Managing Disruptive Innovation at the University of Minnesota

2010–2011 President’s Emerging Leaders Project

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Executive Summary

In higher education, disruptive innovation is a product or service that radically changes a university’s current way of operating by accomplishing at least one of the following goals:

1. Improving a product or service by designing it for a different or new set of users (i.e. disrupt current concepts of who should be using the product or service).

2. Improving efficiency and/or effectiveness of existing operational processes by a) implementing products and services that eliminate or dramatically reduce the need for currently implemented technologies (i.e. disrupt current systems use) or b) introducing a brand new tool.

In their work at the University of Minnesota, the project sponsors found there is not a shared culture of innovation. The University is not harnessing its collective expertise and resources to implement innovation effectively and efficiently.

This project seeks to create a robust and flexible change and innovation toolkit to help the University of Minnesota implement disruptive innovations more effectively. Respecting current financial and staffing limitations throughout the University, the resulting toolkit will join existing resources across the entire University with an eye toward creating a unified model, which will encourage innovation and collaboration while being fiscally responsible.

The goal of this PEL project is to develop a model and toolkit for the University of Minnesota to manage disruptive innovations. The objectives are to define disruptive innovation in the University context (see Appendix A), research the components of a successful implementation of disruptive innovation, evaluate these components through interviews with University change leaders and innovators, and develop a model and toolkit with an associated report of our findings.
Methodology

From Idea to Project Charter

On September 20, 2010, the President’s Emerging Leaders (PEL) project team was formed by Dave Dorman, PEL Coordinator, and dubbed Team Crookston. While other PEL teams were charged to address more directed “quick response” projects, Team Crookston was formed based on the desire of its members to work on a larger-scale, enterprise-wide project, which had yet to be determined.

In October, Team Crookston considered the possibility of working on a change management toolkit for the University and Mr. Dorman suggested Andy Hill and Eric Schnell as potential project sponsors. The first meeting with Mr. Schnell took place on October 25, and involved an open discussion regarding the goals of the team and how they aligned with Mr. Schnell and Mr. Hill’s interests. It became clear all shared interest in collaboration to reduce inefficiencies and duplication of efforts while creating opportunities for timely growth and innovation. A follow-up meeting with Mr. Hill and Mr. Schnell occurred on November 5.

The initial project phase involved searching for existing information and ideas. A review of existing models, particularly those informed through a higher-education context, was determined to be an appropriate starting point. Once the review was underway, the PEL team began using University communication networks to informally investigate interview subjects and potential collaboration partners. Team members met informally with several individuals to discuss the project idea and solicit feedback.

Stakeholder Analysis

By the end of January 2011, the project sponsors provided a definition of disruptive innovation. Team Crookston presented a formal project charter to the Building Critical Competencies (BCC) group, a grassroots collaborative organization including many cross-disciplinary University leaders, including Mr. Hill and Mr. Schnell. The BCC works “to facilitate the analysis, design, development, implementation, and evaluation of training materials which will increase the University of Minnesota’s competencies in data-driven decision-making and business process management and redesign.” The BCC acted as an advisory group to the project team throughout key phases of the project.

Team Crookston, the project sponsors, and BCC considered various methods for gathering data from the University about implementing disruptive innovation. They discussed the merits of focus groups, surveys, and interviews and ultimately agreed interviews could solicit candid input from innovators across campuses most effectively. Due to scheduling challenges and the nature of the University environment, the clear choice for data collection was one-on-one interviews.

Team Crookston led the BCC through a stakeholder analysis to identify key University leaders and innovators critical to the interview process. Using a two-by-two matrix showing interest in and influence on innovations across campuses, potential interviewees were identified.

Question Development and Interviews

To develop the questions, Team Crookston first looked to secondary literature to understand common life-cycles of change and innovation. For more in-depth personal understanding, each team member created visual representations of what a disruptive innovation model might look like to him or her. Based on informal conversations, consultation with the project sponsors, review of secondary literature, and personal visual representations, the project team identified components of an implementation model.

Team Crookston generated an interview script, which was vetted by the project sponsors. Questions were
designed to gather feedback on the innovation life-cycle, with a focus on elements of successful projects, lessons learned from innovation experiences and direct feedback on common components identified from secondary research. These components included Building the Case for Change, Environmental and Stakeholder Analysis, Communication, Change Management, Subject Matter Expertise, Training, Evaluation, and Sustaining the Change. (See Appendix B for full interview script.)

