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Change Management in Academia

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Worcester Polytechnic Institute

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Change Management in Academia

Major Qualifying Project

Allyson Judith Bernard

8/2/2012
Abstract

This MQP report outlines issues often faced when implementing organizational changes in academia. A number of similarities exist between universities and corporations. This report examines the principles of change management in corporations and how they apply to academia. Through research and interviews, it was found that these said principles require some adaptation for the academic environment. Finally, this report recommends one method to implement a change in an academic organization.
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Executive Summary

Academic institutions are organizations that at times require changes in the way in which they deliver their services, just as corporations do. Change management is the process in which an organization implements any type of organizational change. When comparing academic and corporate organizations, many similarities are noted. Change management also focuses on the psychology of change and the problems that can be faced when engaging in an organizational change. It is hypothesized that the change management principles used in corporations can also be applied to academia.

This project examines change management concepts and examples of organizations that made attempts to implement organizational change. These examples are in both academic and corporate organizations. Research and interview methods were used to examine how universities function and potential reasons that universities may consider making changes. Interviews were completed with five individuals with varying backgrounds in academia and industrial experience. These five include an Academic Department Head, a Vice President of university administration, an associate professor and administrative department head, an Academic Department Head with recent industry experience, and a managerial level employee of a large corporate organization.

The five interviews centered on organizational changes that each person participated in or seen implemented. They were asked how the implementation was done, employee reactions, the positive and negative aspects of the change, and how they would go about implementing an organizational change in their respective environments. These responses were congruent with the literature used for the preliminary research completed surrounding common techniques used and some of the reasons as to why people may resist change.
It was found that in successful change management endeavors, individuals respond well to open forms of communication where they are given the reasoning behind and decision and the data to back up those findings. Open communication is a vital component to the successful implementation of organizational change, especially in academia as a significant number of the organization’s members are knowledge workers and may not respond to typical incentives.

It is recommended that implementing an organizational change should be accompanied by a detailed description of the problem, the time lapse before a complete implementation, details of the change itself, and why it is occurring. The process should also include iterative feedback from employees to access the success of the change.
**Introduction**

This Major Qualifying Project (MQP) identifies common issues that arise with organization changes in academia. This MQP attempts to identify the challenges and methods of creating large scale organizational change in an academic environment. This project will cover background information of change management principles, examples of organizations that have successfully and unsuccessfully made organizational changes, and interviews with various corporate and academia personnel. This paper will outline a method for implementing an organizational change, summarize common issues that arise with change implementation, make a recommended plan of action and finally conclude on what was learned.

A university is comprised of three main constituent groups: the faculty, administration, and students. Each of these groups is vital to the overall organization and has their own set of characteristics that may assist or hinder organizational change. Students, for the most part, follow a path that has been laid out for them and have little input in terms of the faculty and administration. The administration is responsible for the overall university operation. The faculty is responsible for the learning experience delivered to the students. Faculty members are also involved with continuing research (Tagg, 2012). Within this category is tenured faculty, which is a unique subset that may not succumb to pressure of organizational change. This presents an added challenge for organizational change because this particular subset of the employees cannot be forced to partake in any changes.

The organizational structure of academia is unlike most other types of corporate organizations and as a result may not have as many well-documented successful methods of change management. Understanding the current process for many organizational changes, both large and small, is a vital component to proposing a possible course of action. This MQP will outline the reasoning behind change management techniques with examples of flourishing and failing companies and explain one method to implement change in academia.
It is observed that in the world of academia, tenured faculty may choose to act independently and it may be difficult to get a consensus on needed organizational change. While there is a more defined chain of command among that administration and staff, the leadership and organizational change rules among faculty members is not as clear cut. There are many different types of faculty members, including visiting and adjunct professors, instructors, assistant, associate professors, and full professors. While there is a general idea of the hierarchy, other factors like experience, research, and time spent at a specific location can have influence on their standing among their peers.

The most difficult aspect is actually implementing the proposed change, such as the switch from a traditional classroom environment to exclusively online courses. The principles of change management outline the possible methods to implement the change. It can be difficult to successfully carry out change management if the affected parties have no incentive or do not understand or agree with the reasoning behind it. Faculty members are knowledge workers and typically enjoy a high standard of living in this profession. The average engineering faculty member in the United States makes approximately $93,000 regardless of the type of four year institution. However the range between full faculty members and instructors can fall between an average of $93,785 and $60,010 respectively for 2011-2012 (2011-12 National Faculty Salary Survey Executive Summary). The national average salary for 2011 is $45,230 (Occupational Employment Statistics, 2012). The average full engineering faculty member makes more than double the average national worker. Due to their salary, financial incentives may have little or no impact and for full faculty members there are few negative repercussions that can be used as deterrents. Other members of the faculty are still susceptible to the harsh punishment of losing one’s job.

A disconnect between the administration and faculty members may be observed. The administration is often able to better see the whole organization, notice shortcomings, and focus on improving the overall organization. This is because they are not bound to a single area of focus and it is
their job to look at the organization. Faculty members are often separated into different departments based on their focus of expertise and as a result, may have a limited perspective or lack of trying in organizational issues.

