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Change Management in a Dynamic Information Technology Environment: Inquiries Into the Adkar Model for Change Management Results

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**CHANGE MANAGEMENT IN A DYNAMIC INFORMATION TECHNOLOGY
ENVIRONMENT: INQUIRIES INTO THE ADKAR MODEL FOR CHANGE
MANAGEMENT RESULTS**

A THESIS

SUBMITTED ON THE 5TH OF MAY, 2010

TO THE DEPARTMENT OF INFORMATION SYSTEMS

OF THE SCHOOL OF COMPUTER & INFORMATION SCIENCES

OF REGIS UNIVERSITY

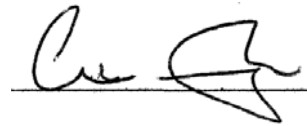
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF MASTER OF
SCIENCE IN DATABASE TECHNOLOGIES

BY



Michael S. Lowery

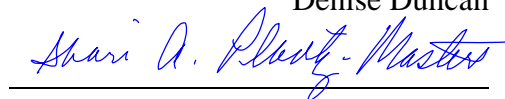
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Abstract

Change in our lives is an ongoing, complex, and difficult process that cannot be avoided, and in order for any organization comprised of people to be successful, change must be managed. There are many documented instances of organizations failing in their change efforts, and it is not always the technology that causes change failures, but it is the people aspect towards change that is neglected. This paper focuses on the ADKAR model which is a sequential and cumulative goal-oriented change management model with targeted results and consists of the elements Awareness, Desire, Knowledge, Ability, and Reinforcement, and how the model can be used to manage change individually and organizationally, and thereby increase the possibilities for desired change success.

Acknowledgements

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Chapter 1 – Introduction

Statement of Problem

Change is inevitable and ongoing. However, often, humans are opposed to it. When addressing change in any setting, there are no guaranteed methodologies or processes that can be implemented to ensure success for every change situation. Change management requires analyzing problems and pro actively implementing processes or methodologies with a team vision to effect and manage on-going change while using and protecting information systems to meet organizational goals. A problem with change is that it produces many change management activities but it often does not produce desired results. The ADKAR model is a sequential and cumulative goal-oriented model that can be used to gauge an individual and organization's readiness for change with the target goal for producing results not just activities (Hiatt, 2006).

Statement of Goals and Objectives

The ADKAR model which consists of the elements Awareness, Desire, Knowledge, Ability, and Reinforcement assists in identifying areas for why changes are not working and enlightens corrective actions that can be implemented individually and organizationally. As a Regis University database practicum member, the researcher's goal using a qualitative research approach and action research methodology is to further examine how the ADKAR model is being used today within organizations to manage change to achieve goals, and to apply this data to support the Regis database practicum experience for faculty and future practicum members.

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Chapter 2 – Review of Literature and Research

Change Management

This review of literature and research focuses on Change Management primarily from a people perspective, and it discusses how change management came to support and decrease the inadequacies of organizational development to cope with managing change in organizations. The review discusses how the movement from internal to external change factors left organizations, especially the people working within them, feeling as if they no longer had control over anything that they could control before. The review covers change success factors for individual and organizational change, and the ADKAR model's support for managing change and resistance to change in today's organizations. The review concludes with the importance of knowledge management to empower organizations to remain competitive.

Background and definition

The study of organizational development (OD) has been a focus since the 1930's; however, this discipline has not provided the solution for supporting sustained organizational goals. Warren, Ruddle, and Moore's article (1999) states that there were dissatisfactions with OD that led to the change management profession as we know it today. Some OD key dimensions they found in their literature review were heavy dependencies “on concepts and research findings from the behavioral sciences, primarily from psychology” (p. 276) and another being “human relations variables (such as culture and climate, communication, leadership styles, and job satisfaction)” (p. 276).

Change management helps to fill the void in supporting sustainment of organizational goals by using OD theory and intervention strategies in conjunction with

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human resource management (HRM), project management, and strategic change (Warren et al. 1999). The authors' further define change management as being broader than OD in that it “includes a wide range of intervention strategies that may enhance human performance directly or indirectly, including process consultation, work restructuring, strategic HRM planning, and the design or development of information technology (IT) solutions” (p. 277). Change management is further defined as “the process, tools and techniques to manage the people-side of change to achieve the required business outcomes. It is the systematic management of employee engagement and adoption when the organization changes how work will be done. Ultimately, change management focuses on how to help employees embrace, adopt and utilize a change in their day-to-day work” (Prosci, 2009).

Internal and external factors

Why is implementing change so difficult in the organization today? Although the 1960s, 1970s, and the 1980s had very high rates of change, "the forces underlying today's changes are significantly different from those that prevailed in previous decades, and many people find this disquieting" (Collerette, Schneider, & Legris, 2001 p. 38). The authors' explain that in the past, the future could be controlled by concentrating on internal forces (board, management, employees, unions), but now there are many external pressures (new laws, competition from all parts of the world, national and international pressure groups, ever accelerating technological innovation, collapse of national borders, etc.). Even with internal pressures, "members of the organization, employees and management alike, identified things that could be improved and proposed steps to do so” (Collerette et al. 2001, p. 39). The result was the same, i.e. growth, driven by prospects of

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prosperity. Overall, organization members had a feeling of control over the situation with no feeling of "being towed along by external pressures" (Collerette et al. 2001, p. 39).

As the 1990s arrived, external change factors began exerting pressure on organizational members leaving them with a feeling of loss of control - something that they did not expect. There were periods of economic instability or deterioration and sometimes both requiring companies to cut expenditures and increase their productivity. With increasing changes including new technologies, people perceived that they were being constrained, and they were asked to do their jobs "with less resources and in many cases to do more with less" (Collerette et al., 2001 p. 40).

The results of these increasing and various changes are fear, anxiety and uncertainty in the form of resistance to the change. Resistance is a natural reaction but it is cited as a major obstacle to change implementation within the organization (Adams, 2003; Hiatt, 2006; Maurer, 1996; Trader-Leigh, 2002). According to the formula $C=(DVF)>R$, a formula popularized by Dave Gleicher, "Change is possible when the level of Dissatisfaction with the status quo, the clarity of Vision, and the grasp of the First steps to be taken can combine to be greater than the existing Resistance to change" (Dannemiller Tyson Associates, 2000 p. 16 cited by Adams, 2003 p. 5)

Change Management Themes

Dr. John D. Adams, an organizational development practitioner, spent the last 35 years promoting and leading changes in individual lifestyle change and organization systems change. During this time of direct involvement, he found that "the percentage of completely successful change processes has been extremely low" (Adams, 2003, p. 3), Beer and Nohria (2000 citing Skoler, 1995) states "a study of consulting effectiveness

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showed that virtually 50% of all consulting engagements end in failure because of ineffective implementation, not because of the quality of consultants' ideas" (pg 430). Similarly, Maurer (1996, p. 18 citing Schiemann, 1992) states "senior executives in Fortune 500 companies stated that less than one-half of changes in their organizations were successful and that resistance was the main reason for the failures".

Adams understood change struggles and fears. Over a ten-year period at Open Space conferences that were open to the public, he interviewed people in organizations who failed and also those who had successful change implementation experiences. He listened "to 31 stories of major individual change successes, and 15 stories of organizational transformation successes" (p. 5) spending about 90 minutes with each person and asking questions only for clarification. He stated limitations of the findings during this study including his own limitations. From his findings, he found that there were "eight themes that were virtually always present when individuals related their stories of personal success in making deep pattern changes. These eight themes were mostly or entirely missing in the cases of failure that I collected" (2003 p. 5). He explained from his story collecting and analysis that the same eight themes were also present in some form in most of the organizational success stories. He included four additional themes that are important to organizational change success that he states were "absent by and large when organizational changes fell short of what was originally expected" (p. 5). A few of these factors follow:

Important Individual Themes

1. Understanding and acceptance of the need for change

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It is difficult to support a change that has not been communicated to an individual or the individual does not understand the need for change, which leads to non-acceptance individually and organizationally. (Adams 2003 p. 5) Similarly, Hiatt (2006) states that communications is commonly cited as an essential element for managing change. "One objective of communications is to build awareness of the need for change and to share with employees why the change is happening. Employees want to understand the nature of the change and the risks of not changing" (2006, preface p. 2) which is the first component of ADKAR: *awareness*.

2. Belief that the change is both desirable and possible

The individual will resist engagement towards the change process if he/she feels that the change is impossible or if it is not the right thing to do. The resistance effect can be counteracted through education and communication and through participation and involvement in the change effort (Bedeian, 1984). According to Bedeian (1984), "resistance can be overcome by training people to recognize the existence of problem areas and, hence, the necessity for change," (p. 471) and "the notion that the most effective way to reduce opposition and to engender commitment to a proposed change is to work collaboratively with the members of a so-called target system. Intended to allay fears of those to be affected and to capitalize on their specialized skills, the participation process is designed to provide an opportunity for involvement in the discussion and planning of the proposed change in advance of its introduction" (p. 471). In contrast, Trader-Leigh (2002, citing Lindblom, 1994) states that "if those most affected are the dominant stakeholders, they may use communication less for exposing others to the

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possibilities and more for maintaining control, thus giving messages that are designed to hide, misrepresent or put a better face on the status quo” (p. 140).

3. Sufficient passionate commitment: Changing habits

It is difficult to change individual habits of thinking (mental models). Adams states that in order to “‘stay the course’, a person will need to have very strong commitment to being successful” (p. 6). He further states that to make the change a success, there must be a heartfelt commitment or critical mass (25%) among the people. Kotter (1995) discusses that in order for people to desire and move forward towards change, there has to be continuous communication and support from multiple individuals with a sense of *urgency*. He states "over 50% of the companies I've watched fail in this first phase" (1995 p. 60) of not establishing a great enough sense of urgency. Although much effort is given to newsletters and speeches, instilling passionate commitment can be very difficult especially as Kotter points out "when some very visible senior executives still behave in ways that are antithetical to the vision" (1995 p. 63) of change.

4. Specific deliverable/goal and a few first steps

Belief in a necessary change, desire to do it, the possibility for the change, and total commitment are not enough. There has to be a clear picture for the change outcome, and a doable first step to build momentum. The individual has to know what to do and the outcome (Adams, 2006). According to Kotter, in *Leading Change Why Transformation Efforts Fail* (1995), systematically, organizations should plan for and create short-term wins because “renewal effort risks losing momentum if there are no short-term goals to meet and celebrate. Most people won't go on the long march unless they see compelling evidence within 12 to 24 months that the journey is producing

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expected results. Without short-term wins, too many people give up or actively join the ranks of those who have been resisting change" (p. 65). Furthermore he states, "in a successful transformation, managers actively look for ways to obtain clear performance improvements, establish goals in the yearly planning system, achieve the objectives, and reward the people involved with recognition, promotions, and even money" (p. 65).

5. Structures or mechanisms that require repetitions of the new pattern

Adams (2003) states that through many repetitions habits reach "autopilot" status. He discusses the "memory account" related to the well-learned, outgoing undesired habits and the sparse, desired incoming new habits. "In order to add the needed number of repetitions of the new behavior to cause a new habit to be formed, mechanisms or structures need to be created that require practicing new behaviors" (p. 6). Worren et al. (1999) discuss that "in classic OD the basic assumption is that you must change your attitudes or ideas (i.e., your mental model, metaphor, theory-in-use, or tacit assumption) before you can change the structure or technology of your organization" (p. 278). The authors further state that:

in contrast, most of the change management professionals we know lean more toward the view held by Michael Beer and his associates (cited in Beer, Eisenstat, & Spector, 1990; Beer & Walton, 1990), who emphasize that changes in both structure/systems and human process are necessary to effect attitude and behavior change. The sequencing of interventions should induce new behaviors rather than trying to educate people about them (Worren et al. 1999 p. 279).

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6. Feeling supported and safe

According to Adams (2003), there have been many that have argued that "changes are not resisted *per se*, that people resist the unknown. People intent on making changes seem much more willing to dive into the unknown when they feel that they are in a safe environment" (p. 6). Furthermore, "culture (shared mental model habits) change in the workplace is especially difficult in environments in which jobs security is in doubt" (p. 6). Newton, (2002, p. 203 as cited in Meade, 1997, p. 3) regarding quality policy requirements in UK universities, informs that *effective leadership* in academia holds the keys to providing a calming environment as follows:

Given that some of the major barriers to the creation of a learning organization are scepticism, suspicion, a lack of trust, and a fear of change, leaders have a distinctive responsibility for ensuring that . . . members of the university community experience a climate that promotes a sense of trust, and hence a willingness to engage in change for improvement.

Buchanan and Huczynski (1985, p. 453) discuss the conflicting views of control and state that "it stands for predictability, order, reliability, and stability. The absence of control from this point of view means anarchy, chaos, disorder and uncertainty", and (p. 453):

the concept of control also means coercion, domination, exploitation and manipulation. Managers who attempt to manipulate and dominate their subordinates invariably meet with resistance, hostility and poor performance. Control from this point of view appears to be an undesirable

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aspect of organizational life. Ability to exercise freedom of choice and expression appears to be necessary to the development of the mature personality.

7. Patience and perseverance

Much time and effort is required to establish significant changes. According to Adams (2003), there will be progress and backsliding so, "in order to 'hang in there', both a sense of patience and a drive to be persistent are apparently essential. A great many repetitions of the new habit need to be added to the 'account' and these qualities are needed to ensure that enough repetitions of the required new behaviors are generated" (p. 6). In *Leading Change*, Kotter (1995), discusses anchoring new approaches in the culture, which is the last stage of the eight-stage process towards transformation. The reason that culture is the last step is because it is the most difficult. Kotter (1995) states, "both attitude and behavior change typically begin early in a transformation process. These alterations then create changes in practices that help a firm produce better products or services at lower cost. But only at the end of the change cycle does most of this become anchored in the culture" (p. 156). Furthermore, Kotter states "culture is not something that you manipulate easily. Attempts to grab it and twist it into a new shape never work because you can't grab it. Culture changes only after you have successfully altered people's actions, after the new behavior produces some group benefit for a period of time, and after people see the connection between the new actions and performance improvement" (p. 156).

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Important Organizational Themes

1. Clear accountability

Leadership is important in the organization through "visible, vocal, consistent, persistent sponsors and stakeholders: the absence of clear accountabilities for implementing and sustaining organizational changes was a very frequent reason for falling short of change goals" (Adams 2003 p. 6). It is important that sponsors and stakeholders set the example by being "truly engaged and accountable in ways that organizational employees experience in no uncertain terms, then, there appears to be a greater chance for success" (Adams 2003 p. 6). Hiatt & Creasy (2003) state, "in Prosci's research on business process reengineering with more than 300 companies, the number one success factor cited for implementing change is visible and active executive sponsorship. This factor alone is cited more frequently than any other requirement for successful implementation of business change. Employee resistance to change increases as the authority and sponsorship for change decreases" (p. 22). Kotter (1995), Hyatt & Creasy (2003) discuss the importance of the guiding coalition composed of the primary sponsor, executive-level peers, and key stakeholders who have the responsibility for guiding the change effort. Hyatt & Creasy (2003) explain that the executive sponsor has the ultimate responsibility for the success of the change and has to communicate with three key audiences: peers, mid-level managers, and employees. Communicating the change vision and requirements is a very difficult task, and a common mistake for sponsors is to not gauge sufficient change sponsorship. Hyatt & Creasy (2003) state, "moving forward with the project without creating the necessary support structure and

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sponsorship model will likely result in wasted resources, project delays and/or failure during implementation" (p. 24).

2. Explicit "boundary management" - the role of other people

According to Adams, changes have identifiable boundaries around them. He states, "the people at the boundary of any significant change need to be considered carefully. Do they represent resources to be engaged? Might they become stakeholders in foreseeable future? Do they need to be kept informed? Is it advisable to keep them 'out of the way'?" (2003 p. 6). Hiatt and Creasy (2003) discuss the importance of asking questions based on stakeholder analysis and support to adequately prepare for change. They state, "stakeholders (any individual or group who has processes, systems or people affected by the change) are evaluated based on their support or opposition to the change. This assessment provides you with a benchmark of *who's who* and *where do they stand*. This is the starting point for building sponsorship for the change throughout the organization" (p. 65). Based on this analysis, change management activities can be scaled appropriately. Furthermore, discussing the importance of boundary management, Trader-Leigh (2002, citing Lindblom 1994) states that "dominant stakeholders often possess powerful incentives to resist along with formidable capacities to resist. This kind of impairment is an instrument of resistance to change. Because the stakeholders are dominant and powerful their advantages include the overwhelming capacity to communicate and in other ways influence the thinking of significant numbers of others in the organization, thereby increasing the pattern and depth of change obstructing impairments" (p. 140).

3. Critical mass in alignment

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Adams (2003) states that "when 25 to 30% of the members of a system are overtly supporting an idea (physically, locally, consistently, persistently), success becomes inevitable", and he further states that "in order to be successful in a complex organizational change, we need to develop an aligned support base of 25 to 30% of those affected faster than a critical mass of those in opposition to fall into alignment against the desired change" (p. 6). Trader-Leigh (2002, p. 140 citing Lindblom 1994) states "that initiating change is a competitive, often hostile activity. Anyone who wants change has to overcome massive inertia. Change initiation is a kind of warfare. While it is possible to find policies or changes that benefit almost everyone, changes ordinarily benefit some people by injuring others, particularly where change is feared and members of the organization are not made to see its possibilities."

4. Rewarding the new behavior and withdrawal of rewards for the old behavior

Adams (2003) points out that when a change goal includes "enhancing teamwork, but annual bonuses continue to acknowledge 'individual heroics', the teamwork is likely to suffer when opportunities for individual achievement present themselves" (p. 7). Kotter (1995) in his article states, "sometimes compensation or performance appraisal systems make people choose between the new vision and their own self-interest. Perhaps worst of all are bosses who refuse to change and who make demands that are inconsistent with the overall effort" (p. 64). He explains that a change effort was halted because an "officer in charge of the company's largest division was allowed to undermine most of the new initiatives. He paid lip service to the process but did not change his behavior or encourage his managers to change. He did not reward the unconventional ideas called for in the vision" (p. 64). Kotter (1995) explained that this officer of the company caused

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disastrous results. He continued to state that during the first half of a transformation it is difficult to remove all obstacles, "but the big ones must be confronted and removed" in order to "empower others and to maintain credibility of the change effort as a whole" (p. 65).

Adams (2003) provided a matrix that can "be used as an intervention guide by change leaders and consultants, to assess what is needed to keep complex individual and organizational changes on track" (p. 7). The matrix is listed in Table 1 is follows:

Table 1: Tracking Change Implementation Success Factors

Change Success Factor	Sample Focuses of Change Project					
	Database Software Design	Database Implementation	Process Design Team A	Process Design Team B	Process Design Team C	Integration
Understanding and acceptance of the need for change						
Belief that the change is both desirable and possible						
Sufficient passionate commitment						
Specific deliverable /goal and a few first steps						
Structures or mechanisms that require repetitions of the new pattern						
Feeling supported and safe						
Versatility of mental models						
Patience and perseverance						
Clear accountability: visible, vocal, consistent, persistent sponsors and stakeholders						
Explicit "boundary management" – the role of other people						

(Adams, 2003 p. 7)

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The ADKAR Model

Hiatt (2006) stated that for nearly 20 years with Bell Laboratories and as a project leader for other companies, he found that the common theme around project failures was resistance to change. He stated that one of his colleagues joked, “All of our change initiatives would have gone great if it weren't for all the people involved” (Preface p. 1).

