation certificates
 - * Trophy or name added to a 'wall of recognition'
- Monetary Value
 - * Bonuses
 - * Performance based incentives (raise)

-Rewards depend on the size of the project; small project change is not done like this.

(Whitten, 2010)

34

Rewards can be socially, financially, or responsibility based. Every employee is different. Not everyone wants just monetary rewards. Before recognition of rewards is issued, be sure the reward is relevant to the recipient (find out his or her reward preference). [Ask students what would be their reward preference under various circumstances; e.g. if already paid well, and money isn't any greater of a reward than what you're already making as a salary, what would be your preferred incentive?] Rewards can fall into the types of categories: events, gifts, or monetary value. Events can be used as a stress relief reward after the end of the project or a key milestone. This type of reward can be a company expense paid dinner, lunch, or happy hour (rare), or outing. Gifts could be used as things of value or a token appreciation for achieving success such as appreciation certificates, trophies, or any other types of recognition. Monetary value is another reward option that could be used such as bonuses or a performance raise. Small project change is typically not rewarded like this.

APPENDIX B

The 3 Phase Process Gives Structure To The Steps Project Teams Should Take

1. Prepare for change
2. Manage change
3. Reinforce change

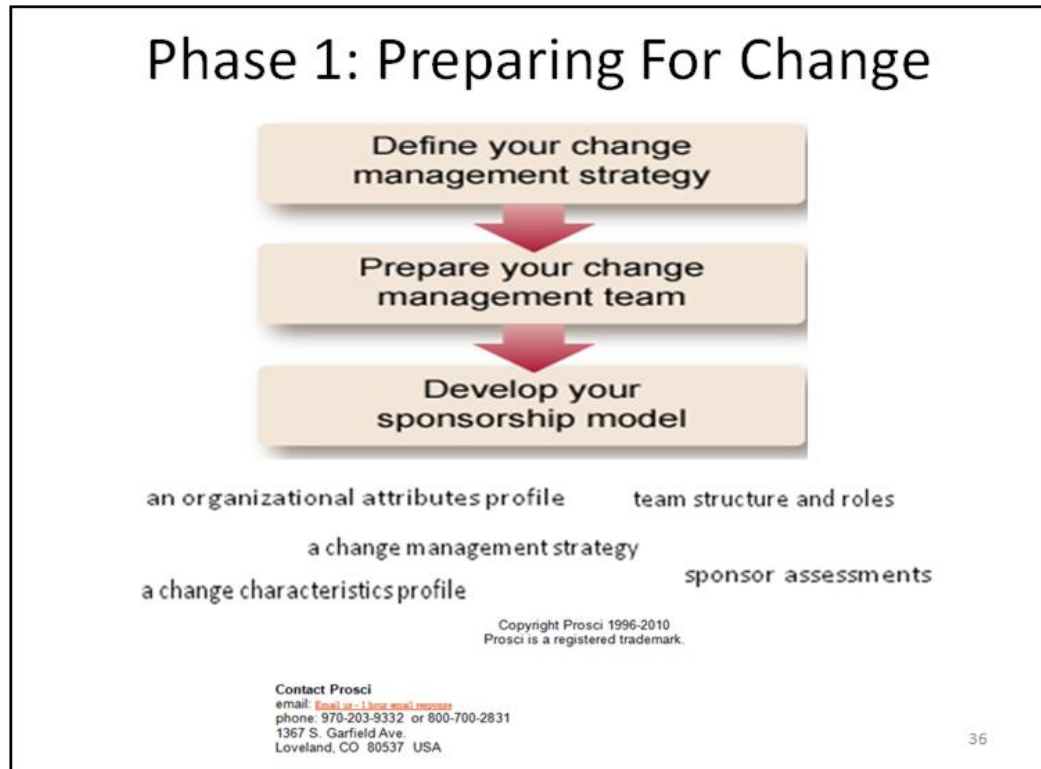
(Prosci, 2009)

35

The three phase process gives structure to the steps project teams should take when approaching change:

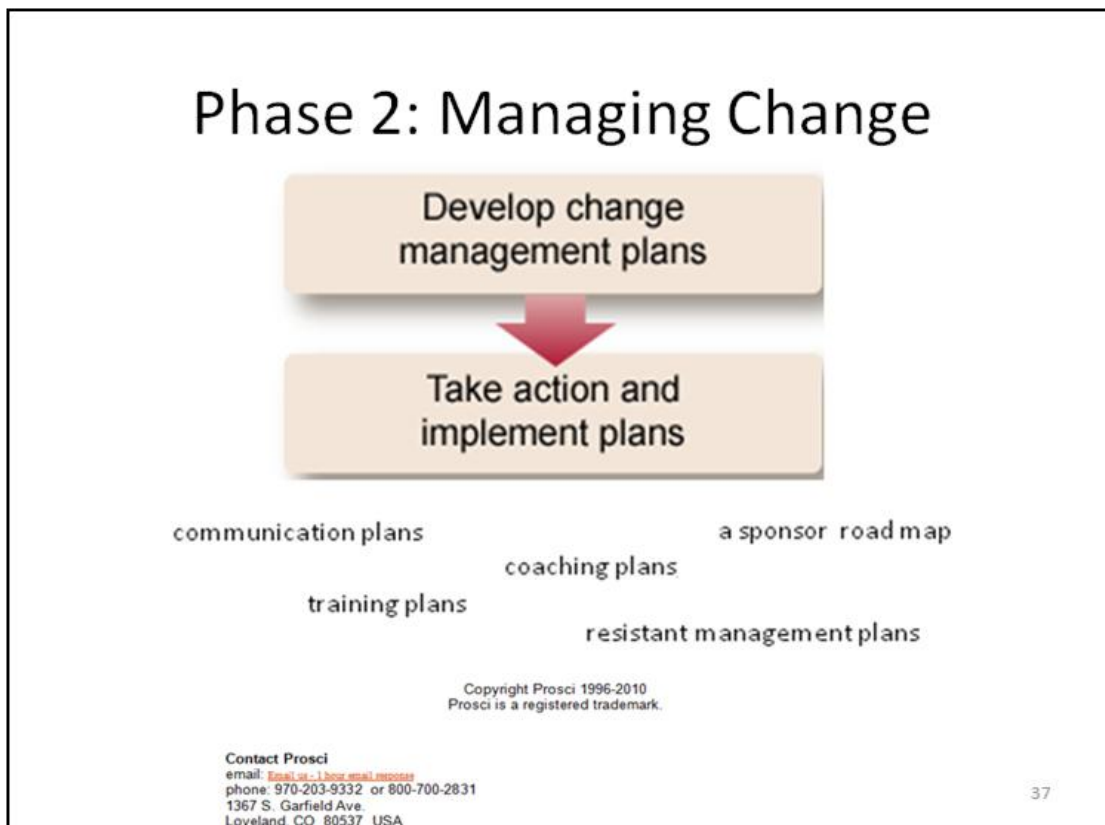
- 1) Prepare for change,
- 2) Manage change,
- 3) Reinforce change.

APPENDIX B



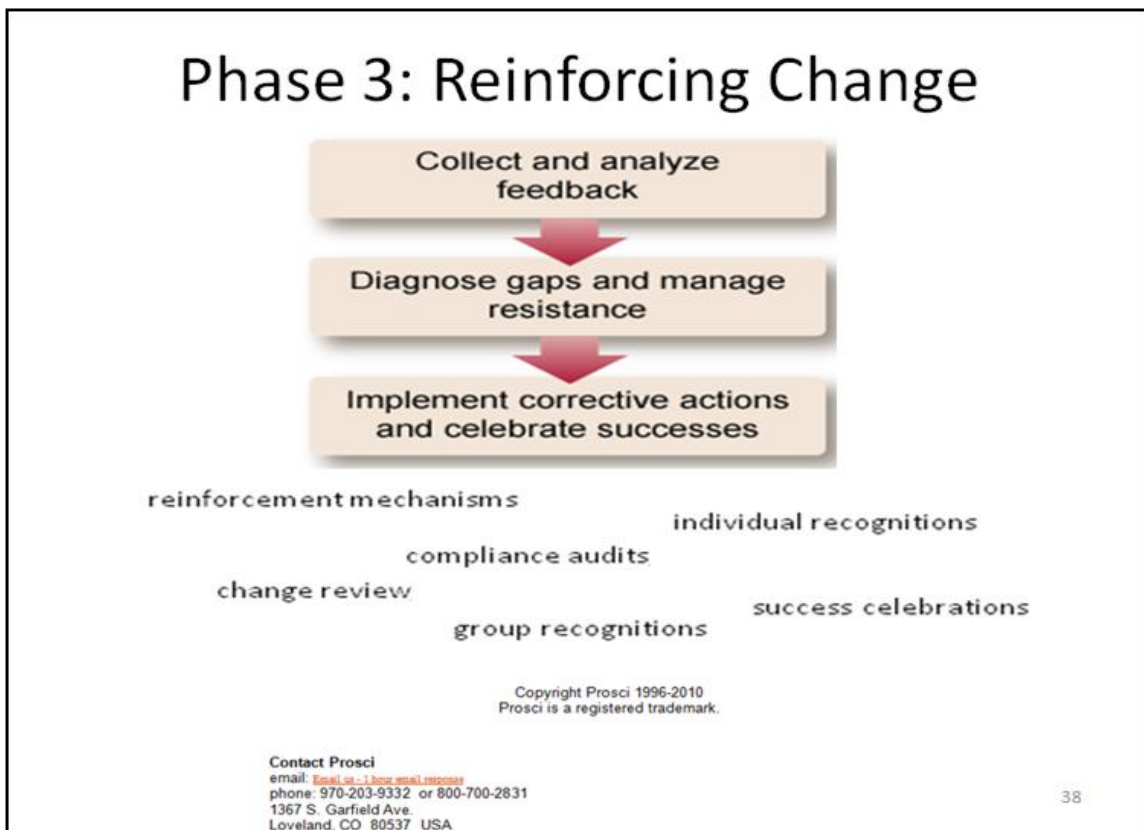
Preparing for change is the first phase in Prosci's methodology. It provides awareness of why and how much of the change is needed. The following steps should be performed in phase 1 [Read off steps in figure]. As an output, a change characteristics profile and an organizational attributes profile should be created, a change management strategy should be developed, team structure and roles should be produced, and sponsor assessments should be defined as relevant deliverables.

APPENDIX B



Managing change is the second phase in Prosci's methodology. It's centered around developing plans needed to make the change happen. The following steps should be performed in phase 2 [Read off steps in figure]. As an output, communication plans, training plans, coaching plans, resistant management plans and a sponsor road map should all be defined as relevant deliverables to push out change.

APPENDIX B



Reinforcing change is the last phase in Prosci's methodology. It's often overlooked but needed to develop plans to sustain change. Usually measures and mechanisms are developed by the project team in this phase to ensure continued change is maintained. The following steps should be performed for phase 3 [Read steps in figure]. Once steps are complete, reinforcement mechanisms, compliance audits, change review, individual recognitions, group recognitions, and success celebrations could all serve as output deliverables.