Knowledge workers, such as professors, doctors, and lawyers are required to have a high level of education. Being well educated in one area of academia does not mean that those same individuals are educated other in aspects of the university organization. While these faculty members are going through the day to day operations, there may be someone more qualified to assess the organization’s direction and suggest improvements. This opinion of how to run the organization is not always shared among faculty members. Some have seen that the majority of successful changes have actually come from the faculty themselves (WPI Director of Morgan Teaching & Learning Center & Associate Professor, 2012). This could be because they have more experience completing their responsibilities or because they are more likely to embrace change if it comes from one of their direct peers. This situation is potentially exacerbated by lack of clearly defined leadership roles among university employees, lack of incentive, or agreement with the new direction. In a clearly defined corporate structure, employees are typically informed of an impending change and given the opportunity to embrace it and continue working or look elsewhere for employment (Former Employee of McGraw-Hill Digital Media Department, 2012).

The primary purpose of any institution of higher education is to educate students and conduct research. While this is one of the primary job descriptions for faculty members, the majority of administration employees have little or no experience with teaching or research. Although the administration may have a better view of the organization as a whole, they may propose a change to how course material is delivered that the faculty does not agree with.

An important factor to consider with education is the cost. The price of higher education is projected to increase substantially in the upcoming years. If these projections are true, fewer students will be able to afford the cost of education. In 2010, the average cost of tuition and fees at a private 4-
year institution is $119,400. In 18 years the same school is projected to cost $340,800, assuming a 6% annual increase (The real cost of higher education). A public 4-year institution will have rates of $33,300 and $95,000 respectively. (The real cost of higher education) Today’s cost of a private 4-year university is already more than twice the national average salary (2011-12 National Faculty Salary Survey Executive Summary). Even if salaries increase with education, the high cost is enough to make students and parents reconsider the choice between private and public universities. If colleges do not consider steps to reform their current organizations, they could face serious repercussions in the future. Instead of waiting until a drastic change is necessary, universities should look at their organization now and begin to improve their culture (Wulf, 1998).

**Problem Statement**

Higher learning institutions for engineering education may be modeled as a factory (Black, 1991). The cost of education has increased despite the current economic turmoil and will continue to rise unless changes are made to reduce costs (Losing Ground, 2012). Change management is an aid used to transition from one state to another (Change Management, 2012). There is little evidence of a single defined method to implement a change in an organization. The comparison of an educational institution and a functional factory is being investigated, as well as the steps required to successfully change the way in which the faculty (the manufacturing processes) operate throughout their curriculum and overall education experiences (Academic Manufacturing System) (Black, 1991). Research includes literature reviews and interviews will various professionals’ experiences in the design of higher education change and implementation.
Project Goal

The purpose of this project is to develop a process for implementing large scale change in a university environment such as modifying the curriculum or methods of operating a university to achieve goals other than education ones. These could include reducing costs, improving the throughput, or improving the quality of education. This process will be based on both past experiences and studies in academia and industry. It will determine the necessary functional requirements needed to satisfy the vital components of any change. This process will outline the steps necessary to implement a change that will be viable on the majority of college campuses, although the primary research will be conducted at Worcester Polytechnic Institute (WPI) and will fulfill each of the function requirements as outlined. This method will be applicable in a broad sense to both academia and industry.

Objectives

This project will achieve the following objectives:

1. Understand how to implement a large and small scale organizational change through literature reviews and interviews.

2. Determine key functional requirements needed to implement a large scale change.

3. Determine common issues faced when implementing organizational changes.

4. Develop a process to implement change.

Methodology

To gain a better understanding of change management and its purpose in organizations research was collected. Regarding these topics, his research included peer reviewed journal articles, books, papers, and interviews with professionals with both academic and corporate backgrounds. Topics
range from change management to the projected state of academia to the psychology behind human behavior. This wide array of information allows better understanding of the concept of organizational change implementation.

The main concept of using manufacturing methods in academia was suggested by J.T. Black. Research for this project began with his written work. Research continued with specializing in change management techniques. It was at this point that it could be shown that there were many commonalities between the change management techniques in the research companies. The main concepts were to establish that a change was needed, communicating that change and the need for it to employees, establishing a plan of action, and implementing that change with the organizations’ leaders serving as role models. (John Jones, 2004) Along with the idea of change implementation, research was undertaken on why academia could be in need of change. One reason was the rising cost of education. Also, traditional vs. non-tradition higher learning and the changing type of students pursuing degrees.

With a better understanding of change management and how it can be applied, it became valuable to find examples of companies that have had attempted change management in the past. These companies would illustrate how the aforementioned change management techniques can lead to success if implemented properly. It also shows what can take affect if the proper tools are not used correctly.

Examples were found in Worcester Polytechnic Institute, the McGraw-Hill Companies, Kodak, Polaroid, and J.P. Morgan. These five organizations each had unique experiences that lead them to their success or demise. The latter three organizations poorly implemented change and only J.P. Morgan is still a profitable and existing organization. One commonality between the five organizations is that they each reached a time when change was imminent and the organization’s response to this change determined the future.
To add a different perspective to the literature reviews, interviews were conducted of professionals in academic and corporate industries. Each of the five interviewees had a different background that shaped how they responded to organizational change and their preferred method of implementation. Five individuals were interviewed including an academic Department Head, a former employee of a corporation, an Associate Professor, an Administrative Vice President in Academia, and an Academic Department Head with recent industry experience.

With the preliminary research completed, the literature reviews were compared to the interview transcripts for any similarities or differences. While some opinions differed slightly, the majority of the findings corroborated the other sources found. With the congruent findings, an implementation process could be developed.