Hiatt (2006) began working on the ADKAR model primarily because the myriad of change management approaches proposed by management consultants and authors failed to produce *end results*. Assessments, communications, training, and coaching are necessary but what is the desired result of these activities? Hiatt (2006) states, “the ADKAR model provides a primary framework to bring together new and traditional methods for managing change and is instrumental in diagnosing failing changes” (Preface p. 1), and it is “a framework for understanding and applying many approaches for managing change. ADKAR is a perspective on change that enables other change management tactics to have focus and direction” (Preface p. 3). The ADKAR model is also defined as “a framework for understanding change at an *individual level*” and is extended in order “to show how businesses, government agencies and communities can increase the likelihood that their changes are implemented successfully” (Hiatt, 2006 p. 1).

The five objectives of the ADKAR model are listed as follows in Figure 1 and “must be in place for a change to be realized” (Hiatt 2006 p. 1) and *must be followed in sequence* (Hiatt 2006; Hiatt 2003).

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	ADKAR elements	Factors Influencing Success
A	<i>Awareness of the need for change</i>	<ul style="list-style-type: none"> • a person's view of the current state • how a person perceives problems • credibility of the sender of awareness messages • circulation of misinformation or rumors • contestability of the reasons for change
D	<i>Desire to support and participate in the change</i>	<ul style="list-style-type: none"> • the nature of the change (what the change is and how it will impact each person) • the organizational or environmental context for the change (his or her perception of the organization or environment that is subject to change) • each individual's personal situation • what motivates a person (those intrinsic motivators that are unique to an individual)
K	<i>Knowledge of how to change</i>	<ul style="list-style-type: none"> • the current knowledge base of an individual • the capability of this person to gain additional knowledge • resources available for education and training • access to or existence of the required knowledge
A	<i>Ability to implement required skills and behaviors</i>	<ul style="list-style-type: none"> • psychological blocks • physical abilities • intellectual capability • the time available to develop the needed skills • the availability of resources to support the development of new abilities
R	<i>Reinforcement to sustain the change</i>	<ul style="list-style-type: none"> • the degree to which the reinforcement is meaningful and specific to the person impacted by the change • the association of the reinforcement with actual demonstrated progress or accomplishment • the absence of negative consequences • an accountability system that creates an ongoing mechanism to reinforce the change

Figure 1: ADKAR Elements and Change Success Factors (Hiatt 2006 p. 45)

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Awareness

Hiatt (2006) discusses that humans want to know 'why' whenever there are changes, and this is a critical factor in managing change. "In a 2005 study with 411 companies undergoing major change projects, the number one reason for resistance to change was lack of *awareness* of why the change was being made" (Hiatt, 2006 p. 6 cited in Prosci, 2005). When project managers were asked what messages were the most important to share with employees, they stated: "communicate the business need for change and explain why the change is necessary; provide the compelling reasons for change and emphasize the risk of not changing" (Hiatt, 2006 p. 6). Similarly, Bridges (2003) discusses the importance of bringing awareness to employees and states, "You may discover that people have trouble understanding the purpose because they do not have a realistic idea of where the organization really stands and what its problems are. In that case, you need to 'sell the problems' before you try to sell a solution to those problems".

Desire

According to Hiatt (2006), this element is challenging because there is limited control over another person's choices; therefore, the ability to create the desire to change in the individual is not under one's direct control. Furthermore, Hiatt states that, "in the workplace, managers can develop new processes, tools and organizational structures. They can purchase new technology and promote the values for the organization. However, they cannot force their employees to support and engage in these changes" (p. 17). Managers can sometimes incorrectly assume by building awareness of the need for change they have also created desire, so they are surprised and unprepared when they

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meet employee resistance to the change. The following considerations cover an individual's desire to support and participate in the change (Hiatt, 2006 p. 21-22):

- the nature of the change and what is in it for us as individuals
- how we perceive the organization and our surroundings that are undergoing change
- our personal situation
- what motivates us as people, including our expectation that we could be successful and realize the change

Similarly, Cameron and Green (2009) discuss the five factors in responding to change, which are nature of the change, consequences of the change, organizational history, type of individual, and individual history. For consequences of change, questions are asked such as “whose benefit are the changes seen to be (employees, customers, the community, the shareholders, the board)? Who will be the winners and who will be the losers?”. Regarding organizational history, “how has the organization handled change in the past?”. Personality type also plays an important role in how the individual responds to change. Cameron and Green (2009) discuss “people’s motivating forces - are they motivated by power, status, money or affiliation and inclusion?”. And finally, it is important to know an individual's history such as “previous exposure and responses to change, levels of knowledge, skills and experience the individual has, areas of stability in his or her life and stage in his or her career”.

Knowledge

In the ADKAR model, knowledge represents *how* to implement a change and includes (Hiatt, 2006 p. 23):

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- training and education on the skills and behaviors needed to change
- detailed information on how to use processes, systems and tools
- understanding of the new rules and responsibilities associated with the change

Hiatt (2006) provided a case study regarding a network equipment manufacturer that implemented a change in how their salespeople conducted business. Instead of selling equipment features, they had to move toward selling customer solutions based on business value to the client and the "strategy was fundamentally different than the traditional model of selling based on the price and features of their equipment" (p. 26). Hiatt further stated that senior business leaders had an awareness of the need for change, and salespeople realized there were declining revenues and a drop in stock prices, so since the salespeople knew future commissions were based on customer purchases, "they had a strong desire to move away from the old way of selling which was proving ineffective" (p. 26). This change required a change in thinking and processes for (p. 26-27):

understanding their customers' business operations and financial objectives. The knowledge gap that appeared quickly was that many salespeople did not understand basic financial terminology. The knowledge gap uncovered for the salespeople was profound and created a barrier to change. Some salespeople never gained the necessary knowledge to succeed at this transformation, and a significant fraction of account executives left the company during this transition.

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The factors for an individual's capability to acquire knowledge to support a change effort individually and organizationally are (Hiatt 2006 p. 29):

- one's current knowledge level
- one's capacity to learn
- the availability of resources
- the access to needed information

Ability

This element of the ADKAR model "represents the demonstrated capability to implement the change and achieve the desired performance level", and "employees who have knowledge about changes in processes, systems and job roles do not demonstrate immediate proficiency in these areas. Some employees, depending on the change, may never develop the required abilities" (Hiatt, 2006 p. 31). According to Hyatt (2006 p. 31-32),

about one-third of the participants in the training program expressed reluctance about using this approach before they even returned to work. Another third were optimistic, but uncertain if they could really make it happen. The final one-third left confident and ready. Within 90 days, about 20% of the salespeople were able to implement the program or some part of the processing tools. This latter group of account executives closed nearly all of the incremental sales using this new approach. Awareness, desire and knowledge are all essential building blocks, but fall short of realizing change if ability is absent. Ability is the demonstrated achievement of the change.

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Ability for a person or organization to implement change and achieve desired performance levels associated with the change are impacted by the following factors that shown in Figure 2 (Hiatt 2006 p. 32):

- psychological blocks
- physical abilities
- intellectual capability
- the time available to develop the needed skills
- the availability of resources to support the development of new abilities

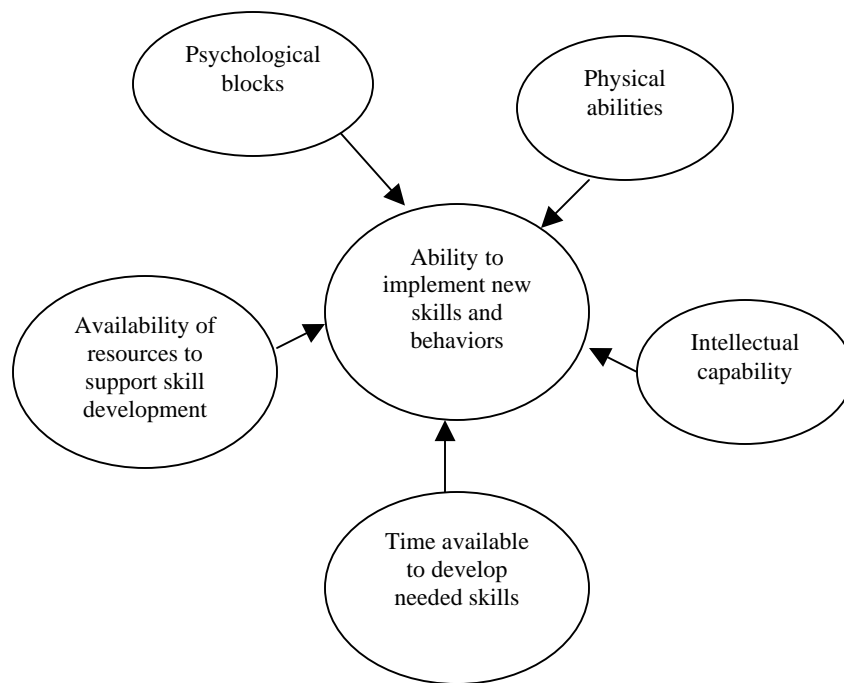


Figure 2: Factors influencing ability to implement change (Hiatt 2006 p. 32)

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Reinforcement

"Reinforcement includes any action or event that strengthens and reinforces the change with an individual or an organization, and examples include private or public recognition, rewards, group celebrations or even something as simple as a personal acknowledgment of progress" (Hiatt, 2006 p. 37). Hiatt (2006) also points out that when someone struggles to make a change happen and no one notices "the absence of reinforcement becomes a barrier to sustaining the change" (p. 39), and this also applies to future change efforts. He states, "without reinforcement, the person or group may perceive that the effort expended during the transition was not valued. They may seek out ways to avoid the change, and their desired change will diminish" (2006 p. 40).

The factors are successful when (Hiatt 2006 p. 41):

- they are meaningful to the person recognized
- they are associated with actual accomplishments
- there is an absence of negative consequences for desired behavior
- accountability mechanisms are in place

Goals

Hiatt (2006) explains that whenever there are deficiencies in the ADKAR elements this will produce "a negative impact on customers and a sustained reduction in productivity", and "these consequences impact the probability of success for a change and lowers the return on investment (ROI) for the project overall" (p. 44). He explains that "business objects are realized when the organization and individuals have achieved each element of the ADKAR model, including ability, since by definition this is the point in which employees have demonstrated capability to implement the change at the required

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performance level" (Hiatt, 2006 p. 48). Furthermore, "in order for these activities to be successful, a well-defined strategy is needed that includes an assessment of the change and the organization, as well as assessments of the readiness of the project team and sponsors" (Hiatt, 2006 p. 48).

Figure 3 shows how the ADKAR model connects change management activities to business results:

Change management strategy development	Change management activities	Change management elements -ADKAR	Business results
Assess the change	Communications	Awareness	On time
Assess the organization	Sponsorship	Desire	On budget
Assess sponsorship	Training	Knowledge	Achieve Business Objectives
Assess risks and challenges	Coaching	Ability	- lower cost
Design special tactics	Resistance Management	Reinforcement	- increased revenue
Form team and sponsor model			- improved quality
Assess team readiness			- return on investment (ROI)

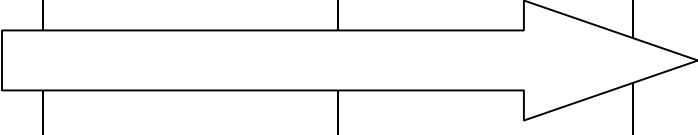


Figure 3: Aligning change management with business results (Hiatt 2006 p. 48)

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To measure the individual readiness for change, Hiatt (2006) uses the ADKAR profile, which is shown in figure 4 below. When the individual assesses readiness at each element, if there is a score of three or less, known as a barrier point, the individual's readiness for change at that element must be improved before continuing to the following elements. The benefit of using this model is that it can be used by individuals and organizations to determine readiness for change. Hiatt (2006) states, "the ADKAR elements must be established in order. When an element early in the model is weak, then the change begins to break down. Each ADKAR element is a building block. All of the building blocks need to remain present in order for the change to be sustained" (Hiatt, 2006 p. 60). The profile in figure 4 shows *Desire* and *Reinforcement* as the barrier points to change.

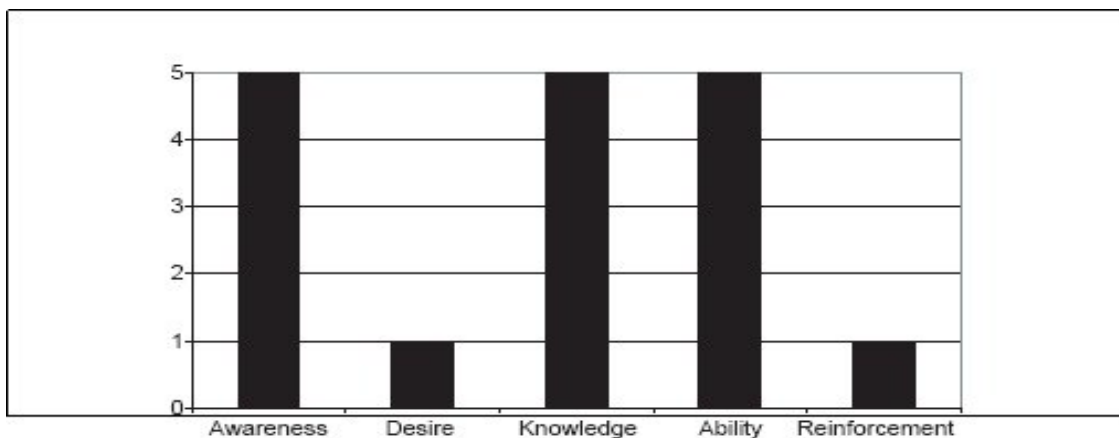


Figure 4: ADKAR Profile Example (Hiatt, 2006 p. 54)

ADKAR is a results oriented model that provides a framework for how change management tactics and techniques (including communications, sponsorship, readiness

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assessments, coaching, training and resistance management) come together to produce change (Hiatt 2006).

Knowledge

Knowledge is a word that is not easily defined. Davenport and Prusak (1998) discuss that epistemologists have spent considerable time and efforts to try to understand "what it means to know something" (p. 5). They define knowledge as a "fluid mix of framed experience, values, contextual information, and expert insight that provides a framework evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms" (p. 5). Sveiby (1997) discusses Michael Polanyi's theory of tacit knowledge where he "regards knowledge as both personal, that is, formed in a social context, and individual, that is, not the property of an organization or a collective" (p. 30). Sveiby (1997) based on Polanyi's work, defines "knowledge as a *capacity to act*" (p. 37).

Knowledge management

Frappaolo (2006) defines knowledge management as "the leveraging of collective wisdom to increase responsiveness and innovation" (p. 8). To further define knowledge management, Frappaolo (2006) discusses three criteria in order for information to be considered knowledge. The first is that "knowledge is connected. It consists of a collection (collective wisdom) of multiple experiences and perspectives" (p. 8). Secondly, it is a catalyst and brings forth action, whereas information that is stationary is not knowledge. Peter Drucker states, "knowledge for the most part exists only in

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application" (Frappaolo, 2006 p. 8). Finally, "information becomes knowledge when it is used to address novel situations for which no direct precedent exists" (Frappaolo, 2006 p. 8). In other words, Frappaolo (2006) explains that "information that is merely plugged in to a previously encountered model is not knowledge and lacks innovation" (p. 8). The importance of people cannot be understated for people are the holders of knowledge and through them innovation is possible when knowledge management is applied to respond to new opportunities and challenges (Frappaolo, 2006).

Knowledge complexity

Knowledge has complexity and can be classified on a continuum from explicit to tacit identified by Michael Polanyi in 1966 in *The Tacit Dimension* as follows (Frappaolo, 2006):

"*Explicit knowledge* is knowledge that is articulated in formal language and easily transmitted among individuals both synchronously and asynchronously. *Tacit knowledge*, on the other hand, is personal knowledge embedded in the individual experience involving such intangible factors as personal belief, perspective, instinct, and values" (Frappaolo, 2006 p. 10). Explicit knowledge is voluminous and can be transferred through electronic tools whereas tacit knowledge, although valuable, is "far more difficult to capture and diffuse" (Frappaolo, 2006 p. 10) as this knowledge is transferred face-to-face. The goal, as Frappaolo explains, is to link knowledge seekers with knowledge providers.

Davenport and Prusak (1998) explain that the "aim of codification is to put organizational knowledge into a form that makes it accessible to those who need it. It literally turns knowledge into a code to makes it as organized, explicit, portable, and easy

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to understand as possible" (p. 68). A difficulty encountered during codification is codifying knowledge "without losing its distinctive properties and turning it into a less vibrant information or data. In other words some structure for knowledge is necessary, but too much kills it" (Davenport & Prusak, 1998 p. 68). Frappaolo (2006), Davenport and Prusak (1998) explain that explicit knowledge has been the primary focus for organizations over the decades primarily because it is much easier to codify and capture. Tacit knowledge "cannot be effectively codified, at least in print" (Davenport & Prusak, 1998 p. 71), and it "defies being systematically cataloged and made available in an asynchronous manner; by its very definition, it is forever changing, growing and being reshaped by the owners' latest experiences" (Frappaolo, 2006 p. 11). Frappaolo further explains that tacit knowledge is important in positioning companies for success, therefore it is important to have the *ability* to increase tacit knowledge "throughout an organization through its proactive sharing" (p. 11) which "is regarded as one of the core objectives of knowledge management" (p. 11).

Although there are difficulties in codifying tacit knowledge, Davenport and Prusak (1998) discuss that because it is valuable, it is highly worth the effort. The organization may map who knows what, but it will not guarantee the ongoing availability of knowledge. If employees with tacit knowledge leave the organization, the value of the organization's knowledge capital is decreased, therefore strategies must be in place to prevent loss (Davenport & Prusak, 1998). Frappaolo (2006) describes this process as going from tacit to implicit knowledge. He says that one must "determine if bodies of uncoded knowledge can be captured and made explicit, however, it is critical to first be sure that a culture that promotes and supports knowledge sharing is in place, or users may

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recoil by hoarding even more of what they know" (p. 11). Implicit knowledge management "employs tools, techniques and methodologies that capture these previously elusive processes and make them more generally available to the organization. Thus, the thought processes used by your best thinkers become a leverageable asset for the organization. The goal of implicit knowledge management is to determine how much of the tacit knowledge in your organization defies any form of codification, and to mine that which does not " (Frappaolo, 2006 p. 12).