APPENDIX B

Benefits Of Using Organizational Change Management For Project Change

- Quicker Return of Investment, ROI (or equivalent)
- Expedited attainment of productivity goals
- More clearly defined roles, responsibilities, & behaviors to project change
- Reduced resistant
- Reduced re-training and support

(Whitten, 2010)

39

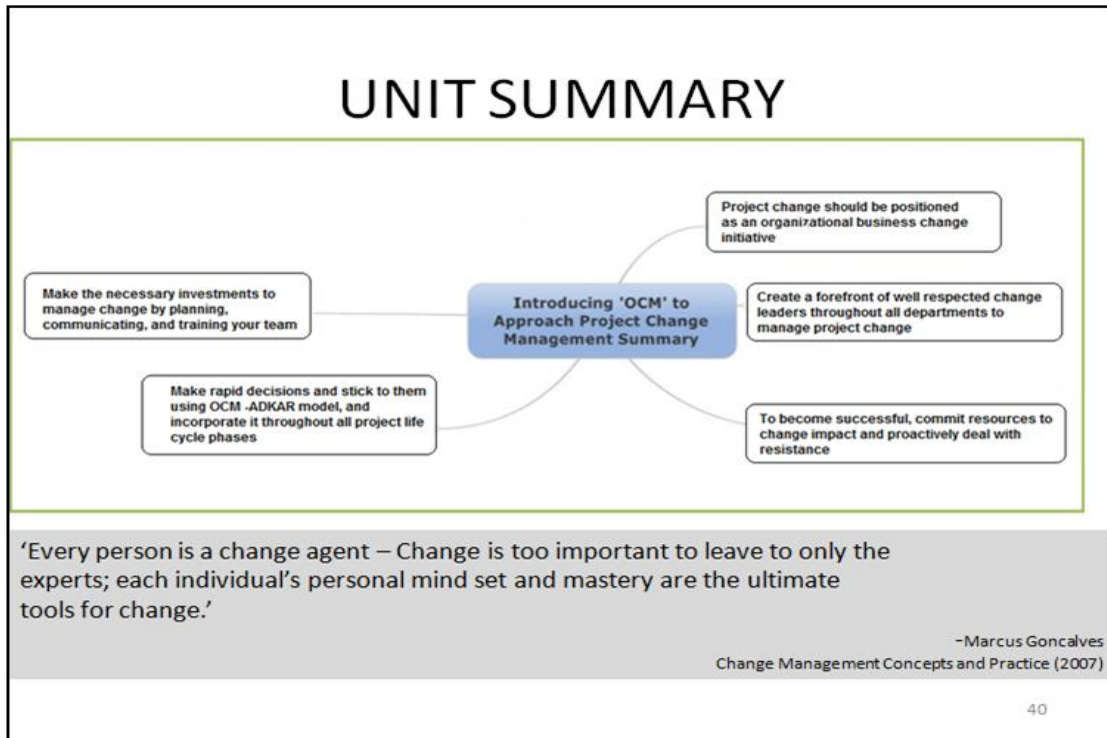
There are probable benefits of using OCM framework.

Identifying the need for a project change early and properly managing the change can lead to a quicker return of investment and expedited attainment of project goals; this can especially be done if a suggested change is made that can reduce the costs of resources and/or the amount of time spent on a specific milestone or project deliverable.

Once a project change is made, team members need to be aware of their newly defined roles if responsibilities have increased. The project manager and forefront leaders need to also be aware of any negative behaviors from members of the team that might lead to resistance; if resistance occurs, consequences of jeopardizing the project change needs to be communicated to the team member.

Managing project change early-on also reduces retraining and support needed during the knowledge and ability stages of ADKAR; this way project change can be made and sustained as a team through the right sponsorship, coaching, and mentoring support.

APPENDIX B




The following OCM guidelines were covered and should be considered when addressing project change:

- 1) Project change should be positioned as an organizational business change initiative; change is bound to happen when incorporating new technology into an organization
- 2) Create a forefront of well respected change leaders throughout all departments to manage project change; the change delivery to a project team is important, but the person delivering the message is just as important also. Make sure the change initiator/s is pro-change, passionate about the change, and well respected (e.g. supervisor or high-level executive)
- 3) To become successful, commit resources to change impact and proactively deal with resistance; ensure resources are available to a staff or team to demonstrate the ability to manage change with the necessary equipment, sponsorship, and coaching. Analyze those who are resistant and act accordingly to minimize project change failure.
- 4) Make rapid decisions and stick to them using OCM -ADKAR model, and incorporate it throughout all project life cycle phases.
- 5) Make the necessary investments to manage change by planning, communicating, and training your team

(Whitten, 2010)

APPENDIX B



ADKAR
A MODEL FOR CHANGE IN BUSINESS,
GOVERNMENT AND OUR COMMUNITY

*How to Implement
Successful Change
in
Our Personal Lives
and
Professional Careers*

JEFFREY M. HIATT

Suggested Resources

- Change Management: The People Side of Change
- ADKAR: A Model For Change In Business, Government, And Our Community
- Change Management Concepts And Practices
- Free-Tutorials (in the web based learning center)
www.change-management.com

41

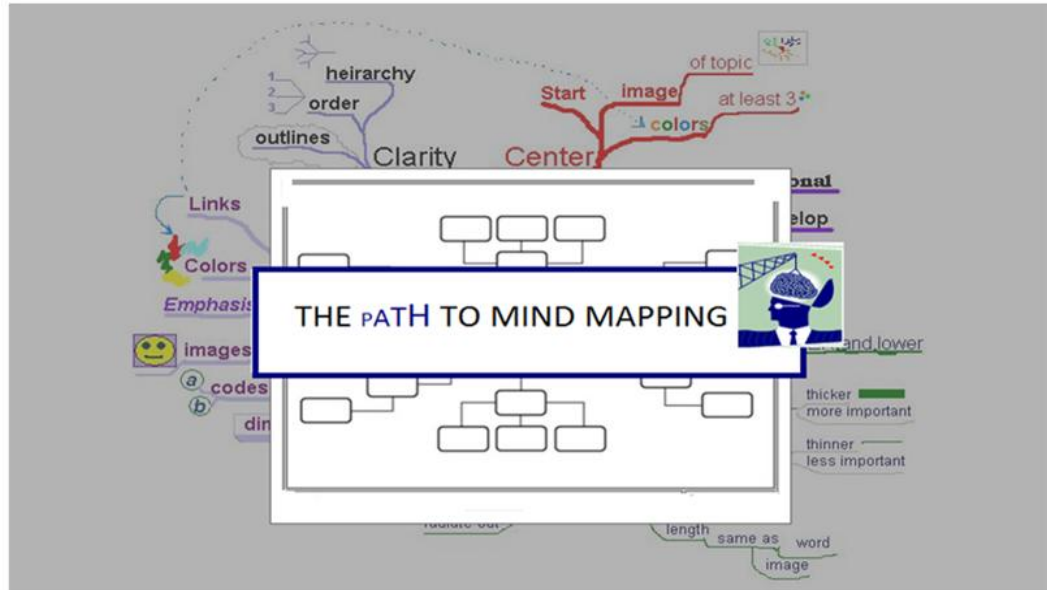
In support of the material covered, the following literature is suggested [Read off bulleted lists]

APPENDIX B

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<http://www.change-management.com/best-practices-report.htm>

APPENDIX C



Created By: Mikaela Nweke

APPENDIX C

THE BRIEF HISTORY OF MIND MAPS

Mind maps defined

-a diagram used to represent tasks, strategies, or other ideas linked to express a centralized idea


- Origination of mind maps claimed by Tony Buzan in the late 1960's
- Mind maps are used to:
 - enhance learning
 - brainstorming
 - memory
 - problem solving

(Cleland & Gareis, 2006)


2

Mind maps are diagrams used to represent tasks, strategies, or other ideas linked to effectively express a centralized idea or keyword. In project management, this centralized idea can serve as the resolution, deliverable, or organization. Theoretical concepts of mind maps date as far back to eighteen centuries ago and is arguably claimed by a British psychologist named Tony Buzan. Mind maps are used across disciplines in both industry and academic environments to [Read bulleted list following]. Mind mapping employs the full range of cortical skills (e.g. word, image, number, color, rhythm, and spatial awareness).

APPENDIX C



How To Make Mind Maps



-Traditional Mind Maps

1. Use a blank, unlined paper
2. Start map construction with a centralized keyword, topic, or goal
3. Branch out topic with contextual words that help contribute to centralized idea

-Virtual Modern Mind Maps

1. Select Create New Mind Map using software
2. Click in white work space to start map construction with a centralized goal or solution
3. Branch out topic with steps to approach the goal or solution by selecting the 'Add' or 'Subtopic' button within toolbar
4. Use the 'Map Marker' or 'Recommendation' box (normally listed off to the right side of a map) to assign priorities, colors, deadlines, tasks to person/s, images, task completion percentage, notes, etc.

[Creating Mind Maps](#)

(Buzan, 2000)

3

There are two types of mind maps that exist: Traditional Mind Maps and Virtual Mind Maps. However when constructed, both maps follow the same concept; one is just created with paper and pen while the other is created with software. A mind map is usually constructed with the start of a word centered in the middle of a page and then further branched off into contextual words and concepts. To create a traditional or virtual modern mind map, the creator must start with the following steps listed ****[Instead of reading numbered list, please visit 'Creating Mind Maps' link <<http://vimeo.com/7326217>> to show students YouTube clip of mind map fundamentals, laws, and techniques which is 4:06 minutes long]****The original intentions of mind maps were to serve as a way to jot down thoughts, also known as 'rough notes'. Mind maps didn't entail hierarchical and sequential structures until later stages which is where virtual mind mapping comes in. The first video clip we will watch is going to illustrate how to construct a mind map along with the major concepts and laws of mind mapping.

APPENDIX C

MINDMAPPING SOFTWARE

Popular software products used to support the creation of mind maps

- Mindjet Mind Manager 8.0/9.0
- Free Mind/Open Mind (*enterprise tool used by Purdue University)

Mind mapping software allows:

- An individual to organize and present information to others as a form of communication
- Capture abstract facts and reduce massive information
- Aid learning, conceptual understanding, and memory retention for visual learners

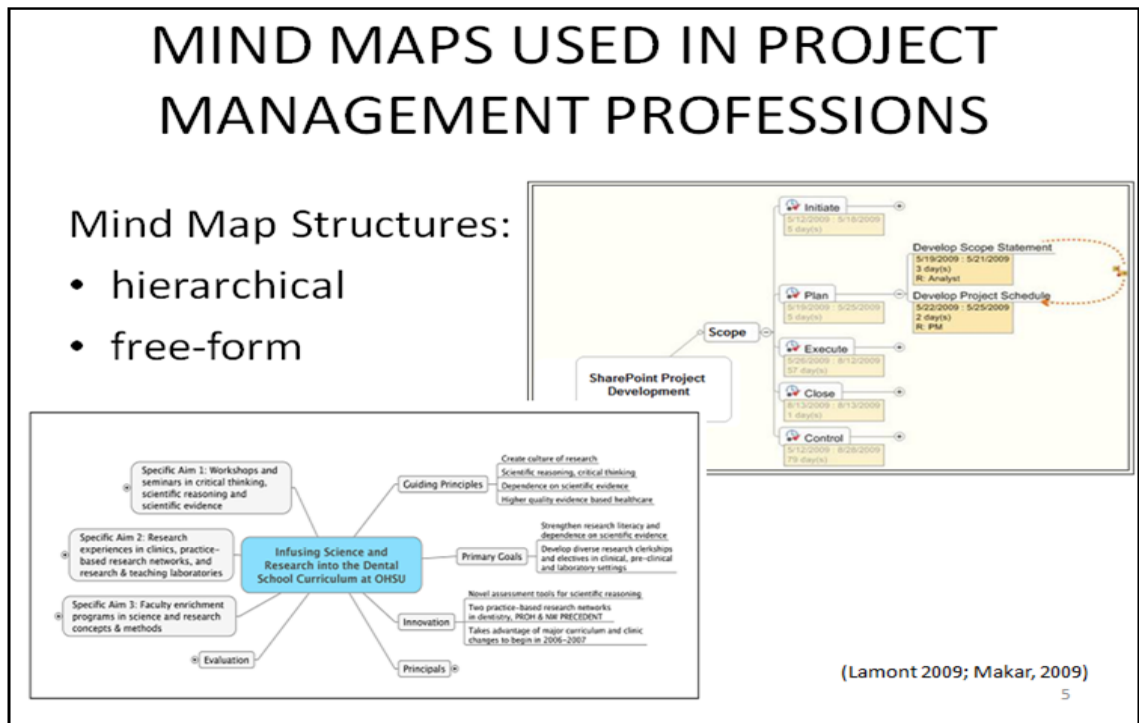
(Beel, Gipp, & Stiller, 2009)

[Mind Mapping Techniques in Business & Personal Life](#)