Background

Change Management

There are two main methods used in change management to achieve a final goal: to go slowly over time with continuous process improvement or to be radical with a quick, large change. Both methods are useful in different situations and both begin with the realization that a different future state is desirable. Once the need for change has been identified, steps can be taken to resolve the issue. While some organizations have may have continuous improvement policies currently in use, they may be focused on making small or incremental changes. In the case of WPI, process improvement often refers to continually updating course material with small incremental changes (WPI Director of Morgan Teaching & Learning Center & Associate Professor, 2012). Since it is human nature to be resistant to change, small incremental steps may not be completed at a quick enough pace. As a result, a radical
change frequently the best course of action to improve a failing organization. Such steps should not be taken unless necessary (The History and Definition of Change Management, 2012).

Through speaking with various professionals in both academic and corporate environments, it has been observed that their experiences closely resembled methods and examples outlined in the literature (10 Principles of Change Management, 2004). Common themes from the five interviews highlight the difficulty of implementing change rallying around participants not being fully invested in the change. Unlike corporations, the President of a college or university cannot simply release a mandate and expect for new protocol to be followed. Instead, changes surrounding the academic portions of a college must receive a passing vote from the school’s faculty. For a full transcript of these interviews, refer to Appendices 1-5.

**Similarities between Academia and Corporate Organizations**

There are many similarities between academic and corporate organizations. It can be seen that many successful organizations need to incorporate some degree of change in order to thrive, especially because of the constant changes in technology. An organization is defined as “an administration and functional structure (as a business or a political party). Also: the personnel of a structure” (Organization, 2012). It is observed that both higher learning institutions and companies both fall under this definition. While academia has many similarities to corporations, there are further correlations that can be made, such as factory settings and law firms.

Academia and law firms find it difficult to management organizational about change for similar reasons. One issue faced in this environment is the difference between billable and non-billable work. Non-billable work does not require payment from a client and does not product revenue for the firm. These participants need to be willing to look for a solution without the immediate promise of pay (WPI Director of Morgan Teaching & Learning Center & Associate Professor, 2012). This is also seen in academia because faculty members are not given monetary compensation to work on plans for change.
during the summer months or other times unless they have secured their own funding through grants or similar subsidies. In addition to the lack of compensation, law firms focus on limiting the liability and taking risks that may not produce high quality (Rickin, 2006). Law firms, much like other corporations, often require a “practical playbook” to establish individual employee roles and milestones to evaluate the change as it progresses (Pennington, 2011). There has been similar hesitation seen in academia and changes can take as long as ten years to fully implement (WPI Vice President of Student Affairs, 2012).

Looking closer at companies with factory settings, institutions of higher education can be modeled like to a factory, specifically the comparison has been made between manufacturing and football, but further inference can be made to apply specifically to academia as referenced in Figure 1.

<table>
<thead>
<tr>
<th>University vs. Manufacturing</th>
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<tbody>
<tr>
<td><strong>Student</strong></td>
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<td>Professors:</td>
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<td>Lecture</td>
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<table>
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<tr>
<th>Curriculum</th>
<th>Manufacturing System</th>
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</thead>
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<tr>
<td>Majors, degrees</td>
<td>Different products</td>
</tr>
<tr>
<td>University</td>
<td>Production system</td>
</tr>
<tr>
<td>Dean</td>
<td>Supervisor</td>
</tr>
<tr>
<td>Department head</td>
<td>Foreman</td>
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<tr>
<td>Administration</td>
<td>Personnel</td>
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<tr>
<td>Staff</td>
<td>Accounting</td>
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<tr>
<td>Accounting</td>
<td>Quality control</td>
</tr>
<tr>
<td>advisors</td>
<td>Maintenance</td>
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Figure 1: University vs. Manufacturing (Black, 1997)

The university is a production system. Both universities and factories have similar components including: raw materials, machines processes, processing, production control systems, and with different
roles and experience levels. The raw materials in a university would be the registered students of the academic programs. To better visualize a college as a factory, think of the students as raw material, such as wood, in a manufacturing plant. When you follow wood through the manufacturing process, it begins as its original unaltered state that undergoes various processes that could include cutting, sanding, shaping, gluing, or finishing (Black, 1997). After the raw wood has been processed, it becomes part of a new product, such as a desk. The exact order of processes the wood goes through determines the final product. A factory can produce desks of different styles, qualities, and colors. Similarly, students take various courses metaphorical comparable to machining processes resulting in various majors, degrees, and even quality of students as determined by their grades. These similarities mean that the change management methods used in corporations may also apply to university.

Differences between Academia and Corporate Industries

Just as there are similarities between universities and corporations, there are also differences. The main difference between the two is the type of employees within respective organizations and hierarchy associated. As earlier referenced, there are visiting and adjunct professors, instructors, assistant, associate professors, and full professors.

In the case of corporations, a clear hierarchy of management exists and it is easier for management team to mandate changes and expect to see the proposals carried out (University of North Carolina Teaching Assistant Professor & Director of Undergraduate Programs, 2012). In each academic department, there are multiple faculty members on the same level of employment that have received tenure. Tenure is defined as “the act, right, manner, or term of holding something (as a landed property, a position, or an office); especially: a status granted after a trial period to a teacher that gives protection from summary dismissal” (Tenure, 2012). Professors receive tenure after a probationary period and extensive review. While different schools and states can have different union contracts, the underlying theme with tenure is to allow faculty members job security and academic
freedom and though there is a difficult process to let a tenured faculty member go, it is not impossible. Due to this, these faculty members have more job security, where as all other non-tenured faculty members are employed and on a probation status (Scott, 2012).