According to Frappaolo (2006), the bond of trust among people, in tacit bodies, to collaborate in communities of practice is difficult to construct yet easily destroyed. Focus, in knowledge-based strategies, should be given to create a mechanism for practitioners to meet like practitioners who teach each other, and not on collecting and disseminating information. Since these communities almost always exist in every organization, it is important "to recognize them, encourage them and support them. They are among the most important structures of any organization where thinking matters, but they almost inevitably undermine its formal structures and strictures if improperly managed. For information to be transformed into knowledge you must recognize, support and administer the connections and, most importantly, the people, who are the ultimate owners of all knowledge" (Frappaolo, 2006 p. 12-13). Davenport and Prusak (1998) state that "trust is an essential condition of a functioning knowledge market, as it is of any market that does not depend on binding and enforceable contracts" (p. 35), and "without trust knowledge initiatives will fail, regardless of how thoroughly they are supported by technology and rhetoric and even if the survival of the organization depends on effective knowledge transfer" (p. 34).

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As discussed earlier in this review, the external change factors that many organizations face today is much more demanding and dynamic compared to the internal change factors that organizations faced during the decades of the 60s, 70s, and 80s. Frappaolo (2006) explains that today an organization's strength comes not from the past, but from "the ability to regenerate knowledge of the organization, its processes and its markets - to take timely *innovative* action on an ongoing basis. Knowledge management assumes a constant vigilance of change, and encourages constant modification – innovation - at a rate that at least keeps pace with changing market dynamics" (Frappaolo, 2006 p. 13). From an innovation standpoint, one can see that knowledge management and change go hand-in-hand. Peter Drucker (1999) discusses the importance of having a systematic policy of innovation where change is created. He states "to be a successful change leader an enterprise has to have a policy of systematic innovation. The main reason is that a policy of systematic innovation produces the mindset for an organization to be a change leader. It makes the entire organization see change as an opportunity" (p. 84).

The Knowledge Chain

While doing research for their book *Corporate Instinct*, Koulopoulos, Toms and Spinello introduced the concept of the knowledge chain, which is important in defining knowledge management. These links determine the uniqueness and longevity of any organization and the links are (Frappaolo, 2006 p. 14-16):

- internal awareness - an organization's ability to quickly assess its inventory of skills and core competency

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- internal responsiveness - the ability to exploit internal awareness, and how the organization effects change internally, in a timely manner, to meet market requirements.
- external responsiveness - the ability to best meet the requirements of the market in comparison with competitors.
- external awareness - organizational ability to understand how the market perceives the value associated with its products and services, to understand who its customers are, what they want, who the competitors are and their competencies, market trends, competitive actions, government regulations, and any other relevant market forces that exist outside the organization itself.

Frappaolo (2006) explains that "knowledge management creates permeability between the four cells of the K-chain and accelerates the speed of innovation. The four stages of the knowledge chain define the flow of knowledge through an enterprise" (p. 14) which is shown in figure 5.

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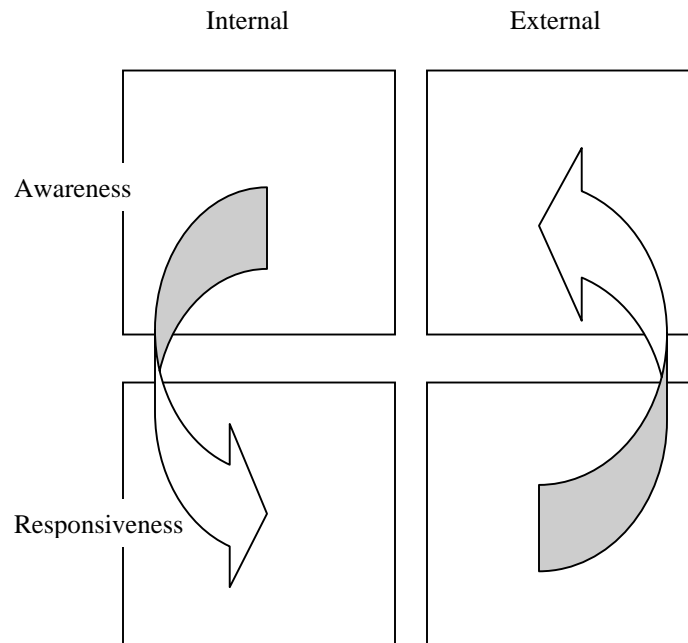


Figure 5: Movement through the four cells of knowledge chain (Frappaolo, 2006 p. 15)

Culture and its effect on knowledge transfer

Creating an environment or culture where knowledge is transferred freely among autonomous knowledge workers in the organization is important to effect change that leads to innovation. The culture of an organization determines how knowledge is transferred and the degree to which it is transferred. Davenport and Prusak (1998) contrast the differences between eastern and western cultures where Japanese managers and workers prefer face-to-face meetings and commonly do not use e-mail in their communications in their daily business, whereas, an American IBM executive, during a declining business period in the company's history, "circulated a memo telling employees to stay away from the water coolers and get back to work. He thought they were avoiding work when in fact they were often trying to find ways out of the company's difficulties"

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(p. 90). Alan Webber (cited by Davenport & Prusak, 1998) states "in the new economy, conversations are the most important form of work. Conversations are the way knowledge workers discover what they know, share it with their colleagues, and in the process create new knowledge for the organization" (p. 90).

It is important to foster a learning culture in order to support knowledge sharing. Anderson, Fears, and Taylor (1997) state, "learning is the essence of business. We learn from our successes and failures...the whole point is to create new competencies for business" (p. 412). The authors further state, "learning must take place not only at the individual level but for the group as a whole, this implies a consistent emphasis on sharing knowledge across the organization" (p. 412). Organizations and managers should be very careful not to send mixed messages to employees regarding support for learning and knowledge. Davenport & Prusak (1998) state, "the company that claims to value knowledge that discourages reading and talking on company time sends mixed messages. The more convincing message is that knowledge is not much valued after all. Managers need to recognize that the availability of 'slack' time learning and thinking maybe one of the best metrics of a firm's knowledge orientation" (p. 93).

Davenport and Prusak (1998) discuss the importance of common language among participants in knowledge sharing. It is very difficult to have trust if there is no communication flow between people because they have no common experiences through their specialized areas. Sometimes, a medium for knowledge transfer is not enough to develop trust between two parties with common experience. Davenport and Prusak (1998) provides an example where explicit knowledge in the form of detailed diagrams, manuals, and memos for building a tunnel did not instill trust or knowledge transfer. The

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tunnel builders from New Zealand were required to travel to Boston, Massachusetts to transfer their tacit knowledge. Davenport and Prusak (1998, p. 99-100) state:

the instinctive resistance to change and the need for trust are at least as important. As hands-on people, the Boston tunnelers may not have invested the printed word with enough authority to let it change ingrained behaviors. Like many of us, they may have felt that seeing is believing: only an actual demonstration of the new technique and its advantages is likely to convince them.... Like most of us, they need to size up the people providing the new knowledge before they will accept it people who share the same work culture can communicate better and transfer knowledge more effectively than people who don't.

Change through leadership

Sveiby (1997) discusses that leaders are much like orchestra conductors. They may not be a virtuoso on any instrument, but they are professionally competent and it is competence that brings out the best in performers. He states, that "leadership involves two tasks: knowing where one wants to go and persuading other people to go along" (p. 61). The leader has to analyze options and have the ability to see the *vision*. Secondly, the leader has "rare communicative ability, empathy, and energy" (p. 61). Finally, Sveiby (1997) states, "leadership also implies movement (guiding groups of people in particular directions), and thus change. A leader must be motivated by genuine desire to lead, inspired by a vision of where the organization is heading, able to unite people in the effort to realize the vision, totally committed to his or her task, and action-oriented" (p.

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61). Similarly, Drucker (1999) states, "change leaders are designed for change" (p. 90), yet, they require continuity. People must have a sense of *knowing*. "They do not function if the environment is not predictable, not understandable, not known" (Drucker, 1999 p. 90). He explains there must be continuity inside and outside the organization with the formulation of important long-term relationships. To support change and continuity, there must be continual, reliable communication. Although technology empowers long-distance working relationships, this should not replace face-to-face relationships (Drucker, 1999).

Chapter 3 – Methodology

Background

Initially, the researcher had planned to use an action research methodology to attain the goals for this research primarily because this research is advantageous in that it “aims to solve current practical problems while expanding scientific knowledge”, and “unlike other research methods, where the researcher seeks to study organizational phenomena but not to change them, the action researcher is concerned to create organizational change and simultaneously to study the process" (Baskerville & Myers, 2004 p. 330 citing Baburoglu & Ravn, 1992).

Action research is a two-stage process, which are the diagnostic stage and the therapeutic stage. The diagnostic stage "involves a collaborative analysis of the social situation by the researcher and the subjects of the research. Theories are formulated concerning the nature of the research domain. The therapeutic stage involves collaborative change. In this stage changes are introduced and the effects are studied" (Baskerville & Myers, 2004 citing Blum, 1955 p. 330).

At the beginning of the Regis University 2008B database practicum, the researcher assumed the responsibilities as the lead for change management. During orientation, the Regis University practicum faculty informed practicum members that during the previous practicum, an undesired change caused Oracle database processes on the education information system to fail and this action decreased the capabilities to support the Regis University academic environment. Unfortunately, there was no way to ascertain who made the change or why the change was made. In his assigned respective

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area, the researcher determined that a better process was needed, and therefore created a change process flow chart and procedures to place controls on any future changes. This was briefed to the practicum faculty and practicum members to support, in a collaborative setting, an intended action research method. The flow chart and procedures placed greater controls on the change process and required more communication between the practicum faculty and practicum members.

The researcher concluded based on these requirements and little feedback on the process flow chart and procedures that action research probably would not be a viable research method due to the collaborative nature of action research. This attempted change had been met with perceived resistance for unknown reasons, but there was resistance to this intended change possibly due to the increased change control factors and communication requirements on a much more ongoing basis. Resistance also could have been due to the researcher's own lack of knowledge regarding change management and his resulting inability to communicate a vision to the practicum faculty and members. The researcher spent a great deal of time and effort trying to learn and understand more about change management and how to implement it in the practicum setting, but a lack of vision and desire to do this appeared to be a hindrance to selling the change idea at the time.

Secondly, although the researcher agrees with Baskerville and Myers' (2004) belief that there is no reason why action research should not be accepted in the field of information systems, selecting action research as a research method for information systems has been historically low (Järvinen, 2007) through the 1970's and 1980's, but according to Baskerville and Myers, recently, there is now an increasing popularity and

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acceptance using this research method (Järvinen, 2007). Based on the historical selection of other research methods such as case studies, laboratory experiments, and surveys in comparison with action research, this was another reason that the researcher decided to select the single case study as a research method. Finally, in participatory action research, the researcher was to be a researcher and also a subject working on the live production university information system. As a subject or team member, the researcher did not have total control on change decisions implemented or any implementations for that matter that were under the control of other participants.

Overview

The researcher selected the single case study as the research methodology for this study because this type of research provides "intensive descriptions and analyses of a *single unit* or *bounded system* such as an individual, program, event, intervention, or community" (Merriam, 1998 p. 19 citing Smith, 1978) in contrast to action research which requires the researcher to take action typically in a cyclical manner (Baskerville, 1999; Järvinen, 2007), and may require a longer period of time to conduct the research. Yin (2003) describes case study research as an "empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (p. 13). According to Merriam (1998), "a case study design is employed to gain an in-depth understanding of the situation and meaning for those involved. The interest is in process rather than outcomes, in context rather than a specific variable, in discovery rather than confirmation" (p. 19). Since the case study is considered a bounded system, the researcher can "fence in" what is to be studied (Merriam, 1998; Smith, 1978).

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The researcher conducted a review of literature in the area of change management in relationship to knowledge sharing to obtain a better understanding of the research area. A review of the literature found that over time, change and how it affects people in organizations continues to increase, and that change has to be managed in order for organizations to be successful. Information technologies are certainly an important and necessary factor in increasing change and moving organizations towards transformation, however, the review noted that leaders have the responsibility to manage the people side of change by keeping knowledge workers informed through constant communication which alleviates fear of the unknown. Leaders also have the responsibility to provide adequate training, to support the knowledge worker with empowerment through knowledge to do their jobs to support changes, and give them more freedom to learn, apply, and share knowledge. It is important that leaders work to build and maintain trust throughout the organization. The review of the ADKAR model (Hiatt, 2006) and its application is instrumental in providing tools to help leaders be successful in these endeavors. Based on managing change from an *individual* perspective using the ADKAR model, the researcher chose the case study research methodology to incorporate the experiences of the practicum members involved in the research area.

Case Study Research Framework

Soy (1998) outlines a six-step framework for organizing and executing case study research, which is based on the works of Robert E. Stake, Helen Simmons, and Robert K. Yin.

1. Determine and define the research questions
2. Select the cases and determine data gathering techniques

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3. Prepare to collect the data
4. Collect data in the field
5. Evaluate and analyze the data
6. Prepare the report

The researcher utilized the aforementioned steps as a framework for this research.

Determine and define the research questions

The researcher determined and defined the research questions to conduct the research in a focused and directed manner with the goal to evaluate the ADKAR model as a viable model to support change activities in a database practicum setting with the possibility of using it to assist in identifying areas for why changes are not working, and to enlighten corrective actions that can be implemented both individually and organizationally at Regis University.

While conducting the review of literature, the researcher was able to formulate research questions for this study based on important findings provided by the authors that are:

1. From an individual perspective, how can change activities be better planned and managed to ensure successful change implementations to support the organization?
2. How can one analyze the awareness, desire, knowledge, and abilities for knowledge workers to participate in any change?
3. From an individual standpoint, how effective are training documents and procedures to assist practicum members to perform change functions?

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4. Is knowledge adequately transferred and supported through documentation and communication within the database practicum experience to empower practicum members to overcome any resistance (fear) towards change?

Select the cases and determine data gathering techniques

To conduct the case study research, the researcher participated in a graduate-level global database and information systems practicum, which initially began in the year 2000. The purpose of the database practicum is to provide further student experience and to harness important skills necessary for a knowledge worker in the 21st century.

In the database practicum, students have the opportunities to learn more in the areas of remote administration, learning organizations, knowledge management, and virtual teams, and while learning, the students provide administrative services to other students within the university. Supervised by practicum faculty members, the database practicum students are responsible for performing installs, supporting user service requests, and administering databases for the university academic environment. The database practicum runs yearly and is composed of A and B teams with each team committing to a six-month term of service to provide support. Team A serves from January to June, and Team B serves from July to December. The 2008B database practicum is the entity for analysis in this research.

Just prior to the start of the 2008B database practicum, a faculty member who started the database practicum and managed it, left the university. When this faculty member departed with a short notice, a considerable amount of tacit knowledge was lost regarding the operations of the practicum. In response to this loss of tacit knowledge, a

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new faculty team assumed the responsibilities to manage the database practicum and focused on the areas of knowledge and change management. To support and prepare the case study as a 2008B database practicum participator, the researcher collected the necessary data by a survey of student participants, a faculty team survey, Purdue University employee interviews, personal participation observations, and analyzing documents.

Prepare to collect the data

Yin (2003) discusses "that every case study project should strive to develop a formal, presentable database, so that in principle, other investigators can review the evidence directly and not be limited to the written case study reports. In this manner a case study database increases markedly the reliability of the entire case study" (p. 102). The researcher created a case study database for storing various types of collected data from many sources through the course of the database practicum.

Collect data in the field

The researcher collected data as an active participant observer. Although there is the potential for researcher bias, this should not be unexpected. Merriam (1998, citing LeCompte & Preissle, 1993) states qualitative research "is distinguished partly by its admission of the subjective perception and biases of both participants and researcher into the research frame" (p. 22). Furthermore, Merriam (1998, p. 22-23) states,

because the primary instrument in qualitative research is human, all observations and analyses are filtered through that human being's worldview, values, and perspective....one of the philosophical assumptions underlying this type of research is that reality is not an

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objective entity; rather, there are multiple interpretations of reality. The researcher thus brings a construction of reality to the research situation, which interacts with other people's constructions or interpretations of the phenomenon being studied. The final product of this type of study is yet another interpretation by the researcher of others' views filtered through his or her own.

Based on LeCompte & Preissle (1993) and Merriam's (1998) analyses of this type of qualitative study, the researcher has endeavored to provide an unbiased interpretation as humanly possible based on data collected from interactions with the database practicum faculty and participants members.

To encourage participation in this case study, the researcher contacted the practicum faculty team and 2008B student participants of the database practicum and collected survey data. Through these surveys, the researcher's goal was to obtain important data centered on the questions of this study and review of literature.

The researcher requested database practicum faculty participants to complete a likert scale survey with the following five level likert item format.

1. Strongly disagree
2. Disagree
3. Neither agree nor disagree
4. Agree
5. Strongly Agree

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Faculty participant survey statements:

1. Sufficient knowledge was communicated by the 2008A practicum team members to prepare the 2008B practicum members for its commitments and success.
2. Training materials/procedures were sufficient for each SMF respective area.
3. Training/procedural documents were hard to find or incomplete for normal help desk tasks or any tasks for that matter.
4. Communication between faculty and practicum team members was goal-oriented (i.e. specific targeted goals).
5. Given the past issues with change management control within the practicum experience, the proposed change request process diagram discussed early in the practicum could have contributed to better change management control especially from a communication standpoint and thereby provided less possibility for a loss of information systems resources for the university. (Discussed change request flow diagram during first practicum meeting)
6. Communication (written or verbal) is a priority among practicum members and faculty towards training to achieve specific goals and thereby improve change management in order to maximize information system resources availability.
7. The change management process (i.e. change management flow diagram) discussed early in the practicum was decided against because it enacted too much control.
8. Communication could have been better between faculty and team members in order to meet goals in a more timely manner.

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9. Communication could have been better between team members in order to meet goals.
10. There needs to be better plans for targeted change activity goals with prior training to achieve those goals with confidence, so a team member will know what to do and what the results will be before the task is started.

Appendix A contains a sample faculty team survey.

The researcher requested database practicum student participants to complete a likert scale survey with the following five level likert item format.

1. Strongly disagree
2. Disagree
3. Neither agree nor disagree
4. Agree
5. Strongly Agree

The researcher submitted the following survey to the database practicum student participants to evaluate and respond to the following twenty-two likert item statements.

Student participant survey statements:

1. Sufficient knowledge was communicated by the 2008A practicum team members to prepare the 2008B practicum members for its commitments and success.
2. Training materials/procedures was sufficient for your respective SMF area.
3. Training/procedural documents were difficult to find or incomplete for normal help desk tasks.
4. Communication between faculty and practicum team members was goal-oriented (i.e. specific targeted goals).
5. You had confidence that a goal or objective was attainable before beginning the objective based on training and knowledge provided to you.

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6. Given the past issues with change management control within the practicum experience, the proposed change request process discussed early in the practicum could have contributed to better change management control especially from a communication standpoint and better-protected university systems resources.
7. Communication (written or verbal) is a priority among practicum members and faculty towards training to achieve specific goals and thereby improve change management in order to maximize information system resources availability.
8. During the practicum, lack of training or knowledge possibly contributed to latency for completing customer requests.
9. During the practicum, you felt alone or unprepared to resolve an issue because you really didn't know what to do.
10. You felt frustration because someone was impatient with you because a commitment could not be met in a timely manner possibly due to knowledge deficiencies or no access to servers in order that you might be able to resolve the issue.
11. Even if you had access to a server to perform an administrative task, you really knew how to resolve the issue quickly based on the communicated goal.
12. You were fearful to attempt a change request because you were not sure what the results of your actions would be.
13. You believe there was enough cross training to really know how to handle customer issues.
14. The change management process discussed early in the practicum was decided against because it enacted too much control.
15. The change management process discussed early in the practicum was decided against because maybe it required too much communication.
16. Communication is important in a practicum online setting especially because of the possible catastrophic results due to actions.
17. Communication could have been better between faculty and team members in order to meet goals.
18. Communication could have been better between team members in order to meet goals.