Data Analysis

By mid-March, formal interviews of 37 University leaders were completed. PEL team members wrote detailed notes or transcribed verbatim the conversations conducted with each of the interviewees. In thinking about a method of analysis, Team Crookston began to explore options for coding responses numerically or using word-mining software to extract themes from the narrative data. In an attempt to determine the most advantageous course of action for data analysis, we consulted with two faculty members from the Department of Applied Economics – Brian Buhr and Elton Mykerezi – who have experience in working with surveys and focus groups in their research. Because of the sample size and the type of data collected (i.e. narrative), the economists suggested word mining would entail great effort for little return. Their advice to the project team was to carefully read interview notes and transcripts and work to identify common themes and diverging opinions.

Team members randomly selected other members’ interview notes and transcripts to read and then identified common themes. During a working meeting, Team Crookston analyzed identified themes through an affinity mapping exercise, generating collections of comments made by University leaders. This analysis produced the following component descriptions and themes.

### Interview Results: Building the Case for Change

Feedback on the topic of Building the Case for Change elicited commentary regarding the important preparation necessary to create a foundation for the project to succeed. Themes discovered included the need to dedicate a great deal of time planning the project, the need to have strong sponsorship from those in leadership positions, and the importance of understanding the project and its associated values. This can help provide answers to the question, “What’s in it for me,” for diverse groups of University stakeholders.

**Have a Unified Vision and Know the Values Behind It**

It is important for project leaders and participants to know their project’s goals, why they are doing it, and where it leads. Create a clear, shared problem statement with a definitive, envisioned end state in mind. Consider what is driving the change (e.g. business needs, systemic needs) and clearly define the benefits and reasoning behind it. Individuals and organizations can unite around a common purpose when it is clear and concise and the supporting values behind the purpose resonate with the community. Stewardship of resources is valued throughout the University and is an example of a shared value that can help develop a common philosophic core to the project.

**Have Strong Sponsorship at the University and/or the Unit Level**

All enterprise projects require leadership sponsoring the project and championing the work being done. Change leaders communicate regarding the project vision and its associated values while providing logistical “air cover,” allowing project managers to take the tactical steps to reach declared goals. It is impor-
tant to determine the “right level of ownership” when determining credible change leadership. There are three common change leadership models: 1) an individual leader with authority declaring, “I want this done;”; 2) a strong organization with authority providing ownership of the project; 3) and an executive steering committee with broad stakeholders. Regardless of the leadership model preferred, having a successful governance structure is important. Create a charge letter defining leadership, a decision-making methodology, and the source of support.

Involve People, Especially Local Experts, at Every Level

When starting to plan, use University communication networks to determine if there are people already involved in the kind of work you are doing and determine if it is appropriate to involve them in the project rollout. Leaders need to be open to input from all levels; as experience shows “organizational charts provide no predictive value regarding the quality of ideas generated from the positions they map.” “Know who the smart people are” and involve local experts and people charged with implementing the changes at the outset. “Relationships are key.” Make sure consultations are sincere; spend time listening and remaining curious to allow schema to evolve from feedback. “Successful projects are a blend of local expertise, strong project management, and vision.”

Be Prepared to Answer the Question, “What’s in it for me?”

A pivotal part of change management is getting ownership and investment for the change. Work from the vision and declared values to answer the question: “What’s in it for me?” Help people understand the logic behind the project, the value being added, and “why the status quo is no longer attainable.” Build trust with honesty; do not pretend everything will be solved by the changes being implemented. It is important to acknowledge losses and to honor the efficacy of the past. Regardless of the project’s scale, having “branded” implementations or steps creates a point of focus, which can help people understand and track the progress of changes as they occur.

ANTICIPATED OUTCOMES FOR BUILDING THE CASE FOR CHANGE

• Working from a unified vision based on tangible values
• Establishing a strong sponsorship to help the project succeed
• Change managers are prepared to answer, “What’s in it for me”

POTENTIAL CHALLENGES

Planning at a minute level may not allow the flexibility to accommodate barriers. Always plan as thoroughly as possible but be prepared for things to change when the unexpected occurs.

There is a tendency across the University to want to get feedback from every possible group and at every possible level. Understand when diminishing returns might be occurring and when getting feedback may adversely impact the ability to get a project to market.