A similar organization structure can be found in law firms entered in a general or limited liability partnership. The partners have equal positions and can even be responsible for each other’s debts and faults when practicing the law (Find Law, 2008). It can be seen that this type of culture makes it difficult to have a hierarchy of management for the actual partners. Manufacturing companies are not generally structured as partnerships and avoid these problems.

**Examples of Successful Change Management**

This paper outlines the issues that may be faced while implementing change in academia. Considering the similarities between academia and corporations, the change management principles used in corporations may also apply to academia. These principles can be applied to the majority of organizations and events. It is important to consider successful examples of change implementation.

**Worcester Polytechnic Institute (WPI)**

Worcester Polytechnic Institute, formally Worcester County Free Institute of Industrial Sciences, was founded in 1865 by nine men with a new vision of how to prepare professional engineers. Curriculum focused around two founding principles, “leur and kunst,” which translates to “learning and skilled art,” or more commonly “theory and practice.” This motto has served as WPI’s guide to incorporate skills that help solve real world problems. Today, WPI has over 3,700 undergraduate students and over 1,550 graduate students and uses a project-based undergraduate curriculum (History & Traditions). In addition to be project-based, graduation requirements demand students to be well-
rounded with requirements in the humanities and arts, social science, and physical education (Shaping Our World).

To continue with the founding principles of theory and practice, WPI focused academics around project based learning. The Interactive Qualifying Project (IQP) and Major Qualifying Project (MQP) were added as graduation requirements for all undergraduate students. Not only would these projects enable students to gain experience with team work, students would be working on “real-world” problems and gaining valuable insight. In addition to a project based curriculum, a new grading system was put in place. Students could receive an “A, B, C or No Record (NR)” (Grades, 2012)It has been observed that this grading system encourages students to take courses outside their designated major without the fear of the repercussion of a failing grade in an unrelated area. A second way that WPI encourages well-rounded students is with the Humanities & Arts requirement. This requires students to take six courses in either a foreign language or five courses in two subsections of Humanities & Arts and culminate in a seminar. There is also a Physical Education requirement for all students to ensure that students exercise both their minds and bodies (WPI Director of Morgan Teaching & Learning Center & Associate Professor, 2012).

In the late 1960s, WPI was challenged to differentiate itself from larger engineering schools to attract top students and faculty. Financial challenges led to a drastic and radical change if the school was to succeed and prosper. Despite the obvious need for change, discussions took place for several years before actually taking affect. The final version of the WPI plan arose in the early 1970s that brought a new approach to higher education. At the time of its proposal, nearly half the faculty was opposed to this change and the new curriculum barely passed the vote of the faculty. As a result, some faculty left WPI they did not agree with the changes that were taking place (WPI Director of Morgan Teaching & Learning Center & Associate Professor, 2012). As a result of radical change and sustained change effort in the early 1970s, WPI is observed to have a positive reputation and is doing well financially.
The McGraw-Hill Companies

The McGraw-Hill Companies established in 1902 was the result of the merger between the McGraw Publishing Company and The Hill Publishing Company, owned by James H. McGraw and John A. Hill respectively. Today, McGraw-Hill is known as a global information and education history and has more than 280 offices in 40 countries (Corporate History, 2012). McGraw-Hill provides many products for use in the classroom and with technological advances has made a larger push for more digital media. In order to stay competitive and focus on the growing customer markets, the company needed to make drastic changes to its organization structure. As a result, a large number of employees were laid off. McGraw-hill chose to initiative these proceedings with large “town-hall meetings” to inform employees all at once about the restructuring initiative and within a year, the changes had been made (Warfield, 2010). While these types of changes can be difficult on employee morale, it is ultimately beneficial for the company and had McGraw-Hill not taken these preventative measures, they could have a similar fate to Kodak or Polaroid (Former Employee of McGraw-Hill Digital Media Department, 2012).

Examples of Unsuccessful Change Management

To gain a better understanding of change management principles, it is vital to also consider failed attempts of implementation and some of the reasons behind the failure.

Kodak

The Eastman Kodak Company was one of the first organizations to simplify and revolutionize photography for consumers in 1888. George Eastman planned to make photography “as convenient as the pencil.” In the company’s early years, the Eastman Kodak Company was an innovator and led the industry with new products and services to increase the user ability of photography equipment. The brand name is still well-known today (History of Kodak). Many attributes of digital photography can be accredited to this company (How Kodak Could Have Avoided Bankruptcy, 2012).
From the company’s beginnings, George Eastman was well-known to take risks as demonstrated when he moved to the film business and then again when he chose to invest in color film despite its inferiority to black and white film. At the time of his second big switch, Kodak was doing very well and was in no immediate danger or being successful. These changes turned out to be extremely profitable. As technology progressed, Kodak chose to use new digital technology to improve the quality of the current product, rather than use digital film alone until 1986. Kodak began to expand its business with the poorly decided acquisition of Sterling Drug with the hope that the chemicals used would aid in the development of film. Since little research was completed before the purchase was final, Kodak soon learned that their newly purchased property was completely irrelevant to the photography industry. This was one of the first or many misguided financial decisions that would ultimately lead to the downfall of the Eastman Kodak Company (How Kodak Failed, 2012).