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19. Access to servers was adequate in order to perform your duties.
20. If there was no access to servers to perform your duties was it possibly based on fears of what might happen given these responsibilities to you.
21. There needs to be better plans for targeted change activity goals with prior training to achieve those goals with confidence that you know what to do and what will happen before you begin the task.
22. During faculty/team meetings you were able to easily ascertain the goals and desired actions to meet those goals in a timely manner with little confusion.

Appendix A contains an example student participant survey.

An initial email request for interview participation was sent to Purdue University Mr. Adedayo Adeniyi, Director of Organizational Change Management and Training aadeniyi@purdue.edu, and several calls were made to Ms. Rebecca Sue Ross-Field, HFS Human Resources office by voicemail at 1-765-496-6292. On several occasions speaking with the office manager, the researcher also requested employee participation with the interview questions.

The following ten open-ended questions are as follows and were administered to Purdue University employees via web-based input forms utilizing the services of SurveyMonkey.Com.

1. There are many various change management methodologies. Why has OnePurdue chosen the ADKAR model for change management over other various methodologies?
2. OnePurdue began using the ADKAR model for change management in 2006. How has this change management model improved your business and in what ways?
3. Has ADKAR helped to improve communication between managers and employees? From employee to employee? How?
4. Has the ADKAR model been an easy transition for employees at Purdue? If there are challenges how are these challenges managed?

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5. Has the ADKAR model really empowered employees to accept change with goal-oriented results, and could you please explain how ADKAR has helped to do this at Purdue?
6. Using this model, do you feel that communication plays an important part in empowering employees to be successful? How have you maintained consistent communication?
7. Using this methodology, do you feel that training plays an important part in empowering an employee to be successful? Using ADKAR, how do you ensure training is a priority and how is it implemented?
8. Do employees and management feel less threatened regarding change since using ADKAR? Why?
9. Has ADKAR implementation by management towards training really helped employees to know what to do regarding their jobs? Has this resulted in more efficiency and what percentage do you estimate?
10. How much time do you estimate is spent on this model for change management within the university? Do you feel that it is worthwhile? Why?

Appendix B contains a sample Purdue University employee interview.

The researcher developed the Purdue University employee interview questions and faculty and student participant surveys using web-based forms utilizing the services of SurveyMonkey.Com. All interview questions and survey statements were submitted to the Regis University IRB Board for approval prior to sending out the interview and survey questions. Listed in Appendix C is a copy of the approval letter.

Within the database practicum, the researcher analyzed documents as a data collection technique because these materials are a good source for studying problems. Merriam (1998, citing Riley, 1963) lists “situations in which documents are crucial to an investigation: historical studies in which events can no longer be observed, and studies of intimate personal relationships that cannot be observed and that people are often reluctant

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to discuss" (p. 125). Documentary materials are objective and unobtrusive, (Merriam, 1998) and these materials "are particularly good sources for qualitative case studies because they can ground an investigation in the context of the problem being investigated" (Merriam, 1998 p. 126). Data collected from database faculty interviews, Purdue University employee interviews, participant surveys, participant observation, and documentation analysis, the researcher input into the case study database, which helped to manage and to provide access to collected data.

Evaluate and analyze the data

While conducting the literature review, the researcher was able to gain a more thorough understanding about change management in organizations today. Based on the knowledge gained regarding change management, the researcher was able to better formulate theoretical propositions. The primary proposition is that change in any organization begins with people, and better management of the people aspect from an individual perspective, will support the possibilities for change implementations to be more successful. The ADKAR model assists managers with managing people or knowledge workers from an individual perspective. From studying this model and various other resources, the researcher was able to formulate research questions and use data collection techniques to support data analysis to support this case study.

Prepare the report

The final step in the research was to report the case study. According to Yin (2003), "Reporting a case study means bringing its results and findings to closure" (p. 141). The researcher's goal was to discover parallels between previous theories and research and results in comparison to the research and results of this case study. The

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researcher has presented this case study report in a question and answer format. Based on the support of theoretical propositions, the researcher is able to directly answer the research questions in this format. The results are listed in Chapter 4 - Data Analysis and Results.

Chapter 4 – Data Analysis and Results

Overview

The ADKAR model is a sequential and cumulative goal-oriented change management model with targeted results. The model assists in identifying areas for why changes are not working and enlightens corrective actions that can be implemented. As a Regis University database practicum member, the researcher's goal was to examine and evaluate using a qualitative research approach whether or not the ADKAR model is a viable model to use within organizations to manage change to achieve goals, and to apply this data to support the Regis database practicum experience for faculty and future practicum members. Given the need for effective change management strategies, the proposition that an effective methodology for managing change is needed today in a higher education information systems research practicum, guided the researchers review of literature and the case study research design. From the proposition, the researcher developed and implemented research questions, a case selection, data collection and analyzed and reported the collected data.

Using several sources of data within the framework of the study, the researcher was able to provide an analysis from a convergence of the data. The researcher collected data through a review of literature, document analysis, participant observation, a survey of the database practicum faculty team, a survey of the database practicum student participants, and an interview of a Purdue University employee. Interviews of the Purdue University employees were requested to determine whether or not the ADKAR model was effective and successful in change related goals from their perspectives. A survey of

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the practicum faculty team and the 2008B student team participants was requested to gain an understanding for areas of success and areas for needed improvement,

Analysis and Results

The researcher formulated the following questions in order to structure analysis to obtain focused answers to the research questions to support this study:

1. From an individual perspective, how can change activities be better planned and managed to ensure successful change implementations to support the organization?
2. How can one analyze the awareness, desire, knowledge, and abilities for knowledge workers to participate in any change?
3. From an individual standpoint, how effective are training documents and procedures to assist practicum members to perform change functions?
4. Is knowledge adequately transferred and supported through documentation and communication within the database practicum experience to empower practicum members to overcome any resistance (fear) towards change?

Research Question 1

The database practicum's creator designed the practicum to function like an information technology company. Figure 6 shows the 2008B database practicum organizational structure.

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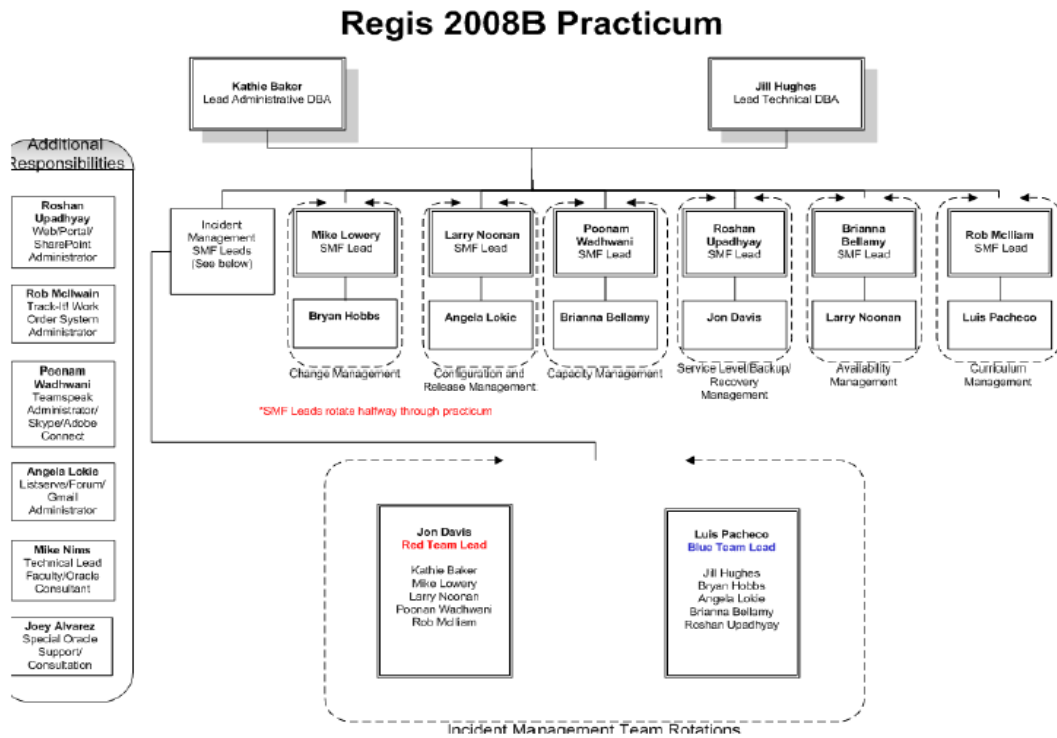


Figure 6: Regis 2008B Database Practicum Organizational Structure

The database practicum organizational chart displays the roles and responsibilities of the student participants and the faculty team. At the beginning of the 2008B practicum, the practicum faculty presented areas of responsibility, database practicum accounts, documentation, and future goals. Figure 7 displays an example of the database practicum accounts used and managed by the database practicum participants.

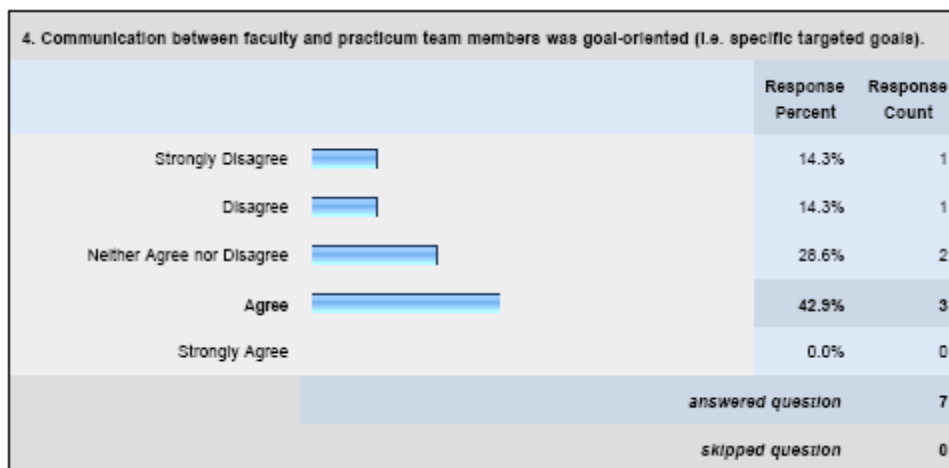
DB Practicum Accounts

- Citrix account (remote applications access over the internet)
- Sharepoint account for www.am-regis.org which is our documentation repository
- Access to Oracle databases from Citrix – DBA
- Track-It! – Help Desk software
- Google Gmail account (regisdba@gmail.com) that DB faculty and students use to log problems
- Status – ticket into Track-It! to get these accounts setup

Figure 7: Regis 2008B Database Practicum Accounts

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As shown in Figure 7, there were multiple accounts that each practicum member was responsible for navigating and managing. Also, student practicum members worked together in a virtual setting, so with the exception of a few members, there was no face-to-face contact. In this type of setting, communication can be difficult due to the virtual requirements and different time zones. When asked to respond to student participant survey statement Q4, "Do you believe that communication between faculty and practicum team members was goal oriented (i.e. specific targeted goals)?", 42.9% of the student participant survey responses agreed while 28.6% disagreed and another 28.6% neither agreed or disagreed. In response to faculty survey statement FQ4, "Communication between faculty and practicum team members was goal-oriented (i.e. specific targeted goals)", 100% agreed to this statement.



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4. Communication between faculty and practicum team members was goal-oriented (i.e. specific targeted goals).		
	Response Percent	Response Count
Strongly Disagree	0.0%	0
Disagree	0.0%	0
Neither Agree nor Disagree	0.0%	0
Agree	100.0%	2
Strongly Agree	0.0%	0
<i>answered question</i>		2
<i>skipped question</i>		0

Due to previous database practicum issues with change management and controlling changes, the researcher and his team member submitted a new change management flowchart diagram in an attempt to enact more control in the database practicum change process, and during a monthly database practicum meeting, the researcher and team member presented a draft process. At the time, the researcher had very little knowledge regarding change management, therefore, due to a past change management control issue, he wanted to create a process that would be beneficial to the current and future practicum faculty and members. When asked to respond to survey statement Q6, "Given the past issues with change management control within the practicum experience, the proposed change request process discussed early in the practicum could have contributed to better change management control especially from a communication standpoint and better protected university systems resources", 85.7% agreed while 14.3% neither agreed nor disagreed.

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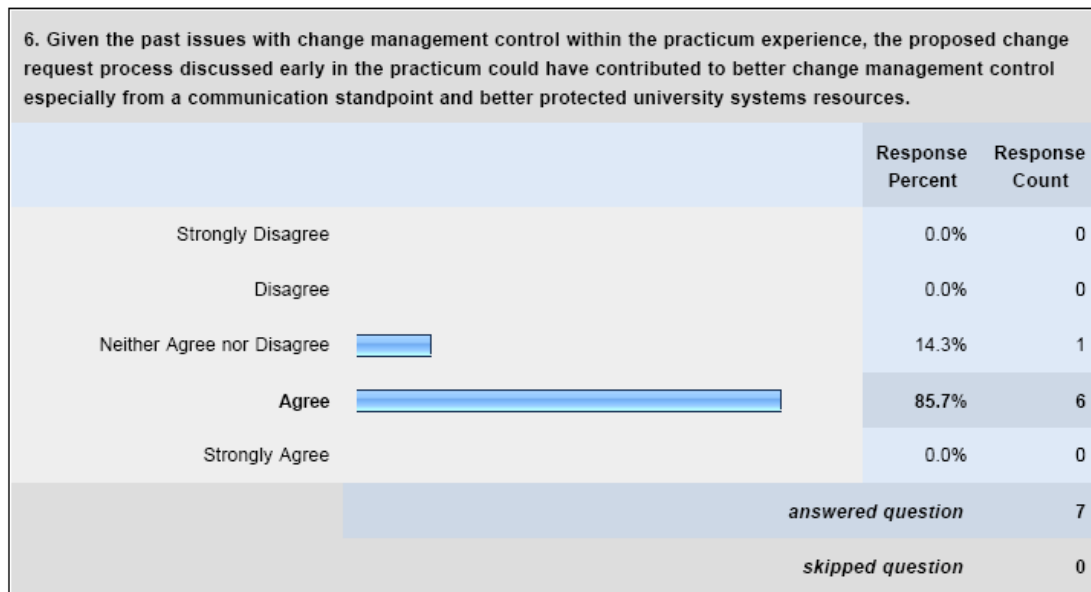


Figure 8 shows the change management process that was a final submittal for the database practicum. Early in the practicum, the faculty had suggested using action research as a methodology for the researcher to participate in implementing change and to study the results. Since the researcher was unable to have control over implementing changes in his respective area, he later determined that action research was not a feasible methodology for the setting, and therefore chose a case study methodology. Figure 8 shows the progression of a change request through the approval or disapproval of the Regis University Faculty Change Management Review Board (CMRB). If the change is successful, it is monitored and updated, however, if it is unsuccessful, the responsible change request initiator executes a contingency plan and the change request is updated with the specifics.

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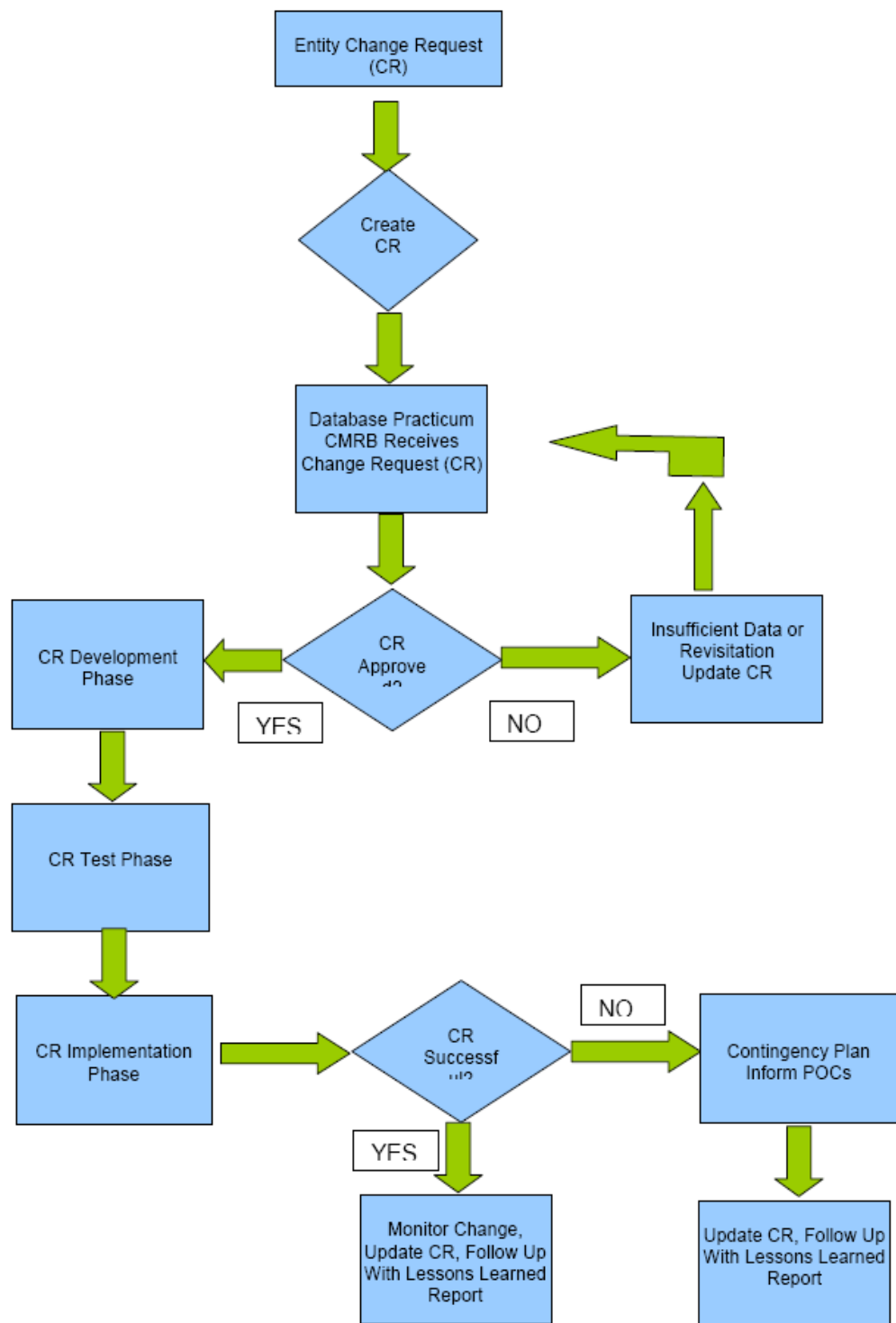

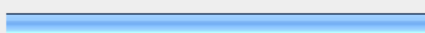


Figure 8: Database Practicum Change Management Process

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There was some positive feedback from a faculty member to the draft change management process. However, to the researcher's knowledge, the submitted final change management process was not used in the 2008B database practicum for any change implementation requirements. When asked to respond to the survey statement Q14, "the change management process discussed early in the practicum was decided against because it enacted too much control", 85.7% of the student participants neither agreed nor disagreed and 14.3% disagreed.