4

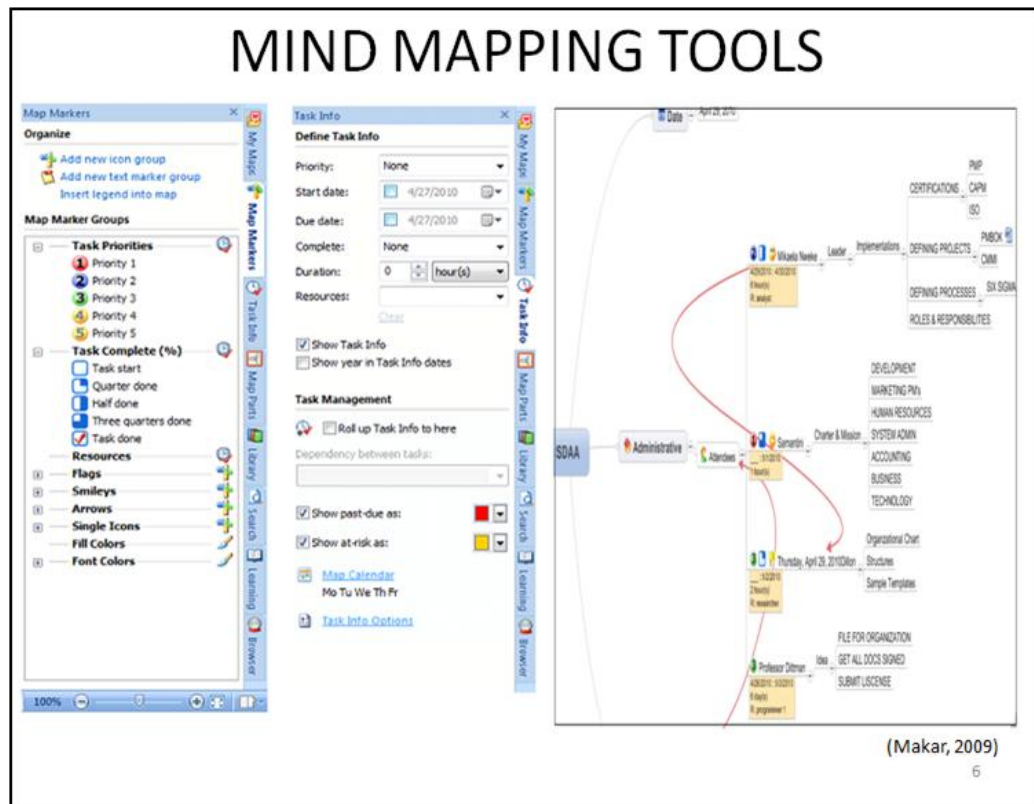
Freeware and proprietary software tools exist to support the creation of mind maps. The most popular ones such as Mind Manager and Free Mind averages about 1.5 million users to 150,000 downloads a month. A virtual map is an innovative form of sharing 'virtual landscape'. It is also one of the most productive techniques used to help [Read the bulleted list] Let's take a minute to exhibit the mind mapping techniques used in both business and personal life ***[Please visit YouTube clip, 'Mind Mapping Techniques in Business & Personal Life' <<http://www.youtube.com/watch?v=c8TPpV3Fan4&feature=channel>> provided at the bottom of the slide which is 1:52 minutes long]***

APPENDIX C



Mind mapping software allows the user to create both hierarchical and free-form structures for organizing thoughts as shown. A free-form map should be used for collaborating ideas on a project (the map displayed in the bottom left corner) while a hierarchical map (the map displayed in the upper right corner) should be used as a frame working template to present managed projects. Portfolio management, governance, and the selection phases of the project management life cycle can all be facilitated with mind mapping tools. Mind maps have also been used for change management kickoff stages and mid project review checkpoints as well.

APPENDIX C



Here is an example of common mind mapping tools. Assigned icons, colors, and map markers can be applied to any process or task of a project to label task completion, priorities, budget awareness, status of deliverables, checkpoints, issues, and 'traffic light statuses' as displayed. The task priorities tool (encircled numbers) allows the user to rank a task according to deadline, the task complete tool (shaded time boxes) allows a user to mark the completion of a task, the resources tool allows a user to assign a role or name to the task, the flags tool allows a user to capture issues, and traffic light statuses of tasks can be set using fill colors. The mind map alongside these tools utilizes all of the markers enlisted to communicate project feedback, users within the project, and to display dependencies of tasks.

APPENDIX C

Laboratory Instruction Assignment

MATCHWARE
OpenMind 2 Laboratory Instruction

To begin OpenMind Mind Map tutorial, please follow the instructional steps listed below:

1. Select the [START] menu and choose [OpenMind 2.0.] application.
2. A pop-up dialog box should display. Select the [New Document] option.
4. Another dialog box should then display with 2-tab options, 'New Map' and 'Templates'. (Take the time to familiarize yourself with the featured free-form, hierarchical, and outline mind maps listed under the [New Map] tab. Do the same with the business, education, personal, and project management features listed under the [Templates] tab as well.)
5. After browsing, Select [Help] from the toolbar menu followed by [MatchWare on the Web], [MatchWare Home Page].
6. Under the 'Products' tab, find which version of software the lab contains.
Once found, select the [Learn More] link to the right of the enlisted product.
7. Select [Tutorials] within the left hand column underneath the 'Home' tab and complete all 5 brief training modules exhibited.
8. Once you have completed the video training, recreate 'Introducing OCM to Approach Project Change Management' summary mind map slide for hands on practice.

7

[Direct students to lab exercise] To familiarize yourself with mind mapping technology for upcoming projects, please refer to the laboratory instructional exercise.

APPENDIX C

References

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APPENDIX D

**Introducing Organizational Change Management For Project Change Management
[SAMPLE EXAM]**

- 1) Which form of communication is the best option to communicate change?
 - A. Face-to-face
 - B. Intranet
 - C. Email
 - D. Mind Maps
 - E. None of the above

- 2) Which tools and techniques should be used for building awareness?
Choose all that apply.
 - A. Communication
 - B. Coaching
 - C. Sponsorship
 - D. Resistant Management
 - E. Training

- 3) Prosci recommends 3 phases that give structure to the steps project teams should take. Which is not a process?
 - A. Prepare for change
 - B. Initiate change
 - C. Reinforce change
 - D. Manage change
 - E. None of the above

- 4) What does the acronym ADKAR stand for?
 - A. Ability, Desire, Knowledge, Awareness, Reinforcement
 - B. Advise, Desire, Knowledge, Address, Reinforcement
 - C. Awareness, Desire, Knowledge, Ability, Reinforcement
 - D. Address, Design, Knowledge, Ability, Reinforcement
 - E. Awareness, Desire, Knowledge, Advise, Reinforcement

APPENDIX D

- 5) Which tools and techniques should be used to build desire for project change? Choose all that apply.
- A. Coaching
 - B. Communication
 - C. Sponsorship
 - D. Resistant Management
 - E. Training
- 6) How much did the U.S. spend on global change management and accountability projects for technology in the year 2000?
- A. 3.28 million
 - B. 3.28 billion
 - C. 1/2 of the total amount spent for change management globally
 - D. 1/3 of the total amount spent for change management globally
 - E. 3.27 billion
- 7) Some projects fail to succeed when change occur due to which contributing factors? Choose all that apply.
- A. Culture barriers
 - B. Should have communicated better
 - C. Employee uncertainty
 - D. Employee fears
 - E. All the above
- 8) Change management activities should start doing which project management phase?
- A. Initiation
 - B. Execution
 - C. Planning
 - D. Implementation
 - E. Controlling

APPENDIX D

- 9) Which of the following are factors of individual change management?
Choose all that apply.
- A. Organizations don't change, individuals do
 - B. The success of a project relies upon each employee
 - C. Effective change management requires understanding and an appreciation of how one person makes a successful change
 - D. Without an individual perspective, we are left with activities instead of a goal or outcome to be achieved
 - E. Answer choices A, C, and D
- 10) Which of the following is **NOT** a factor of organizational change management? Choose all that apply.
- A. Only effective training and tools should be used to facilitate change
 - B. Communication and training tools are often the only activities used when no structure approach is applied
 - C. A process should be put in place to scale change management activities
 - D. A process should be put in place on how to use the complete set of tools available for project leaders and business managers
- 11) All of the following are change management tools except
- A. Communication
 - B. Coaching
 - C. Resistance Management
 - D. Reinforcement
 - E. Training
- 12) ADKAR principles consist of ___ phases
- A. 1
 - B. 2
 - C. 3
 - D. 4
 - E. 5

APPENDIX D

- 13) The awareness phase of ADKAR addresses all of the following except
- A. Why the change is currently proposed now instead of later
 - B. Who is affected by the change
 - C. What is currently wrong with the existing process
 - D. The power of the change initiator
 - E. Why the change is needed and the risk of not changing
- 14) Change initiators create the _____ to change and should participate in the change.
- A. Awareness
 - B. Desire
 - C. Knowledge
 - D. Ability
 - E. All of the above
- 15) Verbal communication is considered more effective than written communication for which of the following reasons? Choose all that apply.
- A. Not everyone reads their emails, letters, or memos
 - B. Interpretation between what receiver reads versus what the sender thinks and actually writes is sometimes misunderstood
 - C. Many times the author of the message is not the sender
 - D. Tone and body language can't be seen through written communication
 - E. All of the above
- 16) What is the fourth phase of the ADKAR model?
- A. Ability
 - B. Desire
 - C. Knowledge
 - D. Awareness
 - E. Reinforcement
- 17) The change initiator is normally responsible for all of the following except
- A. Align incentive programs
 - B. People supervisory responsibilities
 - C. Equip other managers and supervisors to become change leaders
 - D. Assess risk and anticipate resistance
 - E. Engage employees in the change process

APPENDIX D

- 18) Which tools and techniques are used to develop knowledge and foster ability for project change? Choose all that apply.
- A. Coaching
 - B. Communication
 - C. Sponsorship
 - D. Resistant Management
 - E. Training
- 19) Knowledge does not infer ability. Ability is the function of what?
Ability = f (_____)
- A. Skills
 - B. Knowledge
 - C. Willingness
 - D. Desire
 - E. Answer choices A, C, and D
- 20) Which tools and techniques are used to reinforce change? Choose all that apply.
- A. Coaching
 - B. Communication
 - C. Sponsorship
 - D. Resistant Management
 - E. Training
- 21) Financial security, promotional advancement, and recognition are all attributes that motivate individuals under which phase of the ADKAR model?
- A. Ability
 - B. Desire
 - C. Knowledge
 - D. Awareness
 - E. Reinforcement

APPENDIX D

- 22) Training or knowledge development could be insufficient due to
- A. Poorly designed training
 - B. Lack of awareness
 - C. Lack of desire
 - D. Inadequate Sponsorship
 - E. All of the above
- 23) All of the following are outputs of the phase two process for managing change **EXCEPT**
- A. Sponsor road map
 - B. Compliance audits
 - C. Training plans
 - D. Coaching and Communication plans
 - E. Resistant management plans
- 24) Which are outputs of the phase one process in preparing for change?
- A. change characteristics profile, sponsor assessments, produced team structure and roles, organizational attributes profile, and change management strategy
 - B. change review, organizational attributes profile, change management strategy, produced team structure and roles, and sponsor assessments
 - C. training plans, communication plans, coaching plans, resistant management plans
 - D. Answer choices A and C
 - E. Answer choices A, B, and C
- 25) Which of the following are outputs of the phase three process for reinforcing change? Choose all that apply.
- A. Reinforcement mechanisms
 - B. Compliance audits
 - C. Change review
 - D. Individual and group recognitions
 - E. Answer choices A and B

APPENDIX D

- 26) The change initiator should do all of the following **EXCEPT**
- A. Foster the day-to-day involvement of supervisors
 - B. Implement programs for performance monitoring
 - C. Confront employees directly that are resistant to change
 - D. Provide hands-on exercises to reinforce training
 - E. Provide access to subject matter experts
- 27) By contrast, what has proven to be the most effective channel ?
- A. Video
 - B. Conference calls
 - C. Face-to-Face
 - D. Email
 - E. None of the above
- 28) Job security, skills related to planned changes, and loss of power and control are all primary concerns and reasons employees/managers are
- A. in favor of change.
 - B. resistant to change.
 - C. in support of change.
 - D. both A and C
 - E. none of the above
- 29) Mechanisms used to keep change in place are part of which ADKAR phase?
- A. Awareness
 - B. Ability
 - C. Reinforcement
 - D. Desire
 - E. Knowledge
- 30) _____ defines change happens one person at a time, and address the existence of processes and tools that can be used to facilitate change.
- A. Organizational Change Management
 - B. Project Change Management
 - C. Individual Change Management
 - D. ADKAR modular template
 - E. Both A and B

APPENDIX D

**Introducing Organizational Change Management For Project Change Management
[ANSWER KEY]**

1) Which form of communication is the best option to communicate change?

- A. Face-to-face**
- B. Intranet
- C. Email
- D. Mind Maps
- E. None of the above

2) Which tools and techniques should be used for building awareness?
Choose all that apply.

- A. Communication**
- B. Coaching**
- C. Sponsorship**
- D. Resistant Management
- E. Training

3) Prosci recommends 3 phases that give structure to the steps project teams should take. Which is not a process?

- A. Prepare for change
- B. Initiate change**
- C. Reinforce change
- D. Manage change
- E. None of the above

4) What does the acronym ADKAR stand for?