Despite the company’s early achievements, Kodak was unable to maintain a lead on the competition after 74 years when they failed to improve their product and incorporate the newest technologies. While having faith in a seemingly impossible recovery can have its rewards, as demonstrated with WPI, often times a well planned exit strategy can leave the company in a more positive light. As time progressed, Kodak soon fell behind in nearly all markets in which the company was competing. With approximately 11,000 valuable patents, the company could have been a remarkable buy by one of many prominent companies. Had Kodak been purchased by a larger company, management would have managed to maximize shareholder value and potentially revitalized the Kodak brand. A company such as Google or Apple would have also had the proper personnel to innovate further (How Kodak Could Have Avoided Bankruptcy, 2012). Unfortunately, the Kodak management team waited too long to attempt a recovery (Kodak Bankruptcy: Strategic Planning Failure, 2012).
Polaroid

Founded in 1937, Polaroid Corporation focused in an array of products ranging from “eyewear to gunsight filters” (Polavision - Polaroid’s Disruptive Innovation Failure, 2011). In 1948, Polaroid’s instant film cameras were launched, aiding in the company’s 30 year rise to become one of the most successful technology companies in the post-war era. Polaroid’s main strategy was to develop new technology with the hope that the market would follow their lead. The opposing strategy would be to cater technological innovations to the market demand.

The company’s plan worked until the development of “Polavision” (Polavision - Polaroid’s Disruptive Innovation Failure, 2011). Proclaimed to be the company’s largest technological breakthrough, Polavision came equipped with a camera, film, and movie viewer. These short films had color capabilities but produced only 2.5 minutes of silent film. In addition to these shortcomings, filming required a brightly lighted environment and had a notoriously slow speed. Despite internal concerns, Polavision was released to an under researched market and was quickly overpowered. The management at Polaroid had not taken the necessary precautions to reorganize their company structure for more productivity in a new market. Once again, Polaroid released a product to market that had not been properly given market research. Between 2001 and 2009, Polaroid filed for bankruptcy, sold all assets and was reformed under a new name. Under the name “Polaroid Corporation,” the company was once again forced to file bankruptcy. This company had proved once again that it was in dire need of changes that the management was unable to see (Polavision - Polaroid's Disruptive Innovation Failure, 2011).

JP Morgan

Established over 200 years ago, J.P. Morgan has been instrumental in the creation of many well-known companies today including AT&T, GE, and even U.S. railroads. This institution has focused on
creating quality client solutions and leadership during times of financial crisis (History, 2012). J.P. Morgan offers firm services in asset management, investment banking, private banking, securities services, treasury services, and commercial banking (Businesses, 2012).

In the case of J.P. Morgan Chase, the warning signs were there, but the company refused to acknowledge them, and instead continued to attempt to earn back their losses. This ultimately did not work and lead to the resignation of three executives for the loss of at least $2 billion. While these losses did not directly affect the bank itself, their actions may lead to more strict rules about banks engaging in speculated trades (Goldfarb & Rein, 2012). In addition to making such large mistakes, it has been discovered through internal review that traders were not following protocol and should have never let such large trades go through in the first place. Overall, this event will have more influence on the regulations surrounding banking and investments than it will on the J.P. Morgan Chase alone (Henry & Horowitz, 2012). In this particular company, the guilty parties chose to step down after their outrageous offense. This can be used as an example of positive management skills because it is foreseeable that few of the company’s clients would trust the judgment of said executives.

Similarities between Failed Companies

As seen in each of the previous three examples, the management lacked the ability to look forward and foresee possible market changes. By the time the companies were able to fully grasp the severity of their situations, there was not enough time or support to make any long-term changes to keep their respective companies afloat. Despite the common knowledge of their failure, many companies are doomed to repeat the mistakes of Kodak, Polaroid, and JP Morgan if they do not look at their own companies critically and embrace new changes that will lead to their prolonged success.
Findings and Recommendations

From the literature and interviews conducted, it can be concluded that there are many different ways to approach a change management situation. From accounts of changes in various academic and corporate institutions, some important similarities can be surmised. First, the problem must be identified and a course of action and timeline should be created. This should also include the possible issues that may be faced along the process. With the change initiative outlined with deadlines, the process and reasoning should be communicated to the entire organization. At this point the actual implementation should begin to take place. During this time, feedback will constantly be taken into consideration as the implementation continues. Finally, the process and change should be analyzed for effectiveness and to make note of future process improvements.

Once the problem has been identified by the committee for change initiatives and a change agent has been found, the change management strategy and course of action must be determined. This schedule should include a timeline to establish a sense of urgency and should be created by the board of directors and faculty members responsible for advancing academic platforms. This will determine how quickly the change will take place and the reasoning behind it. Communication is important throughout the entire process. In a long term change, planning for some early success can help have a positive effect on the transition. The potential barriers should also be considered and may include resistance from employees, lack of manager support, or lack of the necessary equipment. Should one of these events occur, the severity of the situation should be assessed before continuing forward. In the example of the lack of proper equipment, alternative brands or series should be investigated. In addition to have the proper environment for change implementation, it is important to gain support from influential faculty members (Salahudeen, 2010). To better illustrate how a change like this takes place, WPI may be used in a model of switching from a traditional learning university to include complete online learning for each course offered. Naturally, there are pros and cons to a change of this magnitude. The point of this
example is not to explain why to change to an online environment, but rather to explain the change management process itself.