Interview Results: Environmental Analysis

Conducting a high-level environmental analysis requires a baseline understanding of the abstract culture in which one is planning to implement changes. Included below is a brief summary of the feedback received regarding the trends in innovation at the University of Minnesota along with a summary of the rationale for conducting an Environmental Analysis.
Understanding Cultural Readiness

A general consensus from the feedback received during our interviews was that the University is gradually becoming more open to sharing information and collaborating across organizational boundaries. Because University employees have historically viewed other units as competitors, there was a perceived challenge in working with other units. This, however, is beginning to change with some indicating the struggling economy and reduced staffing levels are among the causes for this shift.

Interview respondents shared the overall importance of conducting an environmental analysis, pointing specifically to understanding both the political and fiscal environments in which a project may be undertaken. Respondents emphasized the need to align and coordinate systems before an innovation occurs.

Pointing specifically to the current fiscal constraints on innovation, University leadership shared the emphasis on understanding what is “in house” and scalable before going to buy something externally.

ANTICIPATED OUTCOMES FOR ENVIRONMENTAL ANALYSIS

- An understanding of cultural readiness. Know your environment and the institution’s readiness (e.g. political situation, employee skills to achieve change, relevant University policies and procedures, risk analysis and management plans)
- A determination of the need for change, looking specifically at cost-benefit analysis

POTENTIAL CHALLENGES

Potential challenges associated with an environmental analysis include the ability to get to a root cause, shared pain, or an understanding of the actual environment versus the perceived environment.

Additionally, the results may have an impact on the cost-benefit analysis and thus have financial implications on an innovation.

Interview Results: Stakeholder Analysis

At the start of an implementation, it is imperative to conduct a thorough stakeholder analysis. This exercise will identify key people affected by the innovation and can influence the implementation process. These are people in University leadership, subject matter experts, business process owners, and end users. Not only does an effective analysis identify these individuals, but it also helps the implementation team to know each person’s influence upon and interest in the innovation. University leaders shared their views on the importance of a stakeholder analysis and the methods by which to conduct it.

Creating a High Performance Analysis Team

University leaders emphasized the importance of forming a high performance team comprised of subject matter experts and content experts. With the presence of a high performing team, a project manager can expand his or her knowledge base of the University and gain a deeper understanding of institutional barriers, best practices, existing resources and idea sharing. Respondents also shared that it is important to know the team’s strengths and to be selective to collect the right skills and talents on the team. This is important because it is critical to have well-qualified people involved when identifying stakeholders and their associated level of involvement and influence on a particular innovation. University leaders emphasized the need for clear roles and responsibilities and an environment where everyone is a teacher and a learner.

One specific comment that highlights the importance of having a high performing team was, “If you bring on board the people who have the right mix of skills and
understanding of your project, they can help build standards and create buy-in.” This is significant because University leaders also shared the importance of having a few early supporters (or “salespeople”) in order to stimulate interest in others.

Creating a Deep Understanding of Your Stakeholders

University leaders also identified the importance of creating a deep understanding of your stakeholders at all levels. They shared that stakeholders are not always obvious, there are different kinds of users, and that there are varying levels of involvement that may be required for each kind of stakeholder. An example of a tiered stakeholder system was shared and included: Core (ready to go), Ancillary (not ready to know), and Informed and Aware.

University leaders shared that while stakeholders may not sit at the table for everything, listening to them carefully and communicating with them is crucial. They also stressed the importance of understanding stakeholders throughout the project and to revisit analysis during each natural step of the innovation process. One interviewee commented that there is often confusion regarding what stakeholders need to know and that project managers typically assume stakeholders need to know more than they actually do. Without a thorough stakeholder analysis, an appropriate level of information dissemination is often an unknown.

Leaders commented that it is easy to find people who are enthusiastic about innovation, but the people who you want to work with are the ones who know how and are willing to do the work. It is important to seek out not only enthusiasts but also skeptics and early adopters to help implement an innovation.

Following Best Practices While Promoting Collaboration

A very significant theme of the interviews was the emphasis on ongoing involvement of stakeholders promoting collaboration and input. They shared that you need to set business requirements and expectations early and clearly.

Leaders shared that project managers need to start every single project by collaborating (e.g. use your networks). Without networks and collaboration, the process is not sustainable. Use personal networks to locate and contact stakeholders. This builds effective stakeholder engagement and credibility with stakeholders, challenges the project manager’s assumptions about how processes work, and saves money.

University leaders emphasized the importance of building relationships, listening to others and giving opportunities for feedback. One leader shared, “no one ever complains that you’ve ‘listened’ to them (as opposed to talking). We wouldn’t say communicate, communicate, communicate, but rather listen, listen, listen so people feel heard.” Communication travels in both directions.