- A. Ability, Desire, Knowledge, Awareness, Reinforcement
- B. Advise, Desire, Knowledge, Address, Reinforcement
- C. Awareness, Desire, Knowledge, Ability, Reinforcement**
- D. Address, Design, Knowledge, Ability, Reinforcement
- E. Awareness, Desire, Knowledge, Advise, Reinforcement

APPENDIX D

- 5) Which tools and techniques should be used to build desire for project change? Choose all that apply.
- A. Coaching**
 - B. Communication
 - C. Sponsorship**
 - D. Resistant Management**
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- 6) How much did the U.S. spend on global change management and accountability projects for technology in the year 2000?
- A. 3.28 million
 - B. 3.28 billion**
 - C. 1/2 of the total amount spent for change management globally
 - D. 1/3 of the total amount spent for change management globally
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- 7) Some projects fail to succeed when change occur due to which contributing factors? Choose all that apply.
- A. Culture barriers
 - B. Should have communicated better
 - C. Employee uncertainty
 - D. Employee fears
 - E. All the above**
- 8) Change management activities should start doing which project management phase?
- A. Initiation**
 - B. Execution
 - C. Planning
 - D. Closing
 - E. Controlling

APPENDIX D

9) Which of the following are factors of individual change management?
Choose all that apply.

- A. Organizations don't change, individuals do**
- B. The success of a project relies upon each employee**
- C. Effective change management requires understanding and an appreciation of how one person makes a successful change**
- D. Without an individual perspective, we are left with activities instead of a goal or outcome to be achieved**
- E. Answer choices A, C, and D

10) Which of the following is **NOT** a factor of organizational change management? Choose all that apply.

- A. Only effective training and tools should be used to facilitate change (Should read processes and tools should be used to facilitate change)**
- B. Communication and training tools are often the only activities used when no structure approach is applied
- C. A process should be put in place to scale change management activities
- D. A process should be put in place on how to use the complete set of tools available for project leaders and business managers

11) All of the following are change management tools except

- A. Communication
- B. Coaching
- C. Resistance Management
- D. Reinforcement**
- E. Training

12) ADKAR principles consist of ____ phases

- A. 1
- B. 2
- C. 3
- D. 4
- E. 5**

APPENDIX D

- 13) The awareness phase of ADKAR addresses all of the following except
- A. Why the change is currently proposed now instead of later
 - B. Who is affected by the change
 - C. What is currently wrong with the existing process
 - D. The power of the change initiator**
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 - D. Ability
 - E. All of the above
- 15) Verbal communication is considered more effective than written communication for which following reasons? Choose all that apply.
- A. Not everyone reads their emails, letters, or memos
 - B. Interpretation between what receiver reads versus what the sender thinks and actually writes is sometimes misunderstood
 - C. Many times the author of the message is not the sender
 - D. Tone and body language can't be seen through written communication
 - E. All of the above**
- 16) What is the fourth phase of the ADKAR model?
- A. Ability**
 - B. Desire
 - C. Knowledge
 - D. Awareness
 - E. Reinforcement

APPENDIX D

17) The change initiator is *normally* responsible for all of the following except

- A. Align incentive programs
- B. People supervisory responsibilities**
- C. Equip other managers and supervisors to become change leaders
- D. Assess risk and anticipate resistance
- E. Engage employees in the change process

18) Which tools and techniques are used to develop knowledge and foster ability for project change? Choose all that apply.

- A. Coaching**
- B. Communication
- C. Sponsorship
- D. Resistant Management
- E. Training**

19) Knowledge does not infer ability. Ability is a function of what?

Ability = f (_____)

- A. Skills
- B. Knowledge**
- C. Willingness
- D. Desire
- E. Answer choices A, C, and D

20) Which tools and techniques are used to reinforce change? Choose all that apply.

- A. Coaching**
- B. Communication
- C. Sponsorship**
- D. Resistant Management
- E. Training

APPENDIX D

21) Financial security, promotional advancement, and recognition are all attributes that motivate individuals under which phase of the ADKAR model?

- A. Ability
- B. Desire**
- C. Knowledge
- D. Awareness
- E. Reinforcement

22) Training or knowledge development could be insufficient due to

- A. Poorly designed training
- B. Lack of awareness
- C. Lack of desire
- D. Inadequate Sponsorship
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23) All of the following are outputs of the phase two process for managing change **EXCEPT**

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- C. training plans, communication plans, coaching plans, resistant management plans
- D. Answer choices A and C
- E. Answer choices A, B, and C

- 25) Which of the following are outputs of the phase three process for reinforcing change? Choose all that apply.
- A. Reinforcement mechanisms**
 - B. Compliance audits**
 - C. Change review**
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- 27) By contrast, what has proven to be the most effective channel ?
- A. Video
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- 29) Mechanisms used to keep change in place are part of which ADKAR phase?
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 - B. Ability
 - C. Reinforcement**
 - D. Desire
 - E. Knowledge

30) _____ defines change happens one person at a time, and address the existence of processes and tools that can be used to facilitate change.

A. Organizational Change Management

B. Project Change Management

C. Individual Change Management

D. ADKAR modular template

E. Both A and B

APPENDIX E



Foilers Planning & Research Consulting Firm

MANAGING CHANGE IN IT PROJECTS (Part I)

Case Background: Case Study Name – Foilers P&R Group

Business Background

Foilers P&R consulting is a small internal service group within an IT division that offers four domain service areas in organizing research, developing business plans, coordinating strategies, and in constructing benchmarks. Foilers P&R group currently is fully staffed with software developers, database managers, system and business analysts, network engineers, and a new recently hired project manager (**YOU**). SharePoint is a Microsoft technology that allows a company to host intranet based web pages and enable the collaboration on MS Office documents between users on the intranet. You are in charge of configuring a SharePoint collaboration website of Foilers P&R services from beginning to end. You scheduled a meeting with the consulting firm's stakeholders to gather all document requirements needed that their services entail. After concluding the meeting, you verify with stakeholders that the website will include: offered services (the four domain areas), site usage guidelines, an event calendar to schedule meetings and upcoming events, suggestions and discussions feedback tool for client interaction, a survey page, vision statement, and document links. Remember to organize related document requirements accordingly to match the 'look and feel' design content (of your choice) for the website. Use map markers to note the mandated document requirements and create additional site features.

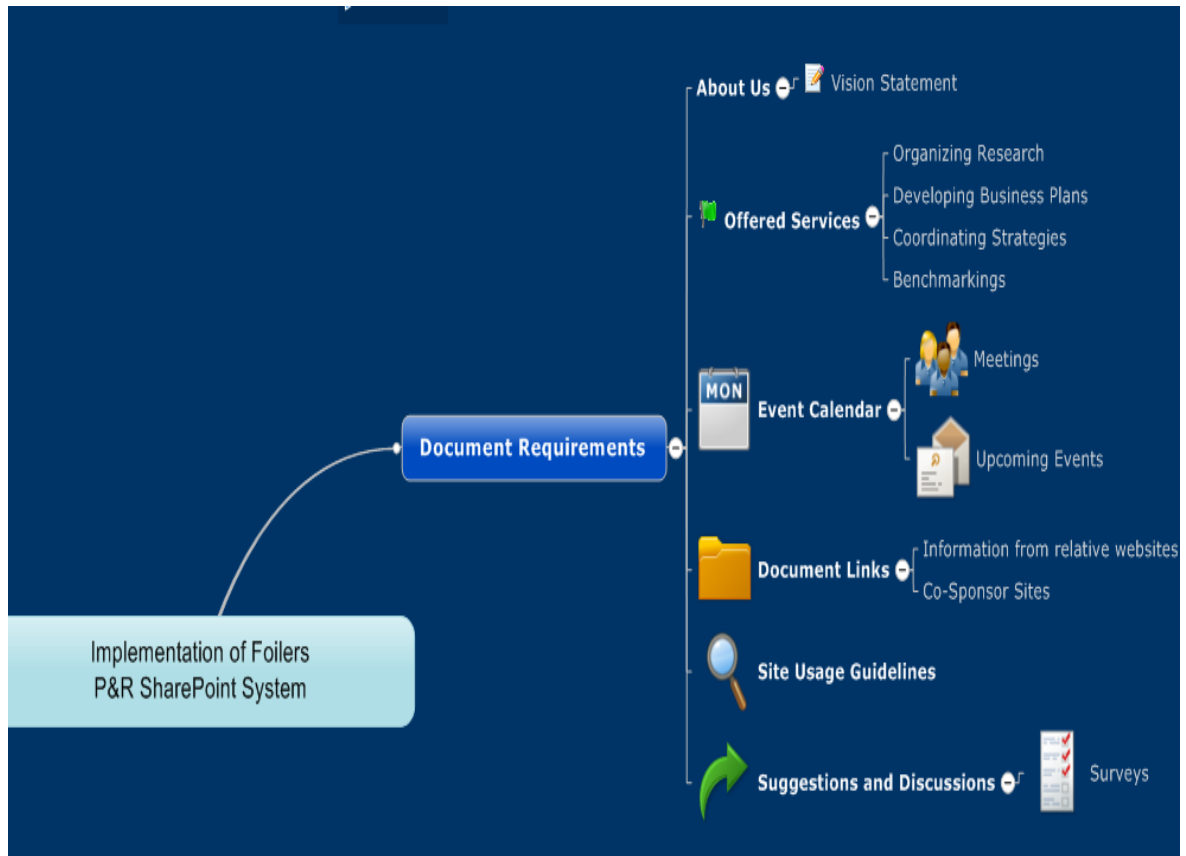
1) Create a virtual mind map to organize the document requirements and 2) generate a complete work development plan using Microsoft Project. A mind map of your work development plan should be used when delivering to project team.

Project Title: Implementation of Foilers P&R SharePoint System

Start Date: 01/26/2011 **Finish Date:**?

APPENDIX E

Managing Change In IT Projects (Part I) Sample Key



The design layout for this exercise should be hierarchical. The student should have added extra features to help organize the content for the website. All document requirements enlisted should have some type of map marker beside it in the mind map (free of choice). The project title should be listed as the core of the mind map as well. In creating the Work Development Plan, any well thought out process to approach project for this exercise is correct as long as steps are in great detail and make sense (Refer to the sample development plan provided for conceptual ideas).

APPENDIX E

Managing Change In IT Projects (Part I) Sample Key

Implementation of Foiler's P&R SharePoint System				
	Planning Phase	5 days	Mon 08/1/11	Mon 08/8/11
	Meet with stakeholders to define doc requirements	1 day	Mon 08/1/11	Mon 08/1/11
	Have stakeholders sign the agreed SOW to validate scope	2 days	Tues 08/2/11	Thurs 08/5/11
	Meet with team (analyst, developers, stakeholder's, etc.) to define necessary steps and time duration of tasks to create WBS	1 day	Fri 08/06/11	Fri 08/06/11
	Manage and control all constraints of projects once WBS is complete throughout all PM phases	(ongoing)		

The students should have also created either a hierarchical or free-form mind map to deliver the planning phase steps. The duration of each task (the start and end date) should also be noted for each activity.

The screenshot displays a software interface for project management. On the left, a mind map is shown with a central node 'Implementation of Foiler's P&R SharePoint System' and a sub-node 'Planning Phase'. The 'Planning Phase' node branches into four tasks: 'Meet with stakeholders to define document requirements', 'Have stakeholders sign the agreed SOW to validate scope', 'Meet with team (analyst, developers, stakeholder's, etc.) to define necessary steps and time duration of tasks to create WBS', and 'Manage and control all constraints of projects once the WBS is complete throughout all PM phases'. On the right, a 'Time Info' panel is visible, showing 'Document timescale' set to 'Standard', 'Year, month, day and time from 1 AD to 3,000 AD', 'Branch time information', 'Start time: Aug 2, 2011', and 'End time: Aug 5, 2011'. There are 'Delete Times' and 'Advanced' buttons at the bottom of the panel.

APPENDIX F



Foilers Planning & Research Consulting Firm

MANAGING CHANGE IN IT PROJECTS (Part II)

Case Background: Case Study Name – Foilers P&R Group

Business Background

It has been two weeks and the design and structure phase of the site has already been forwarded to the software developers based on the document requirements provided. However, you receive an urgent email stating changes have been made by the stakeholders to have each domain service area own their own site workspace (separate tab also known as a page) within the SharePoint site. You have to communicate changes to the document requirements throughout the rest of the team who have already received the 'kick-off' instructions, and are currently out on other project assignments.