In some organizations there is already a set of guidelines for organizational change. Some organizations have annual committees set up to consider proposals of change to academic progress. Committee members may rotate annually, bi-annually, or on a case by case basis. The same may be true for drafting proposals. In the case of WPI, the proposal committees change members based on the area of potential change and who it may affect. A common technique is to incorporate a variety of stakeholders from different backgrounds, as well as individuals in favor and against the potential change. This allows the less enthusiastic individuals to address their concerns and take ownership. This helps to create more support as it is better than having to go against them (WPI Vice President of Student Affairs, 2012).

Once a schedule has been determined, the next step is to begin the process of change. The use of “town-hall meetings” is a practice that allows all employees of an organization to gather together in a single location so that they can all receive the same message at the same time. This format of releasing information is a common practice at both WPI and McGraw Hill (Former Employee of McGraw-Hill Digital Media Department, 2012). At this meeting, management will often time present on the upcoming company events and changes and go over the proposed plan of action. It is important to hold these meetings regularly to encourage communication. In addition to telling all employees at a single time, this type of forum allows employees to ask questions directly to management and benefit from hearing the questions of other employees.

Continuing with the example change given above, it is important to identify the reasons behind a change. One observed benefit would be the potential increase of students that would not require additional space on campus. A common problem on campuses is a growing student population without
the possibility to expand physically. This makes it more difficult to accommodate a larger number of
students (Online vs Traditional Degree, 2012). The reasoning behind the change is very important and
should be backed up with facts and data to help sway the faculty members. This could be announced at
a town-hall meeting that has been well advertised through university emails and newsletters. The
university would need to provide the proper equipment to each professor to record lectures, as well as
the training needed to understand how to use the additional equipment. Additional support is required
if the equipment malfunctions or experiences technical difficulties. In the case of Academia where the
employees are mainly knowledge workers, it is also important to consider their thoughts on the matter
and any issues they may foresee.

The next step is to find the right individuals to encourage change from within the process. This
person may not always be a manager or department head (WPI Director of Morgan Teaching & Learning
Center & Associate Professor, 2012). Similar to a corporation, professional, or recreational organization,
it was observed that sometimes the most influential member does not have an official position. While
considering an organization, informal leaders will emerge that others may look toward for guidance.
These enthusiastic individuals serve as examples for others employees that may have reservations or
questions.

For larger changes that require the majority or entirety of faculty to be in favor of the change,
the implementation process should be slow. In the case of converting to more online courses, the
process could take between 5 and 7 years to complete (WPI Vice President of Student Affairs, 2012). The
change should especially be slow because it deals with new technologies that the faculty may not be
familiar with.

Through the entirety of this process, the administration in charge of accessing the
implementation should be seeking feedback from faculty, administration, and students. This can be
done through surveys and focus groups. It’s difficult to come to a decision that everyone agrees with, but with time and check points, changes can be successful.

**Conclusion**

There are a myriad of things to consider when implementing small and large scale organizational changes in an academic organization. Obstacles including employees resistant to change and the lack of a strong management can lead to an unsuccessful change. With proper planning, communication, and a set goal, changes can successfully be implemented.

Through research accumulated in multiple forms of discussions, interviews, journal articles, books, magazines newspapers, and other sources, the overall concept of change management and the many challenges that can be faced. In this project particularly, I focused on the similarities between academia and corporate organizations and how the same principles used in industry can also be applied to academia with some small changes. When considering change management in any organization, the process should be customized for that group and task specifically. Organizational change can be a difficult challenge and comes with many rewards when implemented well. Overcoming organizational challenges successfully is necessary for implementing organizational change. For an example of how to approach implementing a change, consider the Findings and Recommendations section for an outline of steps to take.
Appendix

1. Transcript of Interview with Electrical & Computer Engineering Department Head

1. Please describe your capstone design course.
   - What are the purpose, goals, and common results of the course?
   - How long have you been in charge of this course?
     - Tells students how to complete a project, including writing a proposal, schedule, and the research. It is competition based where students are given a general problem and formulate a prototype.

2. Are there any metrics in place to assess this course’s effect on student development and learning, such as evaluations?
   - Nothing in particular for this exactly.

3. Has the capstone design course changed since you have been involved with it?
   - What types of changes have occurred?
   - Why were these changes made?
   - Were they faculty, administration, or student driven?
     - We are always monitoring and accessing our program to make improvements. For example, the faculty insisted that all students use a single notebook for a given project. This is very helpful in the long run when it comes to documenting their ideas and process.

4. Are there any issues with faculty due to this? (Ex: any reluctance or impact on development?)
   - Administration?
   - Students?
     - The department is always changing, but nothing too radical. Many of our projects have been because other departments are looking to collaborate with ECE students. We are also seeing more transfer students from other schools, which can be a difficult adjustment to make.
     - In a larger view, few actually realize all that going into ECE and many are unfamiliar with the major and career.