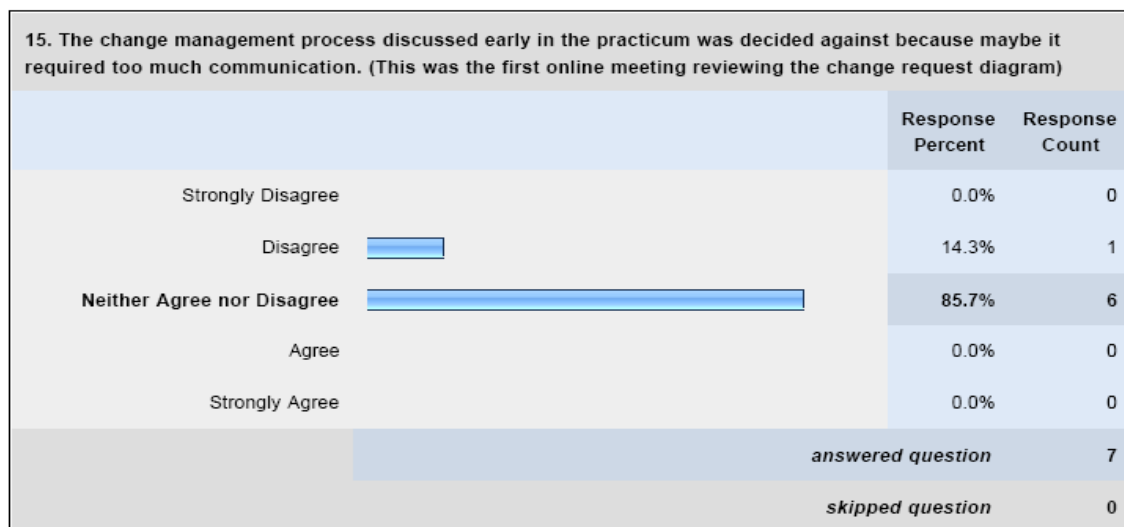
14. The change management process discussed early in the practicum was decided against because it enacted too much control. (This was the first online meeting reviewing the change request diagram)		
	Response Percent	Response Count
Strongly Disagree	0.0%	0
Disagree 	14.3%	1
Neither Agree nor Disagree 	85.7%	6
Agree	0.0%	0
Strongly Agree	0.0%	0
<i>answered question</i>		7
<i>skipped question</i>		0

When asked to respond to the survey statement Q15, "the change management process discussed early in the practicum was decided against because maybe it required too much communication", again 85.7% of the student participants neither agreed nor disagreed and 14.3% disagreed. Providing a change management process was a targeted goal for the practicum, which the researcher attempted to obtain. The researcher can only assume that the change management process was to a certain extent resisted, because to his knowledge, the final process was never used during the 2008B practicum during setup

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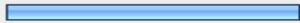
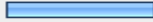
of new database accounts for university classes during October. From the researcher's perspective regarding survey statements Q14 and Q15, the result that the process was not put into place during a portion of the 2008B practicum supported the research and findings from the literature review that people can be resistant to change. The majority of the participants took a neutral position in response to statements Q14 and Q15, but the goal for the researcher was objectivity and his perspectives and conclusions are based on the result of the goal. As Hiatt (2006) stated, "The following considerations cover an individual's desire to support and participate in the change (p. 21-22):

- the nature of the change and what is in it for us as individuals
- how we perceive the organization and our surroundings that are undergoing change
- our personal situation
- what motivates us as people, including our expectation that we could be successful and realize the change

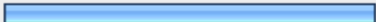



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During the 2008B practicum, on occasion student participants did not have administrative rights on servers to perform required changes in a timely manner. The responses to survey statements Q19, Q20, and Q21 are as follows:

19. Access to servers was adequate in order to perform your administrative requirements.			
		Response Percent	Response Count
Strongly Disagree		14.3%	1
Disagree		57.1%	4
Neither Agree nor Disagree		28.6%	2
Agree		0.0%	0
Strongly Agree		0.0%	0
<i>answered question</i>			7
<i>skipped question</i>			0

20. No access to servers to perform your duties was possibly based on fears of what might happen given these responsibilities to you.			
		Response Percent	Response Count
Strongly Disagree		0.0%	0
Disagree		0.0%	0
Neither Agree nor Disagree		42.9%	3
Agree		42.9%	3
Strongly Agree		14.3%	1
<i>answered question</i>			7
<i>skipped question</i>			0

21. There needs to be better plans for targeted change activity goals with prior training to achieve those goals with confidence that you know what to do and what will happen before you begin the task.			
		Response Percent	Response Count
Strongly Disagree		0.0%	0
Disagree		0.0%	0
Neither Agree nor Disagree		0.0%	0
Agree		71.4%	5
Strongly Agree		28.6%	2
<i>answered question</i>			7
<i>skipped question</i>			0

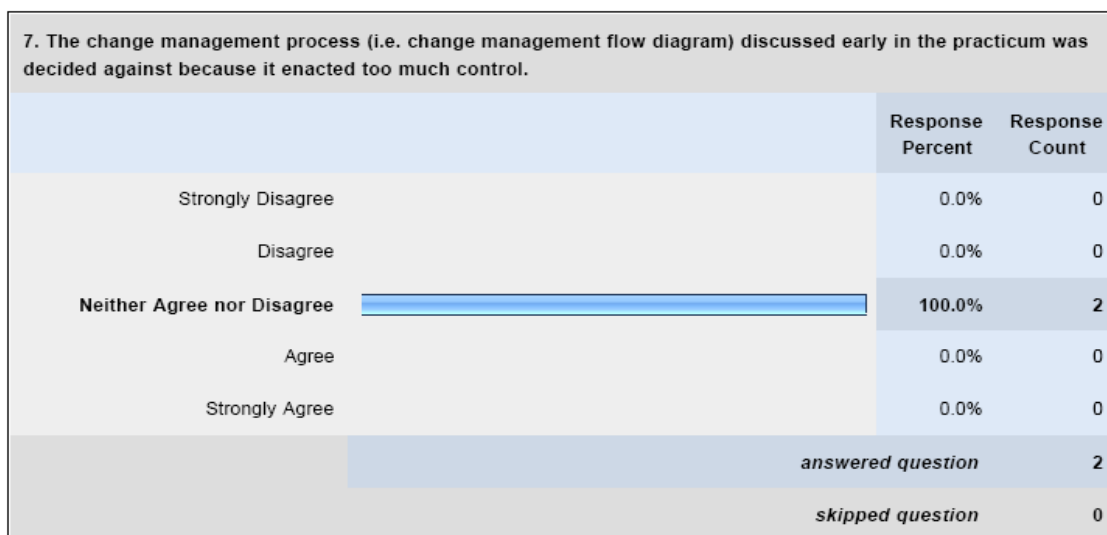
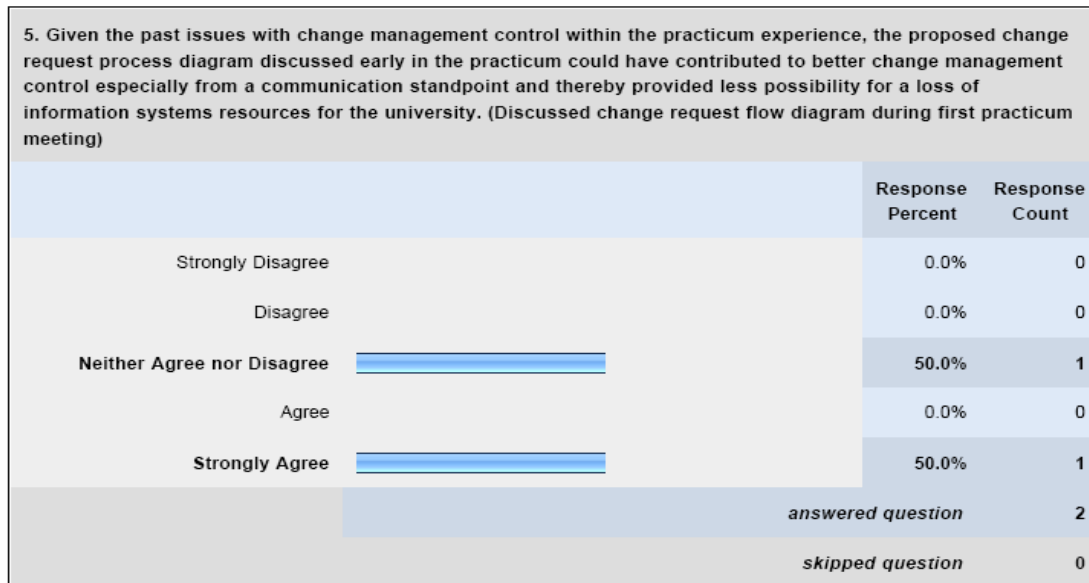
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In response to survey statement Q19, “Access to servers was adequate in order to perform your administrative requirements”, 57.1% disagreed, 14.3% strongly disagreed, and 28.6% neither agreed nor disagreed. In response to survey statement Q20, “No access to servers to perform your duties was possibly based on fears of what might happen given these responsibilities to you”, 42.9% agreed, 14.3% strongly agreed, and 42.9% neither agreed nor disagreed. In response to survey statement Q21, “There needs to be better plans for targeted change activity goals with prior training to achieve those goals with confidence that you know what to do and what will happen before you begin the task”, 71.4% agreed and 28.6% strongly agreed. From these survey responses, there was a general agreement among participants that planning and confidence in knowing how to perform changes or job functions and knowing the expected outcomes could be improved in the practicum setting. According to the literature review, knowledge and understanding how to function in a change effort alleviates fear and makes successful change possible.

In response to faculty survey statement FQ5, “Given the past issues with change management control within the practicum experience, the proposed change request process discussed early in the practicum could have contributed to better change management control especially from a communication standpoint and thereby provide less possibility for a loss of information systems resources for the university”, 50% strongly agreed while 50% neither agreed nor disagreed with this statement. In response to faculty survey statement FQ7, “The change management process (i.e. change management flow diagram) discussed early in the practicum was decided against because it enacted too much control”, 100% neither agreed nor disagreed. Based on the responses

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to these two questions, a faculty member did strongly agree that the change management flow diagram would provide better control through communication to protect the university information systems.



When querying the faculty in response to faculty survey statement FQ10 to compare it with student participant survey statement Q21, “There needs to be better plans

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for targeted change activity goals with prior training to achieve those goals with confidence, so a team member will know what to do and what the results will be before the task is started”, 100% agreed with this statement.

10. There needs to be better plans for targeted change activity goals with prior training to achieve those goals with confidence, so a team member will know what to do and what the results will be before the task is started.		
	Response Percent	Response Count
Strongly Disagree	0.0%	0
Disagree	0.0%	0
Neither Agree nor Disagree	0.0%	0
Agree	100.0%	2
Strongly Agree	0.0%	0
<i>answered question</i>		2
<i>skipped question</i>		0

Research Question 2

The ADKAR model is instrumental in analyzing an individual’s readiness for change. The model can be used to assist in bringing awareness to organizations regarding the need for change. This model can assist in measuring the level of desire towards change, which allows an organization to determine if the change is worthwhile, or what can be done to increase the level of desire towards change. The model can also be used to measure knowledge and to support education and implement training for the individuals who are performing changes in the organization. In the ADKAR model, knowledge represents *how* to implement a change and includes (Hiatt, 2006 p. 23):

- training and education on the skills and behaviors needed to change
- detailed information on how to use processes, systems and tools

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- understanding of the new rules and responsibilities associated with the change

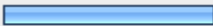
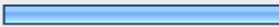
The factors for an individual's capability to acquire knowledge to support a change effort individually and organizationally are (Hiatt 2006 p. 29):

- one's current knowledge level
- one's capacity to learn
- the availability of resources
- the access to needed information




Ability in the ADKAR model "represents the demonstrated capability to implement the change and achieve the desired performance level", and "employees who have knowledge about changes in processes, systems and job roles do not demonstrate immediate proficiency in these areas. Some employees, depending on the change, may never develop the required abilities" (Hiatt, 2006 p. 31). To determine participant's readiness in regards to awareness, desire, and knowledge within the database practicum in relationship to the ADKAR model, the responses to survey statements Q10, Q11, Q12, and Q22 are as follows:

In response to survey statement Q10, "You felt frustration because someone was impatient with you because a commitment could not be met in a timely manner possibly due to knowledge deficiencies or no access to servers in order that you might be able to resolve the issue", 57.1% agreed, while 42.9% neither agreed nor disagreed.

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

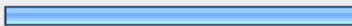
10. You felt frustration because someone was impatient with you because a commitment could not be met in a timely manner possibly due to knowledge deficiencies or no access to servers in order that you might be able to resolve the issue.			
		Response Percent	Response Count
Strongly Disagree		0.0%	0
Disagree		0.0%	0
Neither Agree nor Disagree		42.9%	3
Agree		57.1%	4
Strongly Agree		0.0%	0
<i>answered question</i>			7
<i>skipped question</i>			0

In response to survey statement Q11, “Even if you had access to a server to perform an administrative task, you really knew how to resolve the issue quickly based on the communicated goal”, 57.1% disagreed, 14.3% agreed, and 28.6% neither agreed nor disagreed.





11. Even if you had access to a server to perform an administrative task, you really knew how to resolve the issue quickly based on the communicated goal.			
		Response Percent	Response Count
Strongly Disagree		0.0%	0
Disagree		57.1%	4
Neither Agree nor Disagree		28.6%	2
Agree		14.3%	1
Strongly Agree		0.0%	0
<i>answered question</i>			7
<i>skipped question</i>			0

In response to survey statement Q12, “You were fearful to attempt a change request because you were not sure what the results of your actions would be”, 71.4% agreed, 14.3% disagreed, and 14.3% neither agreed nor disagreed.

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12. You were fearful to attempt a change request because you were not sure what the results of your actions would be.			
		Response Percent	Response Count
Strongly Disagree		0.0%	0
Disagree		14.3%	1
Neither Agree nor Disagree		14.3%	1
Agree		71.4%	5
Strongly Agree		0.0%	0
<i>answered question</i>			7
<i>skipped question</i>			0

In response to participant survey statement Q22, “During faculty/team meetings you were able to easily ascertain the goals and desired actions to meet those goals in a timely manner with little confusion”, 42.9% disagreed, 28.6% agreed, 14.3% strongly disagreed, and 14.3% neither agreed nor disagreed.

22. During faculty/team meetings you were able to easily ascertain the goals and desired actions to meet those goals in a timely manner with little confusion.			
		Response Percent	Response Count
Strongly Disagree		14.3%	1
Disagree		42.9%	3
Neither Agree nor Disagree		14.3%	1
Agree		28.6%	2
Strongly Agree		0.0%	0
<i>answered question</i>			7
<i>skipped question</i>			0

From these survey responses, the researcher determined that during meetings with faculty and team members, of the practicum members that responded to the survey, there were a majority of practicum members that did not clearly understand goals or actions to

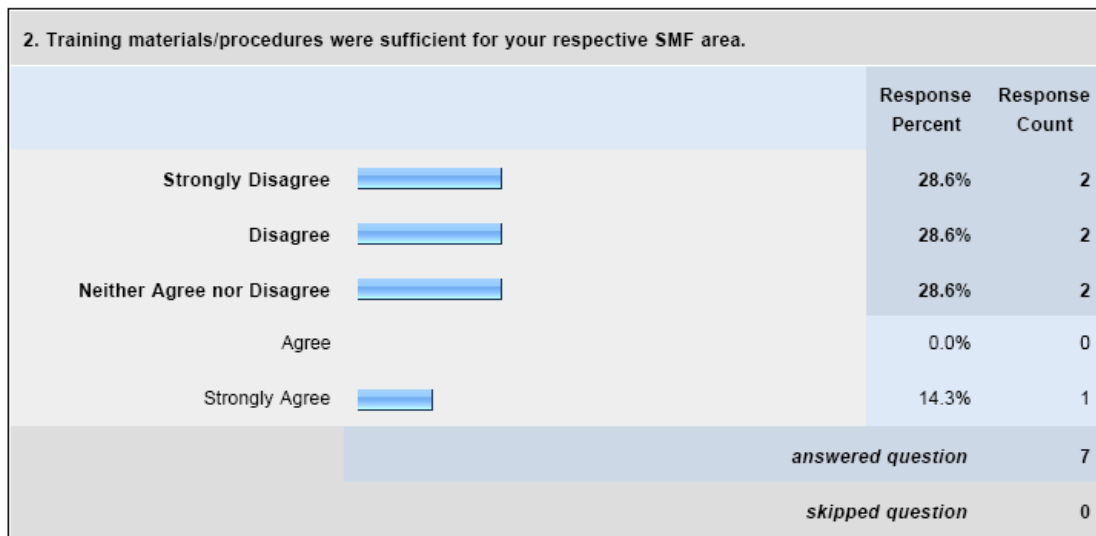
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take within the practicum. Although there was access to the Sharepoint database practicum documentation, the database practicum faculty, and other team member participants, there remained a general feeling of fear about the results of performing job functions or frustration at times regarding a lack of knowledge about how to perform change functions to meet user requests in a timely manner. There was also an incidence of a faculty member becoming frustrated with the practicum because resources for a class were not available. This result in the researcher's opinion was because of a lack of knowledge and ability to support a change in a timely manner.

Research Question 3



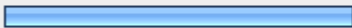
In order to gauge practicum member's perspectives regarding training and procedures to perform necessary practicum tasks, the researcher received responses to the following statements for Q2, Q3, and Q8. In response to participant survey statement Q2, "Training materials/procedures were sufficient for your respective SMF area", 28.6% strongly disagreed, 28.6% disagreed, 28.6% neither agreed nor disagreed, and 14.3% strongly agreed. When querying the faculty in response to faculty survey statement FQ2, "Training materials/procedures were sufficient for each SMF respective area," 50% strongly disagreed and 50% disagreed with this statement.

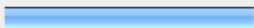
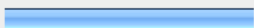
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In response to participant survey statement Q3, “Training/procedural documents were difficult to find or incomplete for normal help desk tasks”, 71.4% agreed, 14.3% strongly disagreed, and 14.3% neither agreed nor disagreed. When querying the faculty in response to faculty survey statement FQ3, 50% strongly agreed and 50% agreed with this statement.