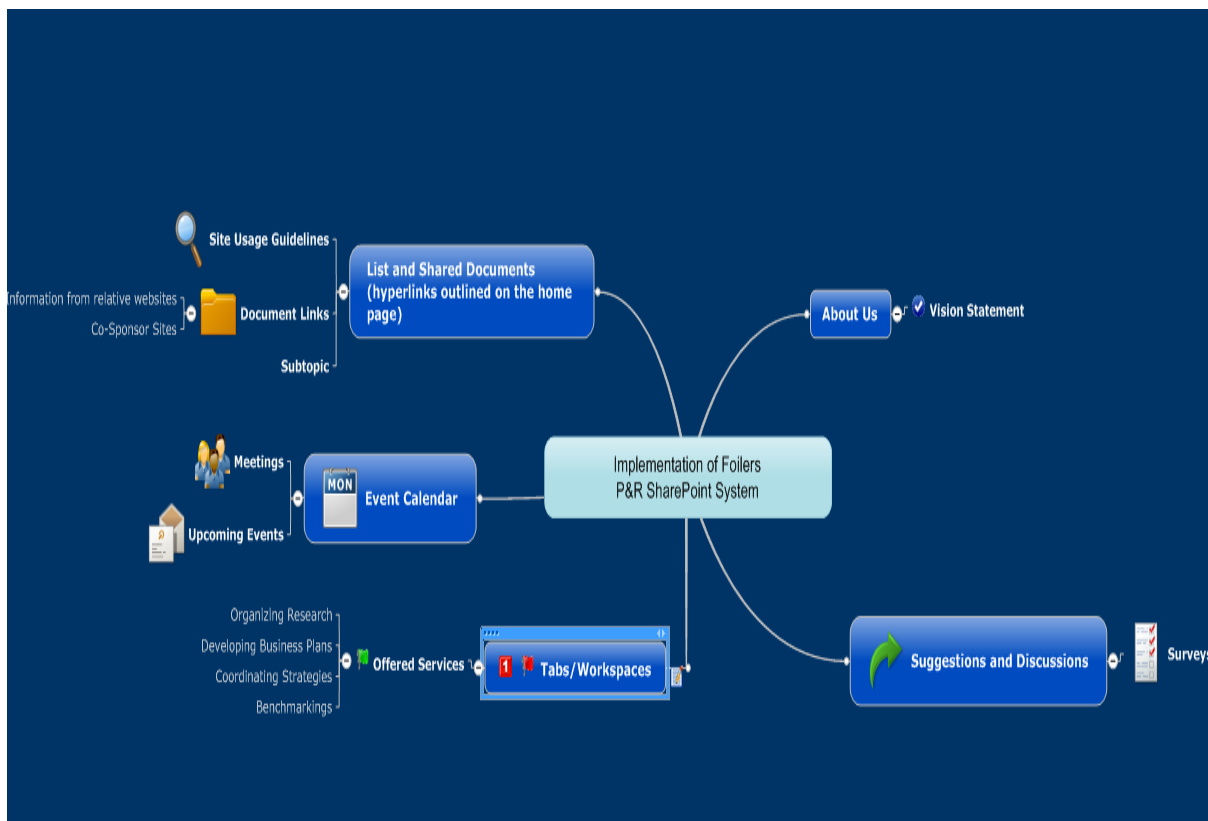
1) Incorporate scope changes to the mind map and 2) use the ADKAR design model to address the project change to your team (Be creative in your reasoning when addressing each ADKAR stage). A mind map should be used to communicate changes. Follow best practices and change management procedures to best facilitate change in this situation. State your proposed method and explain why chosen.

Project Title: Implementation of Foilers P&R SharePoint System

Start Date: 01/26/2011 **Finish Date:** ?

APPENDIX F

Managing Change In IT Projects (Part II) Sample Key

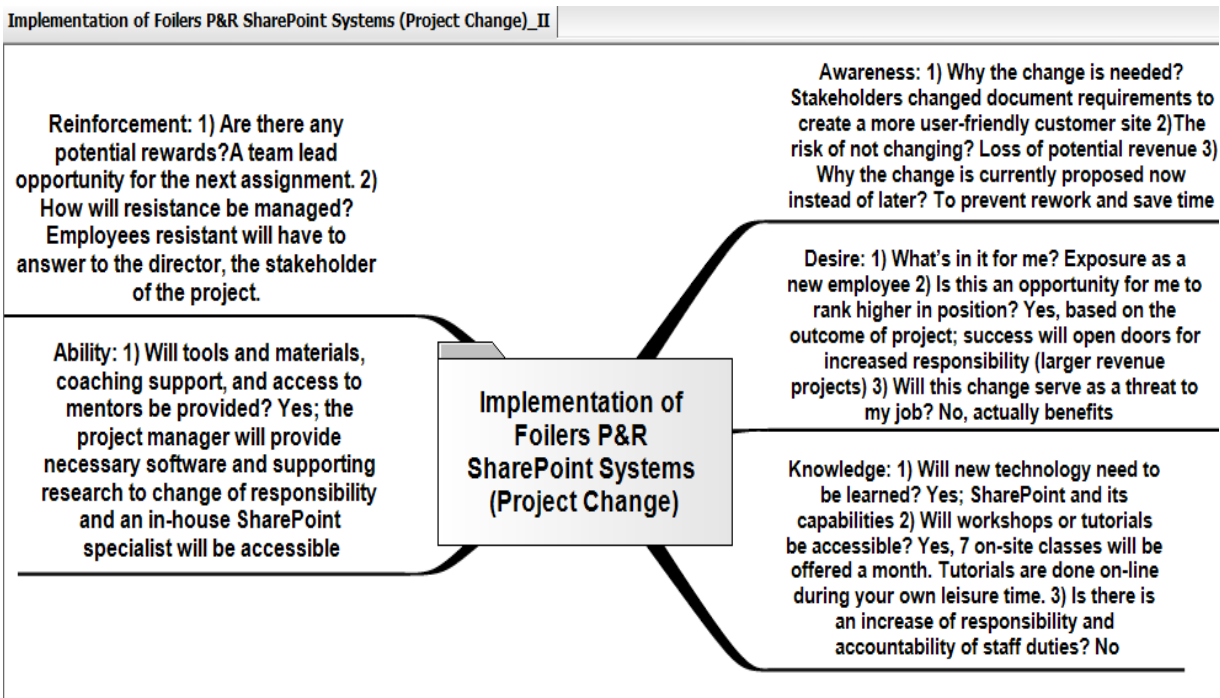


1)The design of this exercise is still completely free of choice, but the layout for this exercise should now both be free-form and hierarchical to distinguish features between the home page document requirements and tab/workspace document requirements. An added note and red flag is used to display urgent changes made to 'offered services' and is separated from the rest of the branches. The rest of the header branches (Event Calendar, Discussions, About Us, and List & Shared Documents) are optional to separate based on the design of the web page. As long as the 'offered services' changes are clearly noted and moved apart from the rest of the branches, the rest of the features used in the mind map should be acceptable.

2)There is no wrong answer in addressing the reason behind the project change. The important factors of why the change is needed is not provided which leaves room for student creativity. However, the answers provided should be reasonable (Refer to the sample mind map provided for conceptual ideas).

APPENDIX F

Managing Change In IT Projects (Part II) Sample Key



To communicate change throughout the rest of the team, top channel forms (refer to Appendix B, slide 15) of communication should be used for this exercise for the discussion segment. Face-to-face, group meetings, workshops, video conferencing, phone conferences, phone messages, and email are all optional answers. Although face-to-face is the most recommendable answer for communicating change, team members are not within reach so verbal communication (e.g. phone or video conferencing) is the next best form to use according to research. Student answers should reflect the situation and validation for their answer should be explained.

APPENDIX G

In this appendix, a laboratory instruction handout is provided which should be given to the students as a mind map practice assignment (should be issued before the business case assignments in Appendix E & F). Instructions on how to operate OpenMind 2.0 is also provided with snap shots of how to access tutorials along with instructional snap shots on how to recreate the summary mind map in Appendix B (slide 2).

MATCHWARE **OpenMind 2** Laboratory Instruction

To begin OpenMind Mind Map tutorial, please follow the instructional steps listed below:

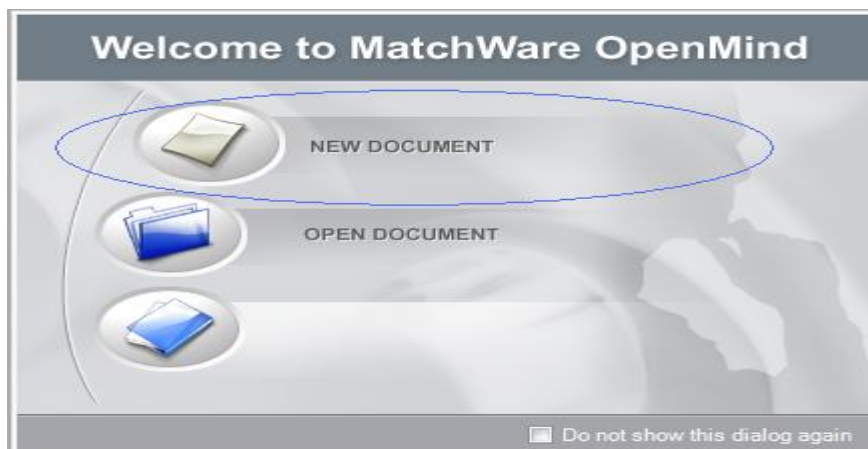
1. Select the [START] menu and choose [OpenMind 2.0.] application.
2. A pop-up dialog box should display. Select the [New Document] option.
3. Another dialog box should then display with 2-tab options, 'New Map' and 'Templates'. (Take the time to familiarize yourself with the featured free-form, hierarchical, and outline mind maps listed under the [New Map] tab. Do the same with the business, education, personal, and project management features listed under the [Templates] tab as well.)
4. After browsing, Select [Help] from the toolbar menu followed by [MatchWare on the Web], [MatchWare Home Page].
5. Under the 'Products' tab, find which version of software the lab contains. Once found, select the [Learn More] link to the right of the enlisted product.
6. Select [Tutorials] within the left hand column underneath the 'Home' tab and complete all 5 brief training modules exhibited.
7. Once you have completed the video training, recreate 'Introducing OCM to Approach Project Change Management' summary mind map slide for hands on practice.