Finally, leaders shared the importance of spending time evaluating the stakeholder analysis before stepping forward with an innovation.

Incubate and Implement Collaboratively

After establishing a strong network through stakeholder analysis, University leaders emphasized the importance of involving stakeholders at every stage of the innovation, bringing them together to gather input and re-establishing what they value and expect. One leader shared, “the key to success is to provide meaningful input by users and to let that feedback drive the project.”

Leaders commented on the importance of being “issue-centric,” working from end user input, and incorporating feedback at every point of the project. One leader shared that “customers provide the needs and then we design to meet them.” Another commented, “There should be a guiding principle to understand users’ needs. You cannot go to the users and say this
is what we have created for you.” This University leader went on to share that if there is a system in place, sometimes we have to change it based on the need of the users.

ANTICIPATED OUTCOMES FOR STAKEHOLDER ANALYSIS
- An understanding of stakeholder priorities, needs, concerns, etc.
- A determination of the need for change looking specifically at cost-benefit analysis related to personnel associated with the project.

POTENTIAL CHALLENGES
Conducting and executing a quality stakeholder analysis within a University context is challenging due to tension between enterprise-level and local-level priorities. It is important to understand and respect local expertise while ensuring appropriate adoption and standardization.

Respondents shared that “the reason why college and departmental IT exists, why everything is not run just from the central organization, is simply that being closer to the end user is where the core competencies are.” A very close interaction with the eventual customer is critical to creating innovations. While this may be true, there was an expressed concern from central leadership that balance is required.

Interview Results: Communication

Establish a Communication Plan as Early in the Project as Possible
Communication is the centerline for managing all stages of disruptive innovation. It is through an effective communication plan that all project managers, stakeholders, and users understand the project vision, obtain expectations of the change, and convey feedback to the project team. Interview results highlighted that a communication plan is a must for successful projects. The communication plan should be developed before the project starts. Once the environmental and stakeholder analyses are completed, a communication plan should answer questions such as who needs to say what, at what time, to whom, and how (e.g. email, in-person, etc.). The designation of one person to be the main communicator and first point of contact for the project allows there to be a consistent method and message. Utilize communication experts at the University at the front-end in order to avoid possible common mistakes. The communication plan should address timing for key messages such as expectations, progress, etc.

Develop Strategic Messaging to Keep Stakeholders and Users Well-Informed
When developing a communication plan, the project team should develop and establish methods of communication. The following suggestions were taken from our interviews.

Answer the “why” to the disruptive innovation. Is it saving money? Is it making a process efficient? Is it allowing data to be shared? What will be the benefits of the disruptive innovation for those with whom you are communicating?

Establish a clear explanation of the goals of the project with which the audience can align. Make sure to target these communications toward what people need to know and deliver them at the appropriate time during the project.

Be transparent in the communications and allow opportunities for feedback. Continue to clarify the goals of the project. Establish focus groups from different hierarchy levels that can assist in establishing a transparent project culture. Use newsletters as a communication vehicle to convey progress and highlight accomplishments.
Allow yourself to be accountable to stakeholders and users. Track and evaluate data to provide feedback regarding performance of the project.

Communicate the values and other important standards of the change or new business processes. Some values include honesty, trust, and an openness of discussions around differences.

Plan to be Repetitive

Repetition of these strategic messages throughout the project will be necessary for everyone to understand that change is going to occur. Start early with the messages even if it seems they will not be needed until later. It takes a while for people to learn what they need to know and to accept the change. Be prepared to develop consistent messages in various forms of communication, including face-to-face meetings. The project team should agree on key messages that will become a theme throughout the communication plan.

ANTICIPATED OUTCOMES FOR COMMUNICATION

- All individuals involved with the disruptive innovation will be brought into agreement and understanding of the vision, challenges, values and outcome of the project.

- There will be dialogue between the project team, stakeholders, and users directed toward a successful project.

- There will be no unanswered questions regarding the need for the change.

POTENTIAL CHALLENGES

We are unable to motivate anyone to do anything. University personnel must decide to acknowledge the importance of their roles to remain motivated and contribute to the success of the change. Communication needs to be partnered with deliverables so users will be more trusting of disruptive innovation.

Interview Results: Change Management

All innovation and institutional change must acknowledge the relative acceptance of or resistance to the transition by the people whose work lives it affects. When a new tool or process is put in place, those affected not only have to learn a new skill, they must also understand how the change will impact their work and find ways of managing their reactions to that transition. Managing transitions in any innovation is crucial to a successful outcome.