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3. Training/procedural documents were difficult to find or incomplete for normal help desk tasks.			
		Response Percent	Response Count
Strongly Disagree		14.3%	1
Disagree		0.0%	0
Neither Agree nor Disagree		14.3%	1
Agree		71.4%	5
Strongly Agree		0.0%	0
<i>answered question</i>			7
<i>skipped question</i>			0

3. Training/procedural documents were hard to find or incomplete for normal help desk tasks or any tasks for that matter.			
		Response Percent	Response Count
Strongly Disagree		0.0%	0
Disagree		0.0%	0
Neither Agree nor Disagree		0.0%	0
Agree		50.0%	1
Strongly Agree		50.0%	1
<i>answered question</i>			2
<i>skipped question</i>			0

In response to participant survey statement Q8, “During the practicum, lack of training or knowledge possibly contributed to latency for completing customer requests”, 85.7% agreed and 14.3% strongly agreed. The general consensus from practicum members regarding training and procedures was that training materials and procedures were not sufficient and at times difficult to find to assist in performing practicum functions and resolving user issues.

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8. During the practicum, lack of training or knowledge possibly contributed to latency for completing customer administrative requests.			
		Response Percent	Response Count
Strongly Disagree		0.0%	0
Disagree		0.0%	0
Neither Agree nor Disagree		0.0%	0
Agree		85.7%	6
Strongly Agree		14.3%	1
<i>answered question</i>			7
<i>skipped question</i>			0

Research Question 4


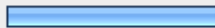

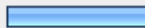
Research question four is closely related to research question three.

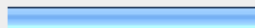
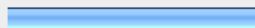
Documentation and procedures are important to provide guidance and to support the knowledge worker in knowing what to do and how to accomplish work, but in order to execute successful change, there has to be adequate knowledge transfer and ability to perform the change, otherwise, successful transformation in the organization will be difficult to experience based upon the literature review. To determine if there was adequate knowledge transfer supported through documentation and communication within the database practicum, members were asked to respond to survey statements Q1, Q5, Q7, Q9, Q13, Q16, Q17, and Q18.

In response to participant survey statement Q1, “Sufficient knowledge was communicated by the 2008A practicum team members to prepare the 2008B practicum members for its commitments and success”, 42.9% disagreed, 14.3% strongly disagreed, 28.6% strongly agreed, and 14.3% agreed. When querying the faculty in response to

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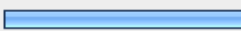
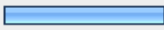

faculty survey statement FQ1 to compare the findings with participant survey statement Q1, 50% strongly disagreed and 50% disagreed with this statement.

1. Sufficient knowledge was communicated by the 2008A practicum team members to prepare the 2008B practicum members for its commitments and success.			
		Response Percent	Response Count
Strongly Disagree		14.3%	1
Disagree		42.9%	3
Neither Agree nor Disagree		0.0%	0
Agree		14.3%	1
Strongly Agree		28.6%	2
<i>answered question</i>			7
<i>skipped question</i>			0

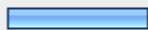


1. Sufficient knowledge was communicated by the 2008A practicum team members to prepare the 2008B practicum members for its commitments and success.			
		Response Percent	Response Count
Strongly Disagree		50.0%	1
Disagree		50.0%	1
Neither Agree nor Disagree		0.0%	0
Agree		0.0%	0
Strongly Agree		0.0%	0
<i>answered question</i>			2
<i>skipped question</i>			0

In response to participant survey statement Q5, “You had confidence that a goal or objective was attainable before beginning the objective based on training and knowledge provided to you”, 50% disagreed, 33.3% neither agreed nor disagreed, and 16.7% agreed.

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5. You had confidence that a goal or objective was attainable before beginning the objective based on training and knowledge provided to you.			
		Response Percent	Response Count
Strongly Disagree		0.0%	0
Disagree		50.0%	3
Neither Agree nor Disagree		33.3%	2
Agree		16.7%	1
Strongly Agree		0.0%	0
<i>answered question</i>			6
<i>skipped question</i>			1

In response to participant survey statement Q7, “Communication (written or verbal) is a priority among practicum members and faculty towards training to achieve specific goals and thereby improve change management in order to maximize information system resources availability”, 57.1% agreed, 28.6% disagreed, and 14.3% neither agreed nor disagreed. When querying the faculty in response to faculty survey statement FQ6 to compare the findings with participant survey statement Q7, 100% agreed with this statement.

7. Communication (written or verbal) is a priority among practicum members and faculty towards training to achieve specific goals and thereby improve change management in order to maximize information system resources availability.			
		Response Percent	Response Count
Strongly Disagree		0.0%	0
Disagree		28.6%	2
Neither Agree nor Disagree		14.3%	1
Agree		57.1%	4
Strongly Agree		0.0%	0
<i>answered question</i>			7
<i>skipped question</i>			0

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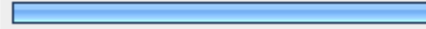

6. Communication (written or verbal) is a priority among practicum members and faculty towards training to achieve specific goals and thereby improve change management in order to maximize information system resources availability.		
	Response Percent	Response Count
Strongly Disagree	0.0%	0
Disagree	0.0%	0
Neither Agree nor Disagree	0.0%	0
Agree	100.0%	2
Strongly Agree	0.0%	0
<i>answered question</i>		2
<i>skipped question</i>		0

In response to participant survey statement Q9, “During the practicum, you felt alone or unprepared to resolve an issue because you really didn't know what to do”, 42.9% agreed, 28.6% strongly agreed, and 28.6% neither agreed nor disagreed.

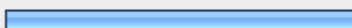

9. During the practicum, you felt alone or unprepared to resolve an issue because you really didn't know what to do.		
	Response Percent	Response Count
Strongly Disagree	0.0%	0
Disagree	0.0%	0
Neither Agree nor Disagree	28.6%	2
Agree	42.9%	3
Strongly Agree	28.6%	2
<i>answered question</i>		7
<i>skipped question</i>		0

In response to participant survey statement Q13, “You believe there was enough cross training to really know how to handle customer issues”, 85.7% disagreed and 14.3% neither agreed nor disagreed.

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13. You believe there was enough cross training to really know how to handle customer issues.			
		Response Percent	Response Count
Strongly Disagree		0.0%	0
Disagree		85.7%	6
Neither Agree nor Disagree		14.3%	1
Agree		0.0%	0
Strongly Agree		0.0%	0
<i>answered question</i>			7
<i>skipped question</i>			0


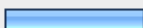
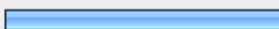
Survey statement Q16 responses were in unanimous agreement regarding the importance of communication in the practicum online setting because of the possibility for catastrophic change actions with 71.4% agreeing and 28.6% strongly agreeing.

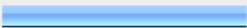

16. Communication is important in a practicum online setting especially because of the possible catastrophic results due to change actions.			
		Response Percent	Response Count
Strongly Disagree		0.0%	0
Disagree		0.0%	0
Neither Agree nor Disagree		0.0%	0
Agree		71.4%	5
Strongly Agree		28.6%	2
<i>answered question</i>			7
<i>skipped question</i>			0

In response to participant survey statement Q17, “Communication could have been better between faculty and team members in order to meet goals”, 57.1% strongly agreed, 28.6% agreed, and 14.3% neither agreed nor disagreed. When querying the

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faculty in response to faculty survey statement FQ8 to compare the findings with participant survey statement Q17, 50% agreed and 50% disagreed with this statement.

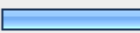
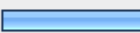
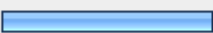
17. Communication could have been better between faculty and team members in order to meet goals.			
		Response Percent	Response Count
Strongly Disagree		0.0%	0
Disagree		0.0%	0
Neither Agree nor Disagree		14.3%	1
Agree		28.6%	2
Strongly Agree		57.1%	4
	<i>answered question</i>		7
	<i>skipped question</i>		0

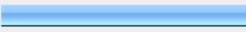
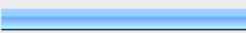
8. Communication could have been better between faculty and team members in order to meet goals in a more timely manner.			
		Response Percent	Response Count
Strongly Disagree		0.0%	0
Disagree		50.0%	1
Neither Agree nor Disagree		0.0%	0
Agree		50.0%	1
Strongly Agree		0.0%	0
	<i>answered question</i>		2
	<i>skipped question</i>		0

In response to participant survey statement Q18, “Communication could have been better between team members in order to meet goals”, 42.9% strongly agreed, 28.6% agreed, and 28.6% neither agreed nor disagreed. When querying the faculty in

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response to faculty survey statement FQ9 to compare the findings with participant survey statement Q18, 50% strongly agreed and 50% agreed with this statement.

18. Communication could have been better between team members in order to meet goals.			
		Response Percent	Response Count
Strongly Disagree		0.0%	0
Disagree		0.0%	0
Neither Agree nor Disagree		28.6%	2
Agree		28.6%	2
Strongly Agree		42.9%	3
<i>answered question</i>			7
<i>skipped question</i>			0

9. Communication could have been better between team members in order to meet goals.			
		Response Percent	Response Count
Strongly Disagree		0.0%	0
Disagree		0.0%	0
Neither Agree nor Disagree		0.0%	0
Agree		50.0%	1
Strongly Agree		50.0%	1
<i>answered question</i>			2
<i>skipped question</i>			0

Based on the responses received for this set of questions, the researcher felt that there were conflicting viewpoints regarding communication when analyzing participant statement Q7 in relationship to the rest of the student participant responses in this section. The general feeling among the student participants was that communication in written and spoken formats and knowledge transfer could use improvement.

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Figure nine is an email example towards the end of the 2008B practicum where a practicum member did not know who to contact to escalate a Citrix account issue. At this point, there also had been approximately four days passed where the ticket had not been addressed. For this example, the researcher can only assume that the practicum member did not know where to look for the information on Sharepoint, the information was too difficult to find or time consuming, or it was just easier to get the information from a team member.

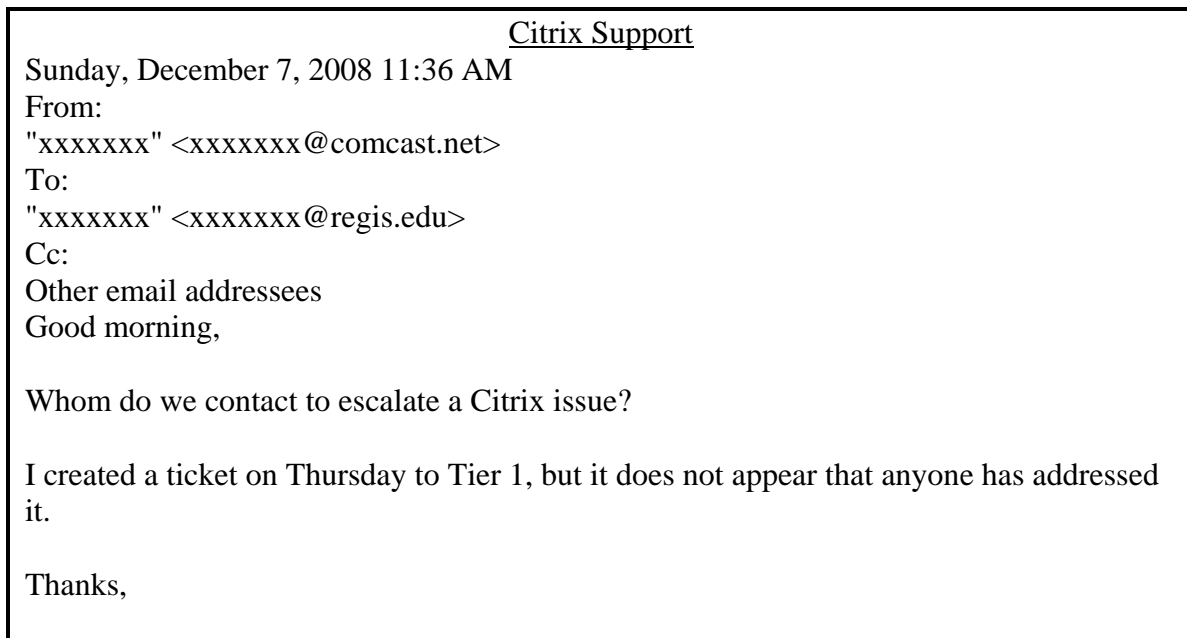


Figure 9: Citrix Account Issue Email Example

Figure ten below also provides an example of a faculty member having issues with new accounts that were setup during the 2008B Practicum where there were no privileges for tablespace 'USERS'. The faculty member did not know how to open a work order for the issue. Emails were sent out to the faculty to inform them when the accounts for their class setups had been completed. The email form sent by the 2008B practicum members stated "If you have any problems, questions or require additional information,

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please contact dbahelp@regis.edu or if you have a TrackIT! account, please create a ticket.” There was no link in the email to inform the faculty member where to go to open a ticket, or information to assist the faculty member in determining if she had an account to open a work order within the TrackIT system. Due to the many operational requirements within the practicum experience, often these small details that could have saved time and made communication much more efficient were regrettably overlooked. The time period from setting up the accounts on Friday, October 24th, to resolution on Wednesday, October 29th, took approximately six days to complete in this example.

RE: Fall 8W2 MSCD 610 XPS70 Database Concepts

Tuesday, October 28, 2008 8:47 PM
From:
"xxxxxxx" <xxxxxxx@regis.edu>
To:
"xxxxxxx@yahoo.com" <xxxxxxx@yahoo.com>
Michael,

It has not been resolved yet. I am not sure how to open a work order. If you let me know where to go, I can do so.

Thanks,

Figure 10: Class Setup Issue Email Example

While conducting the literature review, the researcher discovered that the ADKAR model was being used by the Housing and Food Services (HFS) at Purdue University. HFS consists of approximately 900 employees. The ADKAR model was chosen to manage change in the implementation of the OnePurdue program, which was a

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three-year, enterprise-wide initiative and changed how Purdue University does business by integrating mission-critical enterprise data, information and business processes. On several occasions, the researcher attempted to contact HFS leaders to request interview participation from leadership and employees that had worked through the OnePurdue change implementations using the ADKAR model. Figure 11 displays requests for participation on several occasions. Voice and email correspondence was with Ms. Street the secretary for Ms. Rebecca Ross-Field a human resources specialist for HFS, and several voice messages were left with Ms. Ross-Field, and Mr. Adedayo Adeniyi the interim director of organizational change management and training, however, the researcher was unable to discuss the ADKAR implementation with them.

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Survey Request Regarding the ADKAR Model To Complete Thesis Requirements

Wednesday, March 4, 2009 12:04 PM

From:

"Michael Lowery" <micklskot@yahoo.com>

[View contact details](#)

To:

slstreet@purdue.edu

Ms. Street,

Thank you for taking my calls and for your assistance with forwarding this survey request per approval from your management. This will assist me to complete my thesis requirements with Regis University, Denver, Colorado.

If there are any questions, please let me know.

Thank you again,

Michael Lowery

Hello,

You are invited to participate in a study that will address change management regarding the ADKAR model. The results of the study will be used to evaluate the practical methodologies that support change management within and between temporary virtual teams.

In addition, this study is being conducted to fulfill the requirements of a Thesis Project. The study is being conducted by Michael Lowery who can be reached at 575-521-9475 or e-mail micklskot@yahoo.com. This project is supervised by the student's Thesis Advisor, Charles Thies, Regis University, 3333 Regis Boulevard, Denver, Colorado 80221-1099, cthies@regis.edu, (719) 310-9887.

Participation in this study should take about 30 - 40 minutes of your time. Participation will involve responding to 10 questions about the ADKAR model regarding change management.

Please follow the link here to access the survey.

http://www.surveymonkey.com/s.aspx?sm=s9x63fhhb66qevZMmYAPqw_3d_3d

Figure 11: ADKAR Interview Request with Purdue University HFS

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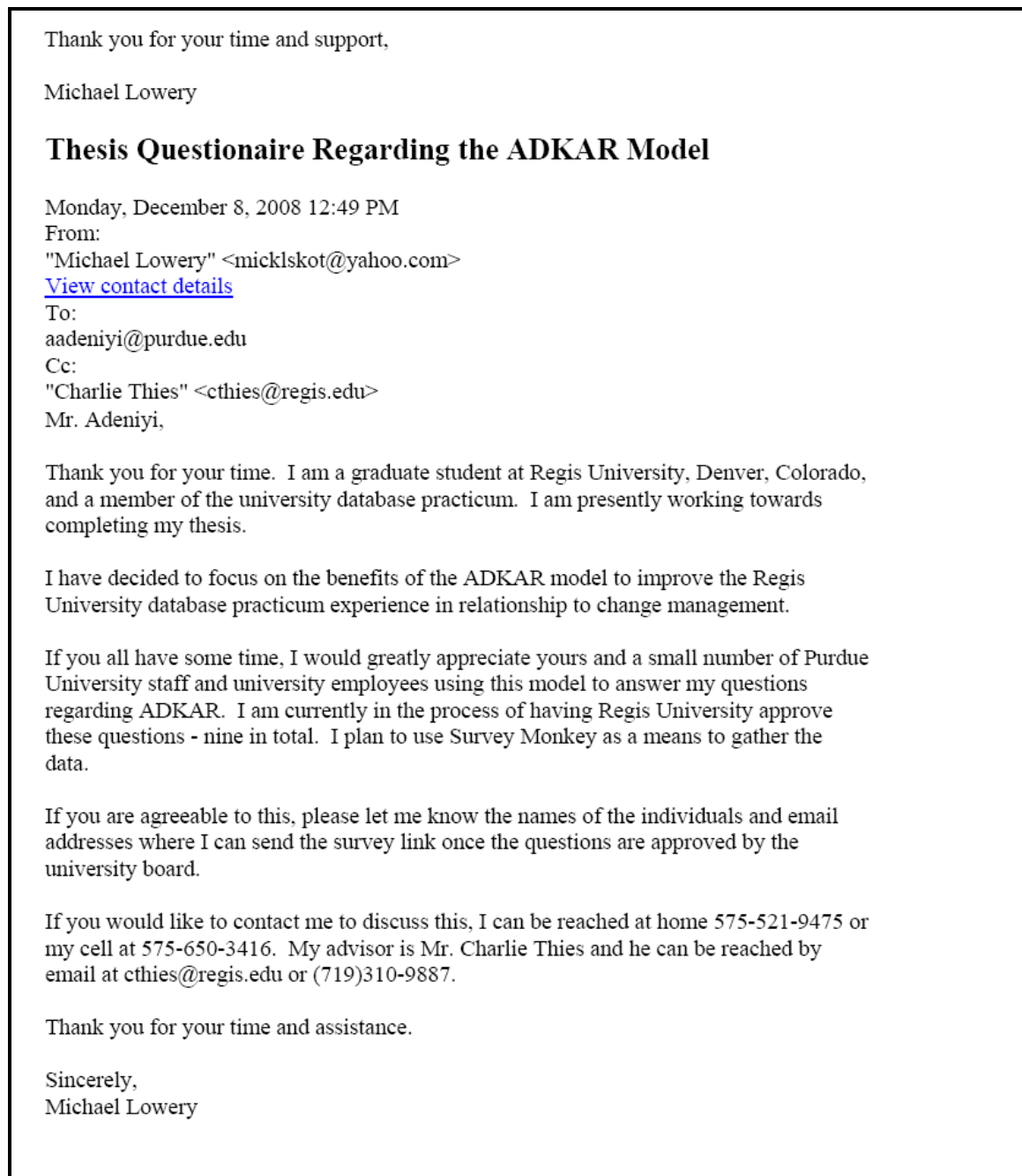