APPENDIX G

1. Select the [START] menu and choose [OpenMind 2.0.] application.

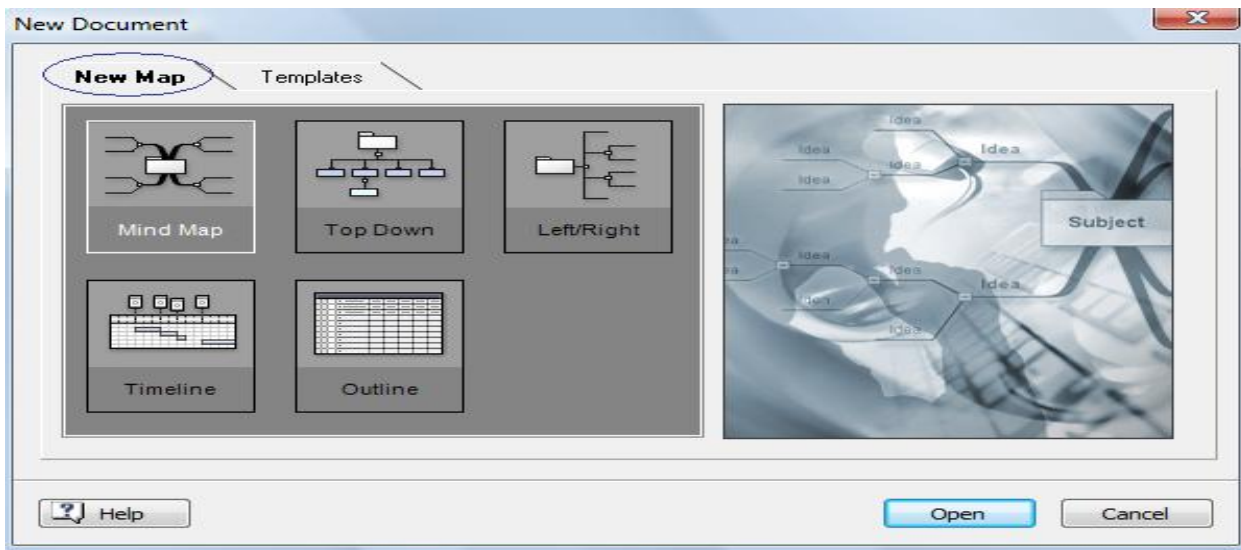


2. A pop-up dialog box should display. Select the [New Document] option.

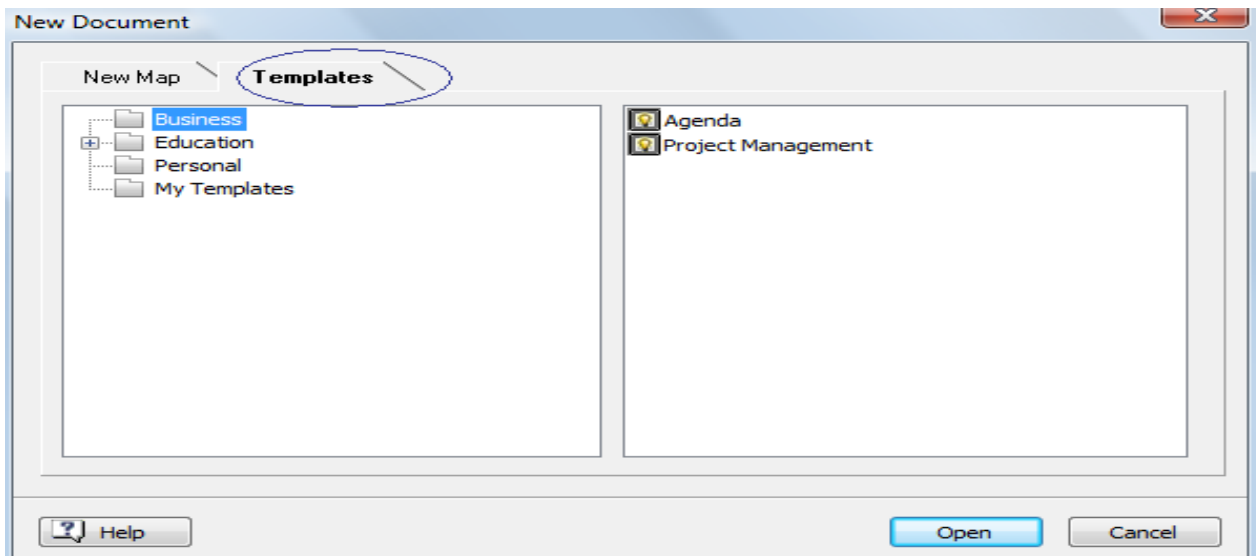


APPENDIX G

3. Another dialog box should then display with 2-tab options, 'New Map' and 'Templates'. Take the time to familiarize yourself with the featured free-form, hierarchical, and outline mind maps listed under the [New Map] tab.

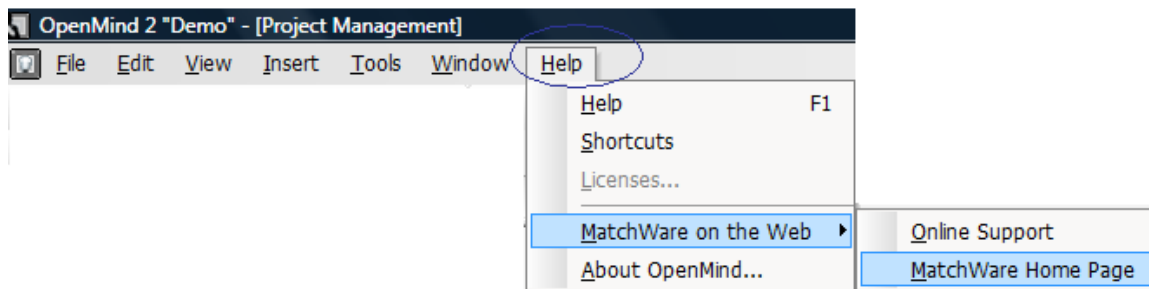


Do the same with the business, education, personal, and project management features listed under the [Templates] tab using the [File], [New] option from the toolbar. Do not save.

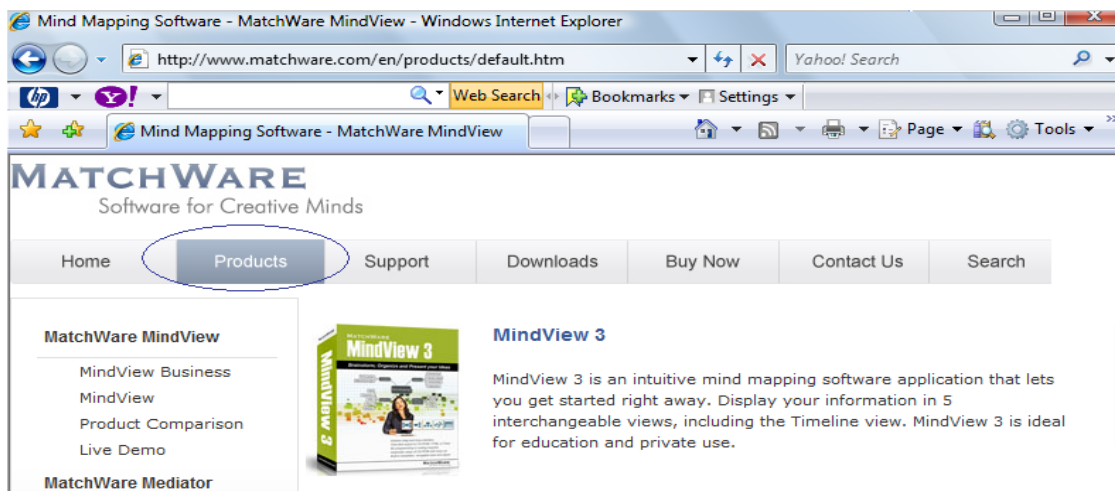


APPENDIX G

4. After browsing, Select [Help] from the toolbar menu followed by [MatchWare on the Web], [MatchWare Home Page].

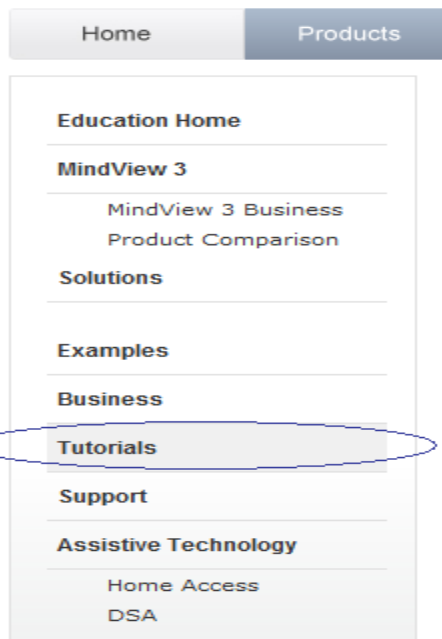


5. A new internet window will open. Under the 'Products' tab, find which version of software the lab contains. Once found, select the [Learn More] link to the right of the enlisted product. (*If current version not found use the following updated version applicable.)



APPENDIX G

6. Select [Tutorials] within the left hand column underneath the location of the 'Home' tab and complete all brief training modules exhibited.



Adding branches - MindView 3

- How to add a main branch
- How to add a sub branch

Click [here](#) to download video or launch in external player.
 Click [here](#) to download a pdf of the tutorial.

Customizing your Mind Map

- How to format the branch text
- How to format the branch color

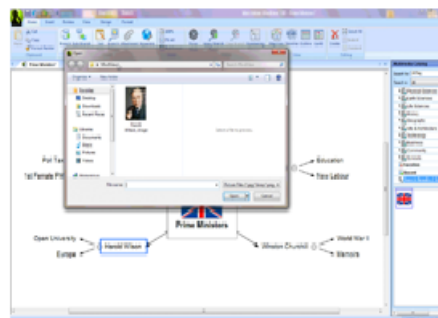
Click [here](#) to download video or launch in external player.
 Click [here](#) to download a pdf of the tutorial.

APPENDIX G

Adding images

- How to add images from the multimedia catalog
- How to add custom branch images

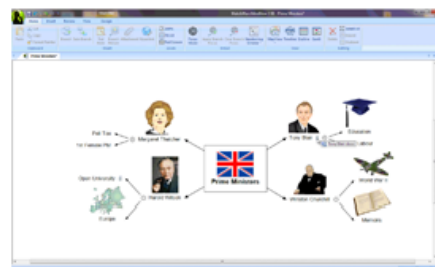
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Adding attachments

- How to add attachments
 - Image Files
 - Application Files
 - Videos Files
 - Sound Files
- How to view attachments

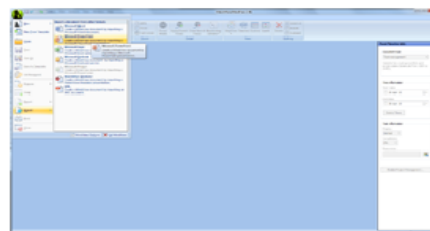
[Click here](#) to download video or launch in external player.
[Click here](#) to download a pdf of the tutorial.



Importing from MS PowerPoint

- How to prepare the import from MS PowerPoint
- How to use the import Wizard

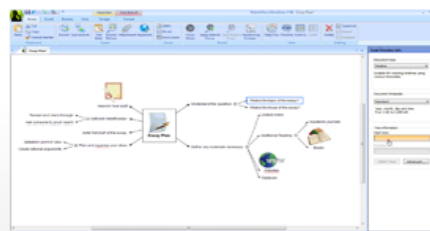
[Click here](#) to download video or launch in external player.
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Using the Timeline - Time Management

- How to add dates to your Branches in the Mind Map View
- How to switch to the Timeline View
- How to add date in the Timeline Outline
- How to Print your Timeline

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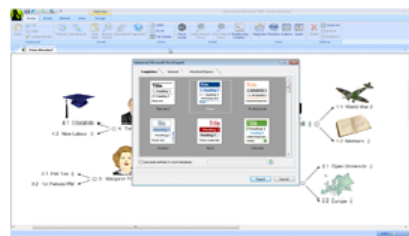
[:: Back to Top](#)

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Exporting to MS Word

- How to prepare the export to MS Word
- How to use the export Wizard

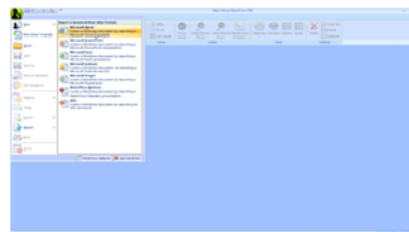
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Importing from MS Word

- How to prepare the import from MS Word
- How to use the import Wizard

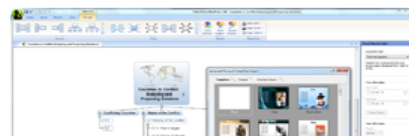
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[Click here](#) to download a pdf of the tutorial.



Exporting to MS PowerPoint

- How to prepare the export to MS PowerPoint
- How to use the export Wizard

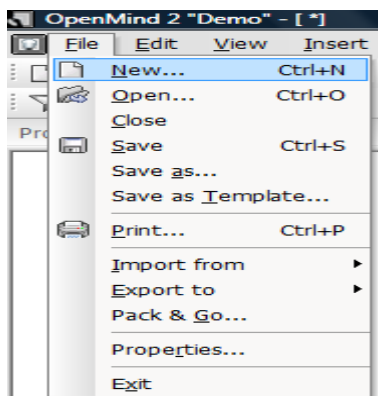
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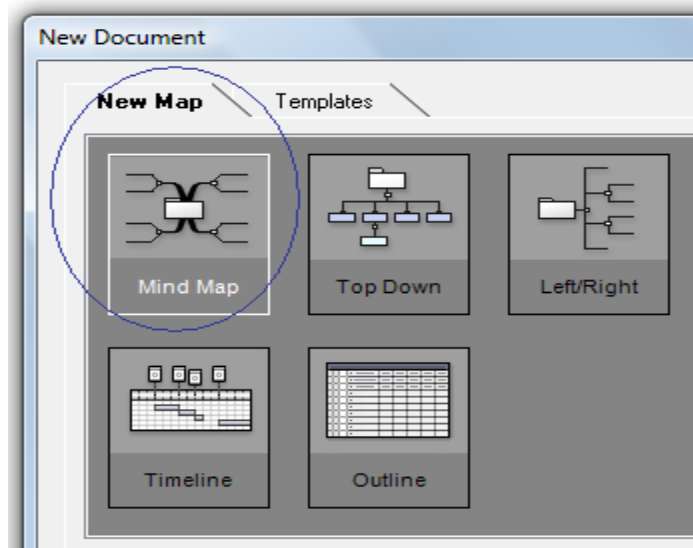
7. Once you have completed the video training, recreate 'Introducing OCM to Approach Project Change Management' summary mind map slide for hands on practice.