In interviews with University leaders the project team found managing human change was a fundamental and foundational topic within each component of a project - from stakeholder analysis, to communication, to training, to maintenance. The following subthemes emerged in our conversations:

Prepare and Engage People for Change as Early as Possible

A transition management leader at the University noted that transition happens before the actual implementation begins and continues after the change occurs. As soon as people hear that something will change, their paradigms shift and they begin to wonder how the change will look and how it will affect their work; People start to change before the change happens. This is why it is crucial to engage people as early as possible to establish trust and collaboration from the beginning.

Leaders must dialogue with supervisors, change agents, and end users to explain the reasons for the change and how the innovation may affect the way the group currently works. These discussions also provide opportunities for people to offer feedback and concerns. Leaders must help those affected by
the change to understand the changes will improve
the current system so the future can be better than
the present.

Identify Early Adopters, Average
Adopters, and Those Resistant to
Change

It is noted in Change Management literature by Rog-
ers that in a group of individuals experiencing change,
approximately two percent are innovators, 13% tend
to be early adopters, 70% are average adopters, and
15% are slow to adopt or are resistant to change.
Change leaders who are able to identify where specif-
ic people fall in these groups will be better prepared
to guide them through the change. Engage the early
adopters at the beginning. These will be the people
who are eager to learn and test new innovations.
They can be valuable resources in an implementa-
tion effort. They can help communicate problems to
the implementation team and help their peers bet-
ter understand the benefits of the innovation. The
ey will often help train others slower to
adopt. Once a critical mass (85%) is reached, it will
be extremely difficult for those resistant to change
to continue to avoid it. Do not ignore the slow adopt-
ers; engage them early but understand resistance
may be high. Change is an iterative process and the
implementation team must be prepared for the un-
expected. The conversation must be continued with
everyone on the change continuum at all stages of the
implementation.

Change Leaders Must be Visible
and Accessible

Successful change leaders need to remove barriers
and empower staff members’ capacity to accept and
adapt to change. Leaders communicate with user
groups for two purposes: to hear concerns and sug-
gestions and to communicate the innovation’s bene-
fits and the implementation progress. Change can be
difficult for many people, so leaders need to show in-
tegrity, earn respect, and be available to connect with
people everywhere on the transition continuum.

Help People Develop the Capacity
to Change

Professional development is important to allow peo-
ple to flex and change. Building a culture of change at
the University will position employees to be success-
ful with a new system or process. Faculty and staff
should be encouraged to improve their transition
management though professional development in or-
der to help create a culture in which people adapt to
change better.

ANTICIPATED OUTCOMES FOR CHANGE
MANAGEMENT

• Engaged staff are ready to adopt a change and par-
ticipate in a culture of change
• Smoother transitions in implementing new
innovations
• Employees are able to see possibilities in innova-
tion and become innovators in their own right

POTENTIAL CHALLENGES

Subject matter experts who are averse to change can
easily derail a project by tainting the innovation for
others. It will be crucial to bring them into the imple-
mentation as early as possible.

A considerable amount of effort and time will be
needed to prepare people for the transition. It will
be tempting to rush through this process in order to
more quickly get to implementation. However, doing
so will jeopardize the process.
Interview Results: Training

A good training program is essential for any new process or technology rollout. Depending upon the scope of the innovation, training may be minimal or extensive. It may be necessary to teach new hard and soft skills for the innovation to become ingrained in the culture, University leaders commented on the following concepts when asked about training:

Engage Subject Matter Experts (SME) Early

Subject matter experts are identified through stakeholder analysis and are individuals with high-level training in the technology or business process that is undergoing innovation. They have advanced knowledge of systems and can be useful (or, if ignored, harmful) to an implementation. In order to gain their support in a project, as well as benefit from their feedback, it is imperative to involve them early. SMEs can offer insight that may improve the innovation and assist in the development of a training plan.

Thorough Advance Work Reduces the Time Needed for Training

Performing the early planning pieces well can mean less time is needed in the training phase of the implementation. If the stakeholder analysis is done, the case has been built, and communications are good along the way, then there may be minimal need for training. The communications and change management elements of an innovation are part of training. Once the technical training begins, the users will already know the reasons behind the innovation and will be able to focus on the mechanics.

Testing the innovative technology prior to widespread implementation will further ensure that glitches in the new tools are minimized. Getting the innovation right is more important than meeting planned deadlines and allows for easier training.