5. Is there any type of quality control used in grading MQPs? How do you decide what makes one project deserve an ‘A’ versus another?
   - Basically, students are judged on their work ethic. “A” students provide all of the info, alternative options, and solutions. “C” students merely complete the work.
• Students are graded on the work, not the project itself and examples of work ethic and projects are given to students.

• Every other year, two individuals review every MQP and assess if their grades were determined correctly. They each ask the same 30 questions for standardization.

• There can be a range of grades for a given project.

• The department head speaks with “bad graders” individually after they have been determined by the reviews. “Bad graders” are able to fix the problem or leave. Students’ evaluations are also taken into consideration.

6. Please tell me about how students are now able to evaluate their project advisors.

• Students are given the opportunity to evaluate their advisors and advisors see these after final grades have been determined.

7. What will be done with these evaluations? Will they be made public?

• The averages are found and then made available on bannerweb.

8. Why did WPI want this?

• Students are able to have a reliable source of information versus sites such as “ratemyprofessor.com.”

9. How do you see it affecting things? Will popular professors be flooded with project requests?

• A lot of it is mutual, both the students and professor must agree. Plus, it is done by subject, which many have a limited area that they are most interested in.
2. Transcript of Interview with Interview with Director of Morgan Teaching & Learning Center, Associate Professor of Mechanical Engineering Materials Science and Engineering Program

1. Please describe your position at WPI. How long have you been at WPI?
   - As a faculty member, I want to innovate courses and look into continuous improvement. No permission is required to look into these aspects. As far as changes go, the administration cannot make any successful changes without faculty support.
   - This role splits time halfway between being a regular professor and promoting teaching and learning innovations.
   - We do invite proposals for change from the faculty.

2. Please describe some of the changes that you have seen during your time at WPI? Have you seen changes on other campuses? Please give examples of changes that have gone well and those that have not.
   - The first year experience was lacking something so we looked into the GPS. It has been going on since the 90s.
   - It was not given as an order from the administration, but rather data and student/alumni perspectives were captured to justify the need for a change. In this case, students were not feeling as engaged in their first year as they had expected.
   - A national survey of student engagement was used for the primary data.
   - This change was faculty driven – from the bottom up, not top down.
   - WPI Plan created a lot of controversy and many people left because they did not agree with it.
   - Flex path that allowed SAT scored to be optional was top-down driven and backed up with a study done on the impact of SAT scores on student performance.

3. How would you have responded?
   - Be enthusiastic and look for early adopters and provide support and resources necessary.
   - Make it a slow change and start with a pilot program; avoid any radical changes
   - Provide models of delivery for education
   - Gather more data and use that evidence to convince others of your plan.
   - The administration needs a change agent to persuade faculty and avoid personnel disconnect

4. What’s a problem you could have?
   - We only know one way to go about change.
• Need some type of incentive, such as time to plan a new curriculum, funds for release time or summer payment.

• Tenured faculty members are able to take risks and those not tenured are normally on a tenure track.

• If not faculty driven, the tenured faculty may not think that the changes are worth doing and won’t.

• The faculty needs to vote on all major changes. There are different committees that are in charge of the departments and all of faculty votes on these matters. This happened for WPI Plan as well as recently when the School of Business wanted to provide free tuition to PhD candidates, but it did not pass because other departments did not understand why that would only apply to the School of Business. With the WPI plan, a bunch of faculty left because they did not agree, which was probably helpful because they were not interested in changing anyway and this just got rid of the faculty members that would not have been very helpful to the process.

5. Is there anyone that you think would be especially helpful to this project that we should speak with?

• Dean of Undergrads
3. Transcript of Interview with Teaching Assistant Professor & Director of Undergraduate Programs

1. Please describe your role and duties as Teaching Assistant Professor & Director of Undergraduate Programs.
   - Advises Industrial Engineering students; she is on various curriculum committees. Anything that involves undergraduate curriculum she’s involved in, she also teaches some courses mostly engineering courses.

2. Please describe role as a teacher and coordinator of the senior design project.
   - She serves as primary advisor and she has some faculty help with mentoring.

3. Please describe the senior design project.
   - It’s a semester long course and students are mostly in groups of 2 – 4 and an average of 3 students. The courses cover material that is focused on managing large projects.

4. How are the projects, teams, and advisors chosen?
   - Catme.org, is used for team assignment and peer review. The students don’t have a choice but it helps put people together and on average the students do end up in their classes.

5. How long does the project last?
   - The project last for a semester.

6. How long have these projects been used? Is this common for all departments?
   - The project has been ongoing for about 70 years and it is not common in all departments. There is nothing else like the senior design project.

7. How does this project differ from those in other classes?
   - There is nothing else like it.

8. How are the student projects evaluated?
   - She sits through peer review and she reviews mentors and reviews final reports and presentations.

9. Are advisers evaluated? If so, are the scores made public?
   - Yes, she’s not 100% sure whether the scores are made public.

10. Have you implemented any changes throughout your career? How did you go about it? Would you change how this was done?
    - She made a lot of changes to the senior design course; during her career at dell was a change, viewed at as how it will affect her role.

11. How did the faculty receive the change? Students?
• She stated that in general, faculty members are okay with change as long as they are keeping their jobs.

12. If you were to implement a large-scale change, how would you go about it? What steps would you take? What problems would you face?
• Don’t want to blind sight when a change is being applied
• Education changes are much slower than industry changes
4. Transcript of Interview with Vice President of Student Affairs

10. Please describe your role on campus as the Vice President of Student Affairs and Campus Life.
   - She oversees all student activities. “Provides an environment for students to be successful.”