- 1) Select [File], [New]

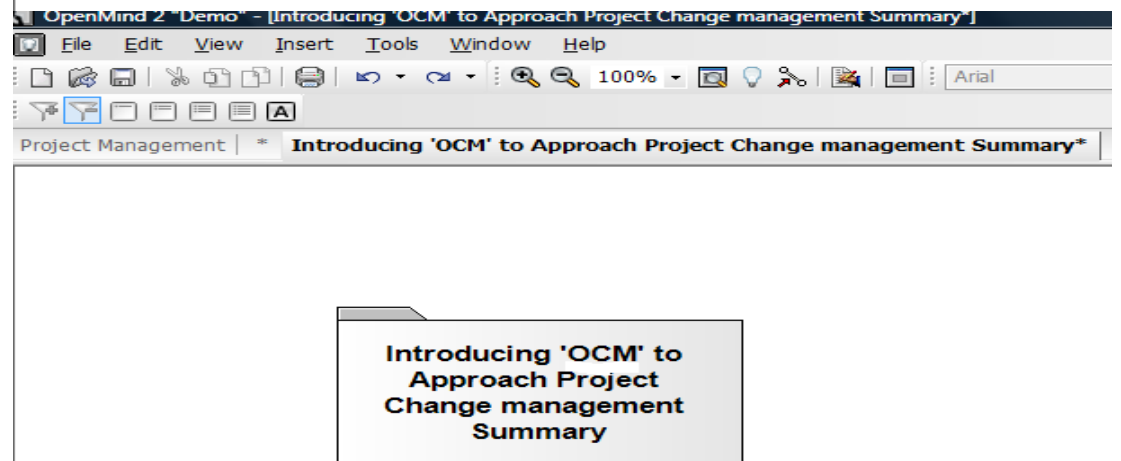
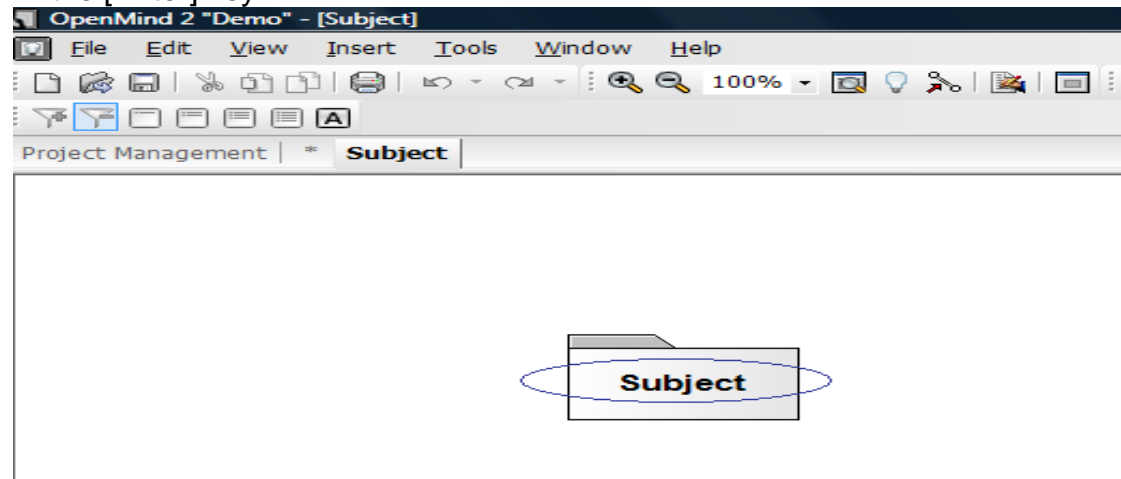


APPENDIX G

2) Select [New Map] tab, [Mind Map] option, then click [Open]

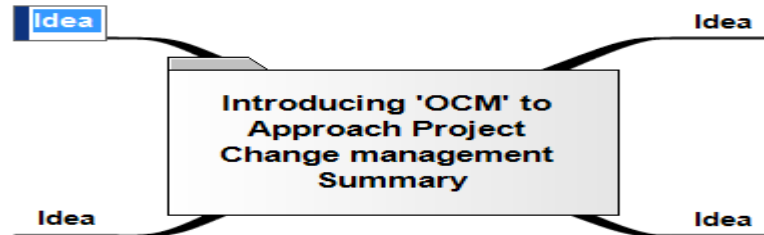


3) Highlight the word [Subject] and type in the title/core of the map. Tap the [Enter] key.

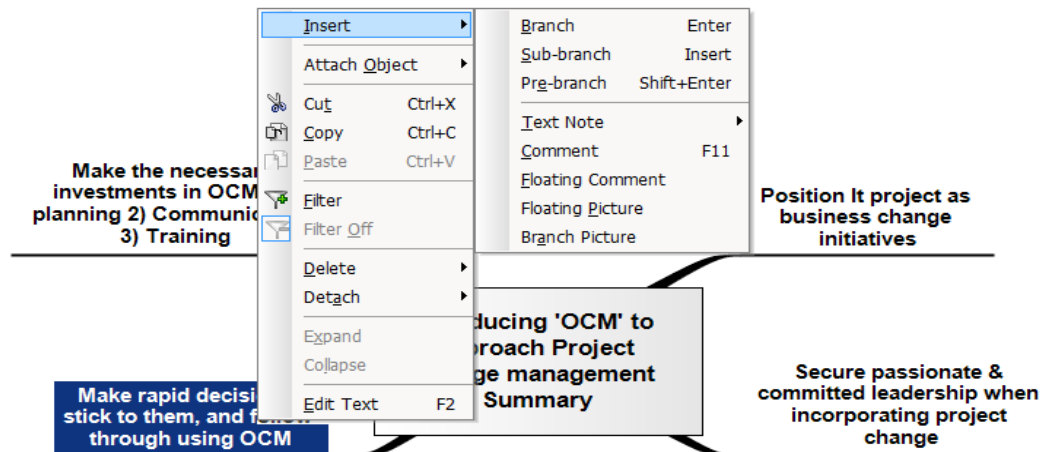


APPENDIX G

- 4) Double click the core of the mind map to add branches/ideas OR select the core of the mind map and tap [Enter]. To rename [Idea], highlight and key-in preferred term or phrase (similar to step 3).

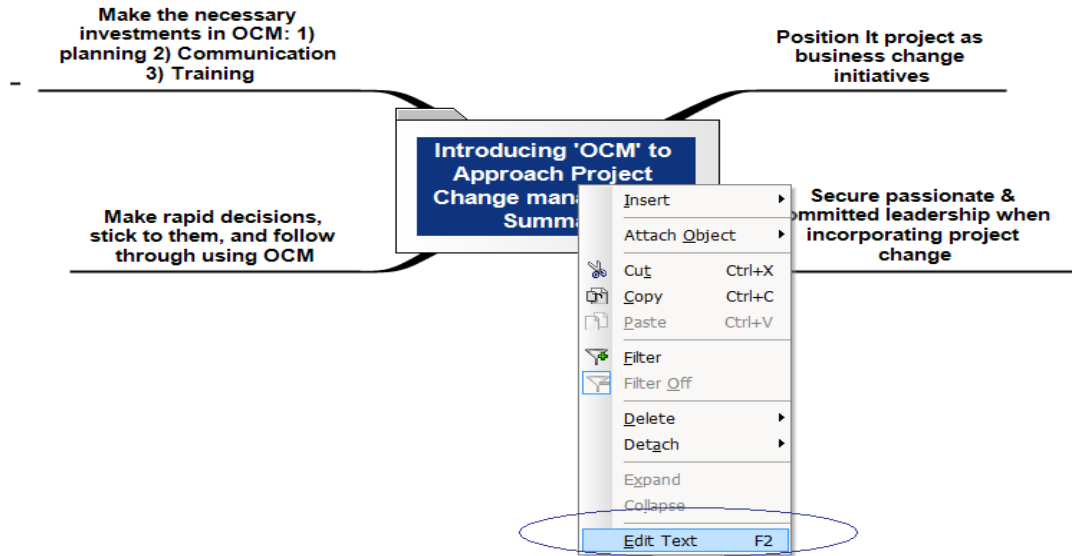
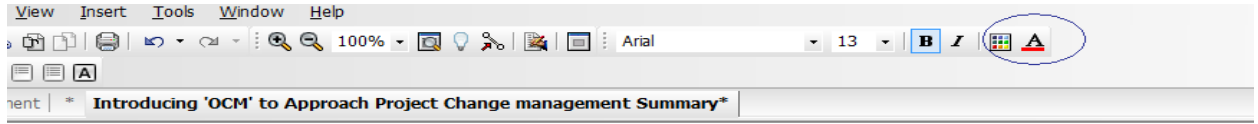


*You may undo a mistake at anytime with the [Edit], [Undo] option from the toolbar. A user may also insert a comment, image, hyperlink, branch, sub-branch, delete a branch, etc. by simply right clicking any idea of the mind map; a featured dialog box should appear.

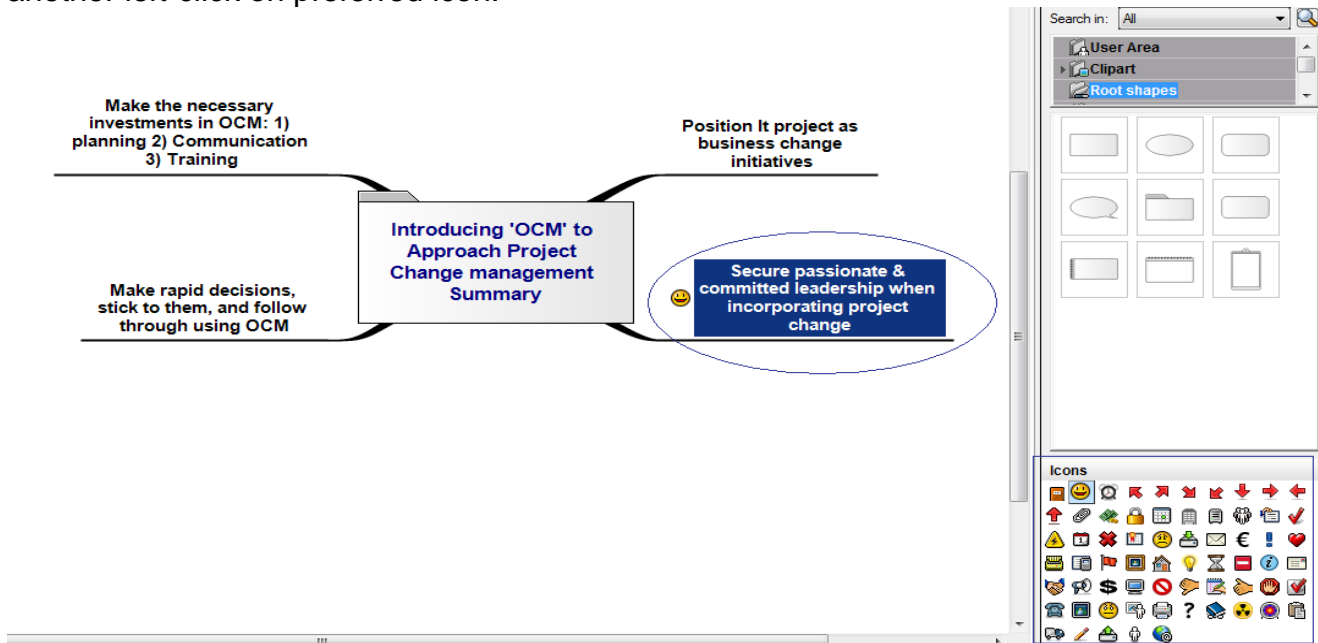


*You can change the font color while editing text using the color palette in the Toolbar.

APPENDIX G



*A user may also add icons/map markers to a branch listed in the multimedia catalog to the right of the map by left-clicking an idea (to highlight it) followed by another left-click on preferred icon.