Figure 11 Continued: ADKAR Interview Request with Purdue University HFS

One participant response to the interview was received and the responses for interview questions are listed as follows:

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Purdue University ADKAR Survey

There are many various change management methodologies. Why has OnePurdue chosen the ADKAR model for change management over other various methodologies?		Response Count
		1
	<i>answered question</i>	1
	<i>skipped question</i>	0

Response Text		
1	Purdue worked with the Prosci Consultants when going through our major system change to SAP. At that time the ADKAR model fit the changes our university was going through.	Mar 11, 2009 3:33 PM

Purdue University ADKAR Survey

OnePurdue began using the ADKAR model for change management in 2006. How has this change management model improved your business and in what ways?		Response Count
		1
	<i>answered question</i>	1
	<i>skipped question</i>	0

Response Text		
1	Using ADKAR helped employees feel more comfortable about the changes happening. Hourly staff were also effected by the change, and using ADKAR helped us to eleviate some of thier nervousness about the change.	Mar 11, 2009 3:33 PM

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Purdue University ADKAR Survey

Has ADKAR helped to improve communication between managers and employees? From employee to employee? How is knowledge transferred (i.e. face-to-face, written)?		Response Count
		1
	<i>answered question</i>	1
	<i>skipped question</i>	0

Response Text		
1	I think so. One of the biggest challenges when it comes to change is communicating this change. ADKAR has helped to get people talking about change.	Mar 11, 2009 3:33 PM

Purdue University ADKAR Survey

Has the ADKAR model been an easy transition for employees at Purdue? If there are challenges how are these challenges managed?		Response Count
		1
	<i>answered question</i>	1
	<i>skipped question</i>	0

Response Text		
1	In ur division which is HFS, training was done using the ADKAR model across our division, so thta helped with the transition. It is also a session that is presented at all of our new employee orientations in Housing and Food Services.	Mar 11, 2009 3:33 PM

Purdue University ADKAR Survey

Has the ADKAR model really empowered employees to accept change with goal-oriented results, and could you please explain how ADKAR has helped to do this at Purdue?		Response Count
		1
	<i>answered question</i>	1
	<i>skipped question</i>	0

Response Text		
1	I am not sure of this answer.	Mar 11, 2009 3:33 PM

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Purdue University ADKAR Survey

Using this model, do you feel that communication plays an important part in empowering employees to be successful? How have you maintained consistent communication?		
		Response Count
		1
	<i>answered question</i>	1
	<i>skipped question</i>	0

Response Text		
1	Communication is the key to any change that occurs.	Mar 11, 2009 3:33 PM

Purdue University ADKAR Survey

Do employees and management feel less threatened regarding change since using ADKAR? Why?		
		Response Count
		1
	<i>answered question</i>	1
	<i>skipped question</i>	0

Response Text		
1	I think so. Not all areas use it, though I have talked with supervisors that use this model with change and they have communicated that it has helped make the change go smoother.	Mar 11, 2009 3:33 PM

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Purdue University ADKAR Survey

Has ADKAR implementation by management towards training really helped employees to know what to do regarding their jobs? Has this resulted in more efficiency and what percentage do you estimate?		
		Response Count
		1
	<i>answered question</i>	1
	<i>skipped question</i>	0

Response Text		
1	I am not sure of this .	Mar 11, 2009 3:33 PM

Purdue University ADKAR Survey

How much time do you estimate is spent on this model for change management within the university? Do you feel that it is worthwhile? Why?		
		Response Count
		1
	<i>answered question</i>	1
	<i>skipped question</i>	0

Response Text		
1	I am not sure.	Mar 11, 2009 3:33 PM

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Purdue University ADKAR Survey

Using this methodology, do you feel that training plays an important part in empowering an employee to be successful? Using ADKAR, how do you ensure training is a priority and how is it implemented?		
		Response Count
		1
	<i>answered question</i>	1
	<i>skipped question</i>	0

Response Text		
1	People need training to ensure they are able to do what the change is all about.	Mar 11, 2009 3:33 PM

According to the interview participant, Prosci consultants assisted Purdue University with implementing the ADKAR model while the university was going through a major SAP Enterprise Resource Planning (ERP) system change. For this change implementation, the ADKAR model was chosen because it fit the needs of the university. The interview participant further stated that using the ADKAR model helped to get employees talking about the changes, and it helped them to feel more comfortable by alleviating nervous feelings about the changes being implemented. When asked about the importance of communication playing an important part in empowering employees to be successful, the interview participant stated that communication is the key to any change that occurs. Furthermore, the participant stated that ADKAR model training was implemented throughout the HFS division, which supported the whole change transition, and the ADKAR model is presented to all new HFS employees during orientation. When asked about the importance of training and how it empowers the employee to be successful, the interview participant stated that people need training to ensure they are

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able to do what the change is all about. In a second portion of the question, the participant did not state how ADKAR was made a priority in training or how it is implemented.

When asked if employees and management feel less threatened regarding change since using ADKAR and why, the participant stated that it has helped, but not all areas use it.

The participant stated the supervisors that use this model communicated that it has helped make change go smoother. As noted above in the listed interview questions, there were three questions that the participant did not know how to answer.

Chapter 5 – Recommendations and Conclusion

Change is not easy, but it is necessary especially today for organizations to transform and be competitive. Based on the results of the research, the researcher believes that ADKAR is a viable model to manage change initiatives within the Regis University database practicum. ADKAR is appropriate because its focus is to produce end results, which other change management approaches fail to produce (Hiatt, 2006).

At the beginning of the database practicum, the Change Management SMF lead responsibility was assigned to the researcher. The researcher knew very little about change management through a majority of the time while working as a member within the practicum and grappled with trying to understand what to do in relationship to the other SMF areas of management. This was primarily due to a lack of knowledge, therefore, much time was expended trying to better understand what change management is because it is very broad subject. Knowledge transfer from the 2008A to the 2008B practicum members was minimal to prepare practicum members for their responsibilities and requirements, and survey responses from practicum members and faculty communicated this at 57.2% and 100% in agreement, respectively. The researcher suggests that the university could offer courses or focus studies on UTIL best practices to prepare database practicum members for their SMF responsibilities and to prepare them for their own organizational requirements. Practicum members would then have a better understanding of how to function in their respective areas while serving in the practicum and more time could be focused on improving processes in the assigned areas of responsibility.

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Although configuration management was not a primary responsibility of the researcher, the database practicum had no integrated configuration management database (CMDB), which made configuration management and tracking configuration items (CIs) very difficult. This is what possibly contributed to prior database practicum issues with Oracle servers, and no record for what could have caused the issue since it could not be traced back to changes. The researcher recommends budgeting for a good integrated CMDB that can integrate all management entities (i.e. Configuration, Change, Requirements). This could support a better learning environment for practicum members and decrease likelihood of system downtime because a CMDB could provide capabilities to analyze changes that could be catastrophic to other systems affected by a change. It would help in planning strategic change activities.

At the beginning of the 2008B practicum, a draft process was submitted to the practicum faculty and members to attempt to put into place a change management process for controlling changes. This was a targeted goal to better control changes in light of earlier issues with losing important Oracle server resources that support university classes. The final process submittal was submitted in October 2008, but according to the researcher's knowledge, the process was not implemented for new class setups to approve changes during October. Although creating a process was a targeted goal for the practicum, the process was not used. The researcher believes that the change process was resisted due to reasons previously discussed in the literature review. The result was that the researcher was unable to persuade faculty and team members to "buy-in" or implement the process for the 2008B practicum. The ADKAR model would have been instrumental for measuring readiness for change in an example such as this.

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Obviously, there was awareness that a change process was needed to better control the change implementations within the practicum. Apparently, the issue was that there was not enough of a desire to use the submitted process to see how it would work, but it is interesting that 85.7% of the practicum members believed the process could have provided better change management control and supported better communication. If the researcher had the knowledge previously regarding his SMF change management responsibilities and knowledge regarding the ADKAR model, a survey based on targeted goals for a desired change process could have been submitted to the practicum faculty and members to measure the level of desire to ascertain if the process would have been worth the effort. Based on the ADKAR model, the researcher could have used a series of surveys to measure where the desire for the process was low, found out why the desire for change was low, and then planned appropriately to design the change accordingly. The researcher believes this would have saved a lot of time and produced something more in line with faculty and team member's expectations. ADKAR surveys could be used in this fashion for any change target goals. According to the ADKAR model (Hiatt, 2006), it's important to reinforce change by taking positive action to support change (i.e. supporting and improving upon ongoing change initiatives) through process improvements/suggestions. This will encourage team members that contributions and work is important to the overall team goal for improvements in processes.

The database practicum is a virtual learning environment, however, members are also supporting an operational university information technology system. Although Sharepoint had an abundance of explicit knowledge to aid in performing knowledge worker functions to support the university information systems, 71.4% of practicum

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members had issues finding procedural documents to perform help desk functions or they found the documents incomplete. A majority (57.1%) of practicum members who responded to the survey felt frustration and 71.4% were fearful about making changes to university resources even with availability to Sharepoint, practicum team members, and faculty. In order to improve knowledge management and transfer, the researcher recommends that video presentations continue to be implemented to support practicum training needs. Forums using important sticky threads that stay above all other threads would be another effective way to document communication, training, and procedures for the practicum. With this tool, procedures and information using search functions can be easily found in one place (Hiatt, 2006). Practicum members and faculty need to continue to support all forms of communication with each other to support a bonding of trust and camaraderie within the team. This will enrich the whole practicum experience.

The researcher came to the conclusion that his own lack of knowledge (K), which is a key element in the ADKAR model, inhibited his ability to perform effective change improvements in his change management responsibilities (i.e. skills and behaviors needed to change, understanding new roles and responsibilities (Hiatt, 2006)). The researcher personally had an awareness and desire to make a difference in his change management responsibilities within the database practicum. However, his own knowledge regarding change management was limited, which kept him from being really effective for a good part of the practicum due to the learning curve for *understanding what to do* regarding his responsibilities and also in relationship to the other SMF areas.

A beneficial knowledge capture mechanism for supporting the practicum would be some system that could be setup for students to input their suggestions regarding the

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practicum while they are going through their tenure. Often people forget details over time, so this would be a great knowledge capture capability. When something is not working that really concerns the faculty or members, they can login and input their concerns and suggestions. This information could be analyzed to guide the practicum as necessary. Suggestions and concerns could be anonymous if desired. The researcher believes this knowledge capture system could definitely help to improve the experiences for the faculty and practicum members to support and improve communication.

Another suggestion for improvement would be to identify practicum members twelve months prior to their tenure in the practicum and have them list their first, second, and third choices for SMF responsibilities. Based on student qualifications, the faculty can then assign the members accordingly and provide them with early targeted goals and resources to prepare them for their area of assignment before they are assigned to the practicum. New members could receive current practicum email correspondence so they could get an early understanding of practicum responsibilities, and have read only access to forums to become familiar with the tools and technologies. The researcher also recommends a possible overlap of database practicum teams, which would allow an experienced team to train a new team.

Faculty and student members in order to determine awareness, desire, knowledge, and ability for any goals within the SMF practicum areas could use a series of surveys. It would require time to do this, but goals could be more targeted and the possibilities for being successful would be increased.

Finally, the ADKAR model is a goal-oriented framework model that enables change. It can be used as a learning tool for teaching change management, a tool for

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helping change management teams assess the readiness of their change management plans and guide their activities, a coaching tool for managers and supervisors during change, an assessment tool for diagnosing changes underway and identifying potential barrier points to change, and a planning tool for change (Hiatt, 2006). Based on the ADKAR model's important attributes that have been presented, the researcher has confidence that this model would benefit managing change for Regis University.

Chapter 6 – Areas for Further Research

Areas for further research include the search for additional technologies and approaches to better support communication and knowledge sharing systems. The further research of user groups and forum technologies in particular as a method for communication and transferring more tacit knowledge in a virtual team environment would be of great interest to this researcher.

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Appendix A

Practicum Faculty Survey

2008B Practicum Faculty Survey

1. Survey

Survey statements for Michael Lowery's Regis University thesis research project.

Please respond to the following statements for the research project titled: Change Management in a Dynamic Information Technology Environment: Inquiries into the ADKAR Model For Change Management Results.

Thank you for your time and participation.

1. Sufficient knowledge was communicated by the 2008A practicum team members to prepare the 2008B practicum members for its commitments and success.

Strongly Disagree

Disagree

Neither Agree nor Disagree

Agree

Strongly Agree

2. Training materials/procedures were sufficient for each SMF respective area.

Strongly Disagree

Disagree

Neither Agree nor Disagree

Agree

Strongly Agree

3. Training/procedural documents were hard to find or incomplete for normal help desk tasks or any tasks for that matter.

Strongly Disagree

Disagree

Neither Agree nor Disagree

Agree

Strongly Agree

CHANGE MANAGEMENT

2008B Practicum Faculty Survey

4. Communication between faculty and practicum team members was goal-oriented (i.e. specific targeted goals).

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

5. Given the past issues with change management control within the practicum experience, the proposed change request process diagram discussed early in the practicum could have contributed to better change management control especially from a communication standpoint and thereby provided less possibility for a loss of information systems resources for the university. (Discussed change request flow diagram during first practicum meeting)

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

6. Communication (written or verbal) is a priority among practicum members and faculty towards training to achieve specific goals and thereby improve change management in order to maximize information system resources availability.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

7. The change management process (i.e. change management flow diagram) discussed early in the practicum was decided against because it enacted too much control.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

CHANGE MANAGEMENT

2008B Practicum Faculty Survey

8. Communication could have been better between faculty and team members in order to meet goals in a more timely manner.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

9. Communication could have been better between team members in order to meet goals.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

10. There needs to be better plans for targeted change activity goals with prior training to achieve those goals with confidence, so a team member will know what to do and what the results will be before the task is started.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

2. Survey Practicum Faculty

CHANGE MANAGEMENT

2008B Practicum Faculty Survey

1. Informed Consent Form for Michael Lowery's Regis University thesis research project.

INFORMED CONSENT FORM FOR PARTICIPANTS

RESEARCH PROJECT

Title of Research Project: Change Management in a Dynamic Information Technology Environment: Inquiries into the ADKAR Model For Change Management Results.

You are invited to participate in a study that will address change management in the 2008B database practicum. The results of the study will be used to evaluate the practical methodologies that support change management within and between temporary virtual teams. In addition, this study is being conducted to fulfill the requirements of a Thesis Project. The study is being conducted by Michael Lowery who can be reached at 575-521-9475 or e-mail micklskot@yahoo.com. This project is supervised by the student's Thesis Advisor, Charles Thies, Regis University, 3333 Regis Boulevard, Denver, Colorado 80221-1099, cthies@regis.edu, (719) 310-9887.

Participation in this study should take about 10 minutes of your time. Participation will involve responding to 10 statements about change management in the 2008B practicum.

Participation in this project is strictly voluntary. The risks associated with this project are minimal. If, however, you experience discomfort you may discontinue the interview at any time. We respect your right to choose not to answer any questions that may make you feel uncomfortable. Refusal to participate or withdrawal from participation will involve no penalty or loss of benefits to which you are otherwise entitled.

Your responses will be identified by code number only and will be kept separate from information that could identify you. This is done to protect the confidentiality of your responses. Only the researcher will have access to your individual data and any reports generated as a result of this study will use only group averages and paraphrased wording. However, should any information contained in this study be the subject of a court order or lawful subpoena, Regis University might not be able to avoid compliance with the order or subpoena. Although no questions in this interview address it, we are required by law to tell you that if information is revealed concerning suicide, homicide, or child abuse and neglect, it is required by law that this be reported to the proper authorities.

If you have any concerns or complaints about how you were treated during the interview, please contact Mr. Bud May, the director of the Regis University Institutional Review Board at (303-458-4206). You may keep this page for your records. Please sign below if you understand and agree to the above. If you do not understand any part of the above statement, please ask the researcher any questions you have.

I have read and understood the foregoing descriptions of the study called Change Management in a Dynamic Information Technology Environment: Inquiries into the ADKAR Model For Change Management Results. I have asked for and received a satisfactory explanation of any language that I did not fully understand. I agree to participate in this study, and I understand that I may withdraw my consent at any time. I have received a copy of this consent form.

Note: If this document is being sent electronically, your typed signature will be considered your signature.

Please type your

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2008B Practicum Faculty Survey

name:
Please enter your

phone #:
Please enter today's
date:

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Student Participant Survey

Survey Practicum Students

1. Survey

Survey questions for Michael Lowery's Regis University thesis research project.

Please respond to the following statements for the research project titled: Change Management in a Dynamic Information Technology Environment: Inquiries into the ADKAR Model For Change Management Results.

Thank you for your time and participation.

1. Sufficient knowledge was communicated by the 2008A practicum team members to prepare the 2008B practicum members for its commitments and success.

Strongly Disagree

Disagree

Neither Agree nor Disagree

Agree

Strongly Agree

2. Training materials/procedures were sufficient for your respective SMF area.

Strongly Disagree

Disagree

Neither Agree nor Disagree

Agree

Strongly Agree

3. Training/procedural documents were difficult to find or incomplete for normal help desk tasks.

Strongly Disagree

Disagree

Neither Agree nor Disagree

Agree

Strongly Agree

CHANGE MANAGEMENT

Survey Practicum Students

4. Communication between faculty and practicum team members was goal-oriented (i.e. specific targeted goals).

Strongly Disagree

Disagree

Neither Agree nor Disagree

Agree

Strongly Agree

5. You had confidence that a goal or objective was attainable before beginning the objective based on training and knowledge provided to you.

Strongly Disagree

Disagree

Neither Agree nor Disagree

Agree

Strongly Agree

6. Given the past issues with change management control within the practicum experience, the proposed change request process discussed early in the practicum could have contributed to better change management control especially from a communication standpoint and better protected university systems resources.

Strongly Disagree

Disagree

Neither Agree nor Disagree

Agree

Strongly Agree

7. Communication (written or verbal) is a priority among practicum members and faculty towards training to achieve specific goals and thereby improve change management in order to maximize information system resources availability.

Strongly Disagree

Disagree

Neither Agree nor Disagree

Agree

Strongly Agree

CHANGE MANAGEMENT

Survey Practicum Students

8. During the practicum, lack of training or knowledge possibly contributed to latency for completing customer administrative requests.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

9. During the practicum, you felt alone or unprepared to resolve an issue because you really didn't know what to do.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

10. You felt frustration because someone was impatient with you because a commitment could not be met in a timely manner possibly due to knowledge deficiencies or no access to servers in order that you might be able to resolve the issue.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

11. Even if you had access to a server to perform an administrative task, you really knew how to resolve the issue quickly based on the communicated goal.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

CHANGE MANAGEMENT

Survey Practicum Students

12. You were fearful to attempt a change request because you were not sure what the results of your actions would be.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

13. You believe there was enough cross training to really know how to handle customer issues.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

14. The change management process discussed early in the practicum was decided against because it enacted too much control. (This was the first online meeting reviewing the change request diagram)

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

15. The change management process discussed early in the practicum was decided against because maybe it required too much communication. (This was the first online meeting reviewing the change request diagram)

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

CHANGE MANAGEMENT

Survey Practicum Students

16. Communication is important in a practicum online setting especially because of the possible catastrophic results due to change actions.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

17. Communication could have been better between faculty and team members in order to meet goals.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

18. Communication could have been better between team members in order to meet goals.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

19. Access to servers was adequate in order to perform your administrative requirements.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

CHANGE MANAGEMENT

Survey Practicum Students

20. No access to servers to perform your duties was possibly based on fears of what might happen given these responsibilities to you.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

21. There needs to be better plans for targeted change activity goals with prior training to achieve those goals with confidence that you know what to do and what will happen before you begin the task.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

22. During faculty/team meetings you were able to easily ascertain the goals and desired actions to meet those goals in a timely manner with little confusion.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

2. Survey

Informed Consent Form for Michael Lowery's Regis University thesis research project.