11. Please describe the current state of WPI in terms of academic policies and student affairs?
   - WPI is in a good start in terms of academic policies and student affairs in her view
   - Students chose the school because it seemed to be capable of handling change
   - We must always meet education needs
   - The next step is to look at the environment

12. What changes on campus have you seen during your time on this campus? Please give examples of changes that have gone well and those that have not.
   - In academics? Competency exam changed
   - Campus life? The change of the current dining hall based on student surveys.
   - The change of the competency exam for undergrads was an example of change she’s witnessed. She also stated that change is continuous and it is important all the time.
   - Another change she talked about was the increase of incoming students, which meant making the campus adapt to accommodate these students.

13. What are the problems that you have faced for each of these changes?
   - Not much…. but some people have the impression of no news is good news.

14. Have the problems differed depending on the type of change implemented?
   - People do not understand some changes. Faculty change is harder than administrative; there is a faculty governance process.

15. If you have had problems, why do you think it is so difficult to make changes in an organization?
   - Gave an example of a change that did not work which was an academic honesty policy, there were some changes that were going to be made to it but it failed. Policy required students to report peers that were not upstanding to the code, which many faculty members saw as an issue.
   - Example given involved overwhelming amount of students accepting at WPI so there was a shortage of first-year students. In response, WPI tripled rooms, got new furniture, and created a new first-year only gym to help compensate for the cramped quarters.

16. If you were in charge of making a change, how would you go about the process?
• Stated getting people involved as a great way to go about change. Including everyone that it would affect is a positive step toward change. It’s important to draw in the “grumpy” people that would scrutinize the goals if they were not part of the process.

• It seems that the school comes in shifts with presidents focusing on hard to make decisions/changes and then healing. These tend to last for 7-10 years and presidents will cycle through, though most fall somewhere in between the two extremes.
5. Transcript of Interview with Current Employee of Corporate Organization

1. Please tell us about your current company and your role there.
   - She has been an employee at Pearson publishing for a few months and previously at McGraw-Hill for seven years.
   - She works in the digital media department.

2. What types of changes have you seen come through your organization? i.e. new management, new method for problem solving, change of job descriptions, switch from printed textbooks to e-books
   - There has been a large switch to digital textbooks which has led to many more changes as well. It has resulted in organization restructuring in many departments including sales and how media is considered.
   - Specifically at McGraw-Hill, she saw entire editorial departments downsized and added responsibility got pushed to the digital departments.
   - All of these changes meant that management was also changing as departments went from housing multiple subjects (i.e. math, social studies, and reading) to breaking off into their own departments with new locations. In this case, employees were transferred as far as Ohio and Texas.

3. How were these changes dealt with? What steps were taken and by whom?
   - The managers on a whole took the changes in stride and went with the flow of the company. This was also their job.
   - Non-managerial employees tended to be unhappy with the changes because there was much uncertainty. There were large amounts of lay-offs occurring and many were in fear of losing their jobs despite understanding that the change would be positive in the long-run for the company. Even the management sympathized as some were let go as well. In general, the higher up that employees fell on the corporate ladder, the more optimistic they were are the company’s prospects.
   - The company began to publicize the changes with mass emails and town hall meetings that gathered entire divisions for the VP to present on the new upcoming changes. This would outline what the changes were, why they were happening, and what the end result would be. After the initiative launch, follow up emails, smaller department meetings, and sometimes town halls continued.
   - Changes were often done with lots of notice. The shortest changes gave advance warning of 4-6 months, though many were presented a year in advance. Even in the case of lay-offs, announcements were made by gathering all affected employees in a single meeting and breaking the news at once. These announcements were made with an average of 3 months notice. Her example informed employees in September that their jobs would be ending in December.
• As far as the actual implementation went, some were radical and happened over night where as some were more gradual.

• Pearson on the other hand, has already made changes to adapt for the increase the digital market. It has grown 20-25%each year and is working to create more online course materials. A lot of these changes are working to gear the learning process to flexible online courses because that average college student is now a 27 women working, raising children, and going to class around her schedule.

4. If you were to solve the problem how would you go about it?

• In general, the company did the best that they could and I would follow what they did. The one difference I would have implemented would have been to provide more active training to employees in the print departments. Technology keeps advancing rapidly and if the print department employees aren’t educated they can easily fall behind and will have few transferable skills when they are laid off.

5. What are common problems that arise during a time of change with the printed textbooks? How do the employees react?

• Many employees complained and resorted to hushed whispers. Until the official lay-off announcements were made, there was nothing done to placate fearful employees.

6. Where do the change ideas come from? Is it top-bottom, bottom-top, or some other way?

• Some small scale in process change can be bottom-up, but I don’t know if any that got very much farther than that department.

• The majority of changes were top-down, but little data was given to back up the reasoning behind it.

7. Does the direction of the change have an impact on the outcome?

• Not really a difference, perhaps if the change was bottom-up, there would be more communication but otherwise I cannot foresee any difference.

8. Is there anything else that you think would be helpful?

• Companies need to keep a rapid pace to keep up with the changes in technology. When the iPad was released, many companies were focused on that and worked to make their products work with the newly released product.

• Companies and employees need to be flexible and both should always be investing in new trainings to keep everything current.
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