APPENDIX H

Unit Schedule

WEEK	TUESDAY TOPIC	WEDNESDAY (PSO) / HWK	THURSDAY TOPIC
1 8/23 8/25	Semester Introduction and review Syllabus <u>Presentation #1</u>	No Class	Introduction to Project Management *Introduction to Mind Map (video clip) as a sample PM tool Chapter 1 Brewer/Dittman <u>Presentation #2</u> <u>Homework #1 Assigned</u> *OpenMind Lab Instruction Assigned
2 8/30 9/1	Profile of a Project Manager Chapter 3 Brewer/Dittman <u>Presentation #3</u>	No Class Homework #1 Due Friday	Project Management 'A Systems View' Chapter 2 Brewer/Dittman <u>Presentation #4</u>
3 9/6 9/8	Project Management Life cycles and methodologies <u>Presentation #5</u> *Unit can be implemented here at the earliest stage of PMBOK phase, but before closing phase	Project Selection – Tools and Techniques Review Homework #2	Project Selection as part of Integration Management Chapter 4 Brewer/Dittman <u>Presentation #6</u> <u>Homework #2 Assigned</u>
4 9/13 9/16	Project Initiation Stakeholder Analysis and Project Charter <u>Presentation #7</u>	No Class Homework #2 Due Friday	Project Planning – Intro, Plan development, Scope Planning and Definition (WBS) Chapter 5 Brewer/Dittman <u>Presentation #8</u> <u>Homework #3 Assigned</u>

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WEEK	TUESDAY TOPIC	WEDNESDAY (PSO) / HWK	THURSDAY TOPIC
5 9/20 9/22	Project Planning – Human Resource Planning Presentation #9 *Business Case Study 1 can be assigned here at the earliest	No Class Homework #3 Due Friday	Project Planning – Time Planning Chapter 6 Brewer/Dittman <u>Presentation #10</u> <u>Homework #4 Assigned</u>
6 9/27 10/29	Project Planning – Duration Estimating Presentation #11 Exam 1 Review	No Class	Project Planning – Schedule Development Presentation #12 -----Exam 1----- Presentations (2-11)
7 10/4 10/6	Project Planning – Cost Management Presentation # 13	PSO – Homework discussions; exam results Homework #4 Due Friday	Project Planning – Quality Chapter 7 Brewer/Dittman <u>Presentation #14</u> <u>Homework #1 Assigned</u>
8 10/11 10/13	No Class, (Usually October Break)		No Class Evening Exam!
9 10/18 10/20	Project Planning – Quality & Communications Planning Presentation #15	Introduction to MS Project Review Case Study and associated assignments *Business Case 2 can be assigned here at the earliest	Risk Management Planning Chapter 8 Brewer/Dittman <u>Presentation #16</u>
10 10/25 10/27	Risk Management Planning Continued...	Milestone #1 Assistance Milestone #1 Due Friday	Project Planning – Procurement Planning Chapter 9 Brewer/Dittman <u>Presentation #17</u>

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WEEK	TUESDAY TOPIC	WEDNESDAY (PSO) / HWK	THURSDAY TOPIC
11 11/1 11/3	Project Execution Chapter 10 Brewer/Dittman Presentation #18	Build the Schedule with duration and dependencies Correction to Milestone 1	Project Control -Intro, -Integrated Change Control, -Scope Verification Chapter 11 Brewer/Dittman Presentation #19
12 11/8 11/10	Project Control -Scheduled Control -Cost Control <div style="border: 1px solid black; padding: 5px; width: fit-content;">*Unit can be implemented here at the latest</div> Presentation #20 Exam Review	Schedule Development and Resources Milestone #2 is Due Friday	Project Control -Quality Control -Manage Project Team -Performance Reporting -Manage stakeholders -Risk Monitor & Control -Contract Administration Chapter 12 Brewer/Dittman Chapter 13 Brewer/Dittman <u>Presentation #21</u> -----Exam 2-----
13 11/15 11/17	Project Control Presentation #21 Continued Project Closeout -Administrative Closure Contract Closeout <div style="border: 1px solid black; padding: 5px; width: fit-content;">*The latest business case projects should be assigned</div>	Resources, Cost, Gantt Charts, Actuals Milestone #3 is Due Friday	Ethics Lecture Chapter 14 Brewer/Dittman Presentation #23
14 11/22 11/24	No Class Evening Exam	No Class	No Class (Thanksgiving Week)
15 11/29 12/1	Project Management Office Outsourcing Presentation #24	Resources, Cost, Gantt Charts, Actuals and Review Milestone #5 Milestone #4 is Due Friday	Guest Lecture
16 12/6 12/8	Maturity Models Presentation #25	Milestone #5 questions/problems Milestone #5 is Due	Virtual Teams Presentation #26 Review for Final
17	Comprehension Final		

APPENDIX I

Universal Design Model



(Thousand, Villa, & Nevin, 2002)

APPENDIX J

The Socratic Model

Richard Paul (1993) outlines the types of questions that can be used in the Socratic dialog sequence to probe the underlying logic or structure of student thinking and enable them to make reasonable judgments. Example questions might include the following:

- **Questions of clarification**
 - What do you mean by that?
 - Can you give me an example?
 - Why do you say that?
- **Questions that probe assumptions**
 - What is being assumed?
 - Why would somebody say that?
 - Is that always the case?
- **Questions that probe reason and evidence**
 - What are your reasons for saying that?
 - What criteria do you base that argument on?
 - Could you explain your reasons?
- **Questions that probe implications and consequences**
 - What might be the consequences of behaving like that?
 - Do you think you might be jumping to conclusions?
 - How can we find out?
- **Questions about viewpoints or perspectives**
 - What would be another way of saying that?
 - How do Judy's ideas differ from Mike's?
 - What is an alternative?
- **Questions about the question**
 - How is that question going to help us?
 - Can you think of any other questions that might be useful?
 - What is the question?

(Moore, 2005)

APPENDIX K

Prosci's Change Management Methodology Framework

[catalog](#)

Key principles:

1. Change management requires both an individual and an organizational perspective
2. ADKAR presents an easy-to-use model for individual change
3. The 3-phase process gives structure to the steps project teams should take

Change management requires both an individual and an organizational perspective

Individual change management	Organizational change management
Understanding how one person makes a change successfully	Understanding what tools we have to help individuals make changes successfully
Organizations don't change, individuals do . No matter how large of a project you are taking on, the success of that project ultimately lies with each employee doing their work differently, multiplied across all of the employees impacted by the change. Effective change management requires an understanding for and appreciation of how one person makes a change successfully. Without an individual perspective, we are left with activities but no idea of the goal or outcome that we are trying to achieve.	While change happens one person at a time, there are processes and tools that can be used to facilitate this change. Tools like communication and training are often the only activities when no structured approach is applied. When there is an organizational change management perspective, a process emerges for how to scale change management activities and how to use the complete set of tools available for project leaders and business managers.

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ADKAR presents an easy-to-use model for individual change

The first step in managing any type of organizational change is understanding how to manage change with a **single individual**. Prosci's model of individual change is called ADKAR - an acronym for Awareness, Desire, Knowledge, Ability and Reinforcement. In essence, to make a change successfully an individual needs:

- Awareness of the need for change
- Desire to participate and support the change
- Knowledge on how to change
- Ability to implement required skills and behaviors
- Reinforcement to sustain the change

ADKAR describes successful change at the individual level. When an organization undertakes an initiative, that change only happens when the employees who have to do their jobs differently can say with confidence, "I have the Awareness, Desire, Knowledge, Ability and Reinforcement to make this change happen."

Because it outlines the **goals or outcomes** of successful change, ADKAR is an effective tool for:

- Planning change management activities
- Diagnosing gaps
- Developing corrective actions
- Supporting managers and supervisors

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Phase 1 - Preparing for change

The first phase in Prosci's methodology is aimed at **getting ready**. It answers the question: "how much change management is needed for this specific project?" The first phase provides the situational awareness that is critical for effective change management.

**Outputs of Phase 1:**

- Change characteristics profile
- Organizational attributes profile
- Change management strategy
- Change management team structure
- Sponsor assessment, structure and roles

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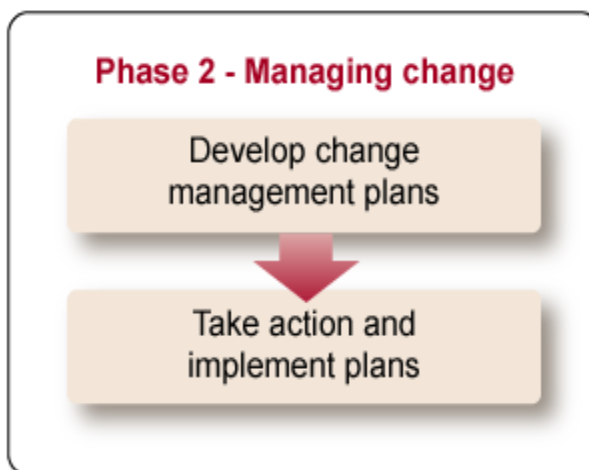
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Phase 2 - Managing change

The second phase of Prosci's process is focused on creating the **plans** that are integrated into the project activities - what people typically think of when they talk about change management. Based on Prosci's research, there are five plans that should be created to help individuals move through the ADKAR Model.

**Outputs of Phase 2:**

- Communication plan
- Sponsor roadmap
- Training plan
- Coaching plan
- Resistance management plan

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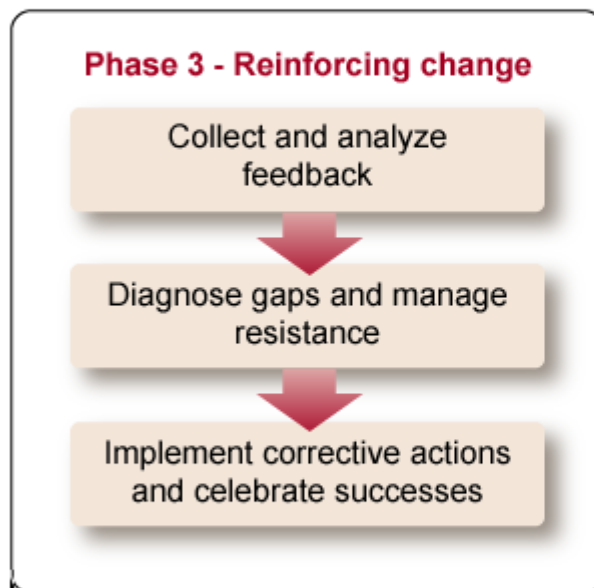
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Phase 3 - Reinforcing change

Equally critical but most often overlooked, the third phase of Prosci's process helps project teams create specific action plans for ensuring that the change is **sustained**. In this phase, project teams develop measures and mechanisms to see if the change has taken hold, to see if employees are actually doing their jobs the new way and to celebrate success.

**Outputs of Phase 3:**

- Reinforcement mechanisms
- Compliance audit reports
- Corrective action plans
- Individual and group recognition approaches
- Success celebrations
- After action review

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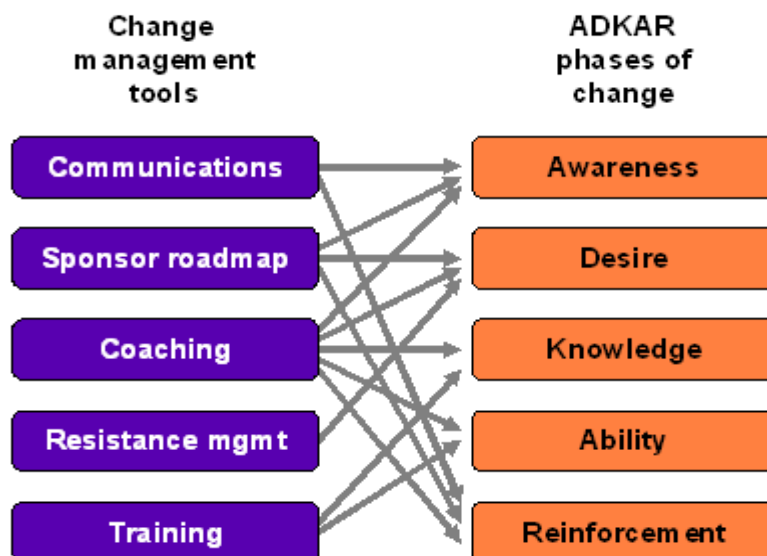
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The linkage between individual change management and organizational change management is the key - and is what sets Prosci's approach apart from other change management methodologies. There are numerous models available that address individual change. There are also numerous models available that give guidance and structure to project activities for change management resources. ***The difference with Prosci's methodology is that it integrates individual change management and organizational change management to ensure the achievement of business results.***

The image below shows the connection between the change management tools developed in the organizational change management process and the phases of individual change described by the ADKAR model. This picture is the essence of effective change management and is the core of Prosci's change management methodology.



Connecting organizational and individual change management

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