CHANGE MANAGEMENT

Survey Practicum Students

1. INFORMED CONSENT FORM FOR STUDENT PARTICIPANTS

RESEARCH PROJECT

Title of Research Project: Change Management in a Dynamic Information Technology Environment: Inquiries into the ADKAR Model For Change Management Results.

You are invited to participate in a study that will address change management in the 2008B database practicum. The results of the study will be used to evaluate the practical methodologies that support change management within and between temporary virtual teams. In addition, this study is being conducted to fulfill the requirements of a Thesis Project. The study is being conducted by Michael Lowery who can be reached at 575-521-9475 or e-mail mickliskot@yahoo.com. This project is supervised by the student's Thesis Advisor, Charles Thies, Regis University, 3333 Regis Boulevard, Denver, Colorado 80221-1099, cthies@regis.edu, (719) 310-9887.

Participation in this study should take about 20 minutes of your time. Participation will involve responding to 22 statements about change management in the 2008B practicum.

Participation in this project is strictly voluntary. The risks associated with this project are minimal. If, however, you experience discomfort you may discontinue the interview at any time. We respect your right to choose not to answer any questions that may make you feel uncomfortable. Refusal to participate or withdrawal from participation will involve no penalty or loss of benefits to which you are otherwise entitled.

Your responses will be identified by code number only and will be kept separate from information that could identify you. This is done to protect the confidentiality of your responses. Only the researcher will have access to your individual data and any reports generated as a result of this study will use only group averages and paraphrased wording. However, should any information contained in this study be the subject of a court order or lawful subpoena, Regis University might not be able to avoid compliance with the order or subpoena. Although no questions in this interview address it, we are required by law to tell you that if information is revealed concerning suicide, homicide, or child abuse and neglect, it is required by law that this be reported to the proper authorities.

If you have any concerns or complaints about how you were treated during the interview, please contact Mr. Bud May, the director of the Regis University Institutional Review Board at (303-458-4206). You may keep this page for your records. Please sign below if you understand and agree to the above. If you do not understand any part of the above statement, please ask the researcher any questions you have.

I have read and understood the foregoing descriptions of the study called Change Management in a Dynamic Information Technology Environment: Inquiries into the ADKAR Model For Change Management Results. I have asked for and received a satisfactory explanation of any language that I did not fully understand. I agree to participate in this study, and I understand that I may withdraw my consent at any time. I have received a copy of this consent form.

Note: If this document is being sent electronically, your typed signature will be considered your signature.

Please type your

name:

Please enter your

CHANGE MANAGEMENT

Survey Practicum Students

phone #:

Please enter today's date:

Appendix B

Purdue University ADKAR Interview

Purdue University ADKAR Survey

1. Purdue University ADKAR Survey

Survey questions for Michael Lowery's Regis University thesis research project.

Please respond to the following questions for the research project titled: **Change Management in a Dynamic Information Technology Environment: Inquiries into the ADKAR Model For Change Management Results.**

Thank you for your time and participation.

1. There are many various change management methodologies. Why has OnePurdue chosen the ADKAR model for change management over other various methodologies?

2. OnePurdue began using the ADKAR model for change management in 2006. How has this change management model improved your business and in what ways?

3. Has ADKAR helped to improve communication between managers and employees? From employee to employee? How is knowledge transferred (i.e. face-to-face, written)?

4. Has the ADKAR model been an easy transition for employees at Purdue? If there are challenges how are these challenges managed?

5. Has the ADKAR model really empowered employees to accept change with goal-oriented results, and could you please explain how ADKAR has helped to do this at Purdue?

6. Using this model, do you feel that communication plays an important part in empowering employees to be successful? How have you maintained consistent communication?

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Purdue University ADKAR Survey

7. Using this methodology, do you feel that training plays an important part in empowering an employee to be successful? Using ADKAR, how do you ensure training is a priority and how is it implemented?

8. Do employees and management feel less threatened regarding change since using ADKAR? Why?

9. Has ADKAR implementation by management towards training really helped employees to know what to do regarding their jobs? Has this resulted in more efficiency and what percentage do you estimate?

10. How much time do you estimate is spent on this model for change management within the university? Do you feel that it is worthwhile? Why?

2. Purdue University ADKAR Survey

CHANGE MANAGEMENT

Purdue University ADKAR Survey

1. Informed Consent Form for Michael Lowery's Regis University thesis research project.

INFORMED CONSENT FORM FOR PARTICIPANTS

RESEARCH PROJECT

Title of Research Project: Change Management in a Dynamic Information Technology Environment: Inquiries into the ADKAR Model For Change Management Results.

You are invited to participate in a study that will address change management in the 2008B database practicum. The results of the study will be used to evaluate the practical methodologies that support change management within and between temporary virtual teams. In addition, this study is being conducted to fulfill the requirements of a Thesis Project. The study is being conducted by Michael Lowery who can be reached at 575-521-9475 or e-mail mickliskot@yahoo.com. This project is supervised by the student's Thesis Advisor, Charles Thies, Regis University, 3333 Regis Boulevard, Denver, Colorado 80221-1099, cthies@regis.edu, (719) 310-9887.

Participation in this study should take about 30 - 40 minutes of your time. Participation will involve responding to 10 questions about change management regarding the ADKAR model.

Participation in this project is strictly voluntary. The risks associated with this project are minimal. If, however, you experience discomfort you may discontinue the interview at any time. We respect your right to choose not to answer any questions that may make you feel uncomfortable. Refusal to participate or withdrawal from participation will involve no penalty or loss of benefits to which you are otherwise entitled.

Your responses will be identified by code number only and will be kept separate from information that could identify you. This is done to protect the confidentiality of your responses. Only the researcher will have access to your individual data and any reports generated as a result of this study will use only group averages and paraphrased wording. However, should any information contained in this study be the subject of a court order or lawful subpoena, Regis University might not be able to avoid compliance with the order or subpoena. Although no questions in this interview address it, we are required by law to tell you that if information is revealed concerning suicide, homicide, or child abuse and neglect, it is required by law that this be reported to the proper authorities.

If you have any concerns or complaints about how you were treated during the interview, please contact Mr. Bud May, the director of the Regis University Institutional Review Board at (303-458-4206). You may keep this page for your records. Please sign below if you understand and agree to the above. If you do not understand any part of the above statement, please ask the researcher any questions you have.

I have read and understood the foregoing descriptions of the study called Change Management in a Dynamic Information Technology Environment: Inquiries into the ADKAR Model For Change Management Results. I have asked for and received a satisfactory explanation of any language that I did not fully understand. I agree to participate in this study, and I understand that I may withdraw my consent at any time. I have received a copy of this consent form.

Note: If this document is being sent electronically, your typed signature will be considered your signature.

Please type your

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Purdue University ADKAR Survey

name:
Please enter your

phone #:
Please enter today's
date:

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Appendix C

Regis University IRB Approval Letter

IRB – REGIS UNIVERSITY

January 13, 2009

Michael Lowery
5070 Chaparrita Ct.
Las Cruces, NM 88011

RE: IRB #: 088-08

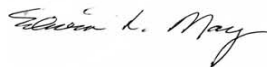
Dear Michael:

Your application to the Regis IRB for your project “Change Management in a Dynamic Information Technology Environment: Inquiries into the ADKAR Model for Change Management Results,” was approved as exempt on January 9, 2009.

The designation of “exempt,” means no further IRB review of this project, as it is currently designed, is needed.

If changes are made in the research plan that significantly alter the involvement of human subjects from that which was approved in the named application, the new research plan must be resubmitted to the Regis IRB for approval.

Sincerely,



Edwin May
Director
Cc: Charles Thies

Annotated Bibliography

Adams, J. D. (2003). Successful Change – Paying Attention to the Intangibles. *OD Practitioner* 35(4), 3-7. Retrieved from www.eartheart-ent.com/docs/SuccessfulChange1.pdf

In this article, the author discusses how difficult it really is to implement change individually and organizationally and that change intentions fade rather quickly when people or the “intangibles” are faced with pressures of everyday life. The article lists 12 factors that support individual and organizational change.

Anderson, J., Fears, R., & Taylor, B. (1997). *Managing Technology for Competitive Advantage*. London: Pearson Professional Ltd.

In this book, the authors discuss managing technology for competitive advantage. In chapter 22, the authors support the fact that growth for the business and the worker is concurrently important, and much of this is accomplished through sharing ideas, imparting knowledge, motivating people, and engendering trust.

Baskerville, R. (1999). Investigating information systems with action research. *Communications of the Association for Information Systems*. 2(19): 2-32.

In this document, the author discusses the action research method that has been used in social and medical sciences since the mid-twentieth century, and recently has increased in importance for information systems since the end of

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the 1990s. Action research history in information systems is explicitly linked to early works by Kurt Lewin and the Tavistock Institute.

Baskerville, R. & Myers, M.D. (2004). Special issue on action research in information systems: Making IS research relevant to practice – foreword. *MIS Quarterly* 28(3): 329-335.

Action research is a valid research method in the fields of organizational development and education. In this article, the authors submit that action research is a potential avenue to improve the practical relevance of information systems research. The authors' cover areas such as the action research two stage process, action research origins, premises, and how action research is conducted.

Bedeian, A. G. (1984). *Organizations: Theory and Analysis*. (2nd ed.) Hinsdale, IL: Dryden Press.

In this second edition, the author discusses what organizations are. He discusses strategies for studying organizations, design, goals, measuring effectiveness, learning, and growth and development to name a few. The author has set up each chapter as self-contained units of study about organizations, and most chapters have case materials at the end to assist readers with understanding organizational behavior.

Beer, M., & Nohria, N. (2000). *Breaking the Code of Change*. Boston, MA: Harvard Business School Press.

In this book, the authors discuss organizational change, and provide articles written by subject experts to collectively address how to manage change

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effectively. The authors discuss what they call two dominant, opposing theories, of change, which is Theory E – to create economic value, and Theory O – to build organizational capabilities for the future.

Bridges, W. (2003). *Managing Transitions: Making the Most of Change, Chapter 5.*

Launching a New Beginning. Clarify and Communicate the Purpose. 2nd

Edition. Perseus Publishing. Books24x7. Retrieved from

http://common.books24x7.com.dml.regis.edu/book/id_7607/book.asp

In this book, the author explains in detail how successful organizational change takes place when employees have a purpose, a mental picture, a plan for, and a part to play in that change.

Buchanan, D.A. & Huczynski, A. A. (1985), *Organisational Behaviour An Introductory*

Text, Hanel Hempstead, Hertfordshire: Prentice Hall International (UK) Ltd.

In this book, the authors provide an introduction to the study of human behaviour in organizations. In chapter 22, the authors define control and its uses economically, psychologically, and politically within the organization. They explain that we all have a psychological need for control. Controlling performance in the organization is necessary and expected in order to ensure its success economically.

Cameron, E., & Green, M. (2009). *Making Sense of Change Management: A Complete*

Guide to the Models, Tools & Techniques of Organizational Change. Chapter 1.

Managing Change in Self and Others. Individual Change. 2nd Ed. Kogan Page.

Books24x7. Retrieved from

http://common.books24x7.com.dml.regis.edu/book/id_31025/book.asp

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The authors wrote this book for students and professionals alike, and they provide insights into the many frameworks, models and ways of approaching change and help the reader to apply the right approach to each unique situation.

Collerette, P., Schneider R., & Legris, P. (2001). Managing organizational change. Part one. Change in turbulent times. *ISO Management Systems*. October 2001. p. 38-45. Retrieved from www.nursing-informatics.com/N4111/collerettePt2.pdf

In this article, the authors discuss dealing with the issues of managing change in organizations today and attempt to explain the new conditions that have made managing change more difficult over the last fifteen years.

Dannemiller Tyson Associates. (2000). *Whole-scale change: Unleashing the magic in organizations*. San Francisco, CA: Berrett-Koehler, Publishers, Inc.

Due to today's constantly changing work environment, the authors' describe 'whole-scale' change as being better ways of breaking away from the structural organizational models of the twentieth century and moving towards modern models that tap into the collective knowledge of the people within organizations to map and implement strategies to truly bring effective change and success. The text provides many figures and roadmaps as examples for the reader.

Davenport, T., & Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. New York, NY: Harvard Business School Press.

In this book, the authors' provide the definition for what knowledge is. They discuss how knowledge is generated, what knowledge codification is, and how

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knowledge is transferred along with strategies. The authors' also discuss knowledge roles and skills, and the pragmatics of knowledge management.

They list and discuss the factors that lead to knowledge project success.

Drucker, P. F. (1999). *Management Challenges for the 21st Century*. New York, NY: HarperCollins Publishers, Inc.

In this book, the author discusses new paradigms of management, new realities of strategy, how to be a leader during change periods, the New Information Revolution, knowledge worker productivity, and personal management of the individual in the midst of continuous change through a longer working life.

Frappaolo, C. (2006). *Knowledge Management*. Chichester: Capstone Publishing Ltd.

In this book, the author provides an introduction to knowledge management and defines what it is, its evolution, e-dimension, global dimension, and state of the art of knowledge management. The book provides knowledge management success stories, key concepts and knowledge management thinkers, and ten steps to making knowledge management work.

Hiatt, J. (2006). *ADKAR – A Model For Change in Business, Government and Our Community*. Loveland, CO: Prosci Research.

In this book, the author presents the ADKAR model, which is a results-oriented model for managing change individually and organizationally. This model's acronym represents the phases one must go through sequentially in order to bring about effective, sustained change.

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Hiatt, J., & Creasey, T. (2003). *Change Management The People Side of Change*.

Loveland, CO: Prosci Research.

This foundational book on managing change parallels the ADKAR model.

The authors' discuss why it is important to manage change, which is to ensure business success. The authors' also cover theories and principles of change management, individual change management, organizational change management, and change competency. The authors' point out that change failures can happen because the people side of change is not appreciated and managed.

Järvinen, P. (2007). Action Research is Similar to Design Science. *Quality and Quantity* 41: 37-54.

In this document, the author discusses the relevance of action research in management information systems. The author maintains through comparisons that action research is more similar to design science instead of a qualitative research method.

Kotter, J. P. (1995). "Leading change: why transformation efforts fail." *Harvard Business Review* 73.2 59+. *Academic OneFile*. Gale Document Number: A16716270

Retrieved from

<http://search.ebscohost.com.dml.regis.edu/login.aspx?direct=true&db=buh&AN=9503281992&site=ehost-live>

In this article, Kotter explains why transformation efforts fail and he focuses primarily on the eight steps to transforming the organization. He wrote this article as a predecessor to his book – *Leading Change*. The author explains

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the differences between management and leadership. Management is primarily concerned with minimizing risk and keeping things running, however, when faced with change and creating new systems, this requires leadership to get things moving in the right direction.

Kotter, J. P. (1996). *Leading Change*. Boston: Harvard Business School Press.

In this book, the author discusses why transformations fail, and what leads to successful change. Leadership plays an important role towards supporting change especially in the 21st century. The book is full of change examples of what works and what doesn't, and provides an eight-step process for guidance.

Maurer, R. (1996). *Beyond the Wall of Resistance*. Austin, TX: Bard Books, Inc.

In this book, the author discusses resistance and its power to resist change in the organization, how to recognize resistance, working with resistance, and the cycle of change.

Merriam, S. (1998). *Qualitative Research and Case Study Applications in Education*.

San Francisco, CA: Jossey-Bass.

In this book, the author discusses qualitative research with applications to the case study. The author covers how to set up a qualitative study, collection techniques, analyzing collected data, concerns about reliability, validity, and ethics, and writing the final report.

Prosci. (2009). The "harder" side of change. The What, Why and How of change

management, Change Management Tutorial Series. Retrieved from <http://www.change-management.com/tutorial-what-why-how.htm>

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At this website, Prosci defines what change management is and discusses that when change is necessary, it is the people side of change that is the hardest to manage. It is important to get employees to engage, adopt, and utilize a change in how they do work in order to have organizational success.

Soy, S. (1997). The case study as a research method. Retrieved March 8, 2009, from http://faculty.uccb.ns.ca/pmacintyre/course_pages/MBA603/MBA603_files/The%20Case%20Study%20as%20a%20Research%20Method.pdf

In this document, the author discusses the importance of case study research and how this type of research helps people to gain a better understanding of a difficult issue. Case study research can also increase knowledge and add to what is already known and presented by previous researchers. The author attributes works to Robert Yin and other well-known case study researchers, and provides a six-step process for conducting this type of research.

Sveiby, K. E., (1997). *The New Organizational Wealth*. San Francisco, CA: Berrett-Koehler Publishers, Inc.

In this book, the author states that people and other intangible assets are what provide value to knowledge organizations. The author provides a conceptual framework to help managers change their business strategies to focus on the intangible assets found in their employees, customers, and suppliers. The author details how to measure tacit assets and use them for success, and he provides case studies of companies that have been successful.

Trader-Leigh, K. E. (2002). Case study: Identifying resistance in managing change. *Journal of Organizational Change Management*. Volume 15 No. 2. p. 138-155.

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Retrieved from

<https://regis.illiad.oclc.org/illiad/illiad.dll?SessionID=G113509209E&Action=10&Form=75&Value=107122>

In this article, the author discusses a management initiative within the U.S. State Department, and how change initiatives can lead to resistance towards change, especially when stakeholders perceive that their own goals will be possibly affected by the change. The article discusses the power of resistance within the organization, the case study findings for the cost of change and its affects, and provides a summary and conclusions for successful change implementation.

Warren, Nicolay A. M, Ruddle, K., & Moore, K. (1999). From Organizational Development to Change Management: The Emergence of a New Profession. *Journal of Applied Behavioral Science*, 35, 273-286. Retrieved from <http://jab.sagepub.com/cgi/content/abstract/35/3/273>

In this article, the authors' contrast the differences between organizational development (OD) and change management. They propose that change management is a new and distinct field and not an extension of OD. They also describe challenges associated with implementing large-scale change, and they discuss models and tools to help companies with integration and navigation during implementation.

Yin, R. (2003). *Case study research: Design and methods, Third Edition*, Applied Social Research Methods Series, Vol 5. Thousand Oaks, CA: Sage Publications, Inc.

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In this book, the author discusses the case study as a research strategy. The author explains how to define a problem, design the case study, prepare for data collection, collect evidence, analyze case study evidence, and to compose and report the case study. The author presents the importance of the case study and how it is used in many disciplines such as sociology, psychology, management, planning, and education.