Training in Soft Skills

It is a challenge to teach soft skills, but there is a need to create a culture where employees receive training in the following areas: influence, relationship building, getting others involved, and developing the capacity to learn new systems and the ability to consider new tools to improve business processes. Most people know how to “point and click,” but the effectiveness of an innovation will be limited if those same people are unable to integrate mechanics and systems to improve how they conduct business.

Using Both Centralized and Localized Training

University change leaders suggested that localized training provided in concert with centralized training efforts provides a more thorough training experience for users. In a system-wide implementation, the University typically provides excellent standard training courses. This training may be offered in person or online. Further training within units can continue to enhance the knowledge and adoption of the innovation by all users.

Involving local change agents allows units to customize the training schedule and curriculum to meet local needs. The enterprise may offer an adoption deadline and may allow the local experts to test and train users. Local change agents can identify local early adopters and involve them in “sandbox” training—an environment where high-end users may pilot the innovation—more easily than centralized change agents. These early adopters may serve as a resource for peers still in need of training and present information to local users in a way that relates to their internal processes. When necessary, local processes are changed to allow more efficient use of the innovation.
Training as a Continuous Process

It is important to allocate resources not only for early training in the implementation but also for continuous improvement to the system. Continued training is necessary for new employees and those current employees who move to newly created jobs. Training can lead to improvements in the technology and processes implemented and to the training program itself.

ANTICIPATED OUTCOMES FOR TRAINING

- Users are well-trained and are able to find ways to integrate new technology or processes to manage work flow better
- Users feel there are resources available at central and local levels
- Subject matter experts are engaged and contribute to an effective training plan

POTENTIAL CHALLENGES

Developing "soft skills" necessary to foster quicker change efforts across the University may be difficult. Because disruptive innovations impact people greatly, it will be important to identify and develop "soft skills" needed to help people to connect and collaborate.

Interview Results: Evaluation

Our interviews concluded that reporting the progress of a project builds trust. Building an evaluation process to a disruptive innovation will allow necessary data to be collected and reported throughout the span of the project. University leaders highlighted additional information supporting including evaluations of a project. These are noted below:

Producing Meaningful Data for the Evaluation

University leaders commented that data builds credibility for all who are involved in the project. Developing automated ways to collect the data for analysis will reduce the need for additional staff and effort on reporting project successes. Analyzing and reflecting on the data collected and documenting the lessons learned will benefit both current and future projects. Leaders emphasized the importance of using past lessons learned and challenges experienced to inform decisions during future projects. Using identified metrics provides accountability for all involved in the project and produces a tangible measurement for reporting to stakeholders.

Evaluation Starts before the Project

Evaluation should not be an afterthought, but rather should be incorporated into the initial project plan. Knowing where the organization stands and what the future projections are opens the possibility to measure progress. Progress reporting should continue throughout the duration of the project and should include a review of gaps in the project. Leaders stressed the need to evaluate the project wherever there is an intersection between the organization and the customer. Additional discussion to facilitate a smooth transition is recommended at these points of intersection.

Evaluation Contributes to Return on Investment (ROI)

 Those interviewed stressed the need to identify the return on investment and then use evaluation metrics to prove the hypothesis. Sometimes the outcome is failure. At these times, there is value in discovering what is not working. If success is measured by individuals not wanting to go back to their old ways, the project team needs to understand the existing culture at the beginning of the project. Value and risk assessments are also helpful as the investment of "true" dollars are not always reported. This information will
allow decision-makers to know the fiscal and other risks to each of their decisions in both current and future projects.

**ANTICIPATED OUTCOMES FOR EVALUATION**

- Ability to document success and failure through metrics obtained during stages of the project.
- Documented knowledge to be used for future projects to leverage more efficiency and efficacy.
- Metrics obtained that can be used for other relevant analysis and/or comparison.

**POTENTIAL CHALLENGES**

Limited funding may prevent evaluations throughout the project.

Data collection, mining, and reporting require a skill set sometimes limited or unavailable on a project.

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**Interview Results: Sustaining the Change**

Through the reflection of disruptive innovative projects, University leaders gave examples of current implementations for which there is no plan for termination or upgrade to the project. Some involve a substantial investment that will be lost as the project is unable to be upgraded to meet current demands. Recommendations from the interviews are noted below:

**The After-Life of Disruptive Innovation Projects**

University leaders stress that the project management process must include forethought regarding life after the disruptive innovation implementation. The project’s success will live beyond implementation.

Generally, this is not addressed until individuals have made the change their own. At this point, they are so comfortable with the change that they do not want to think about the past. They will have gone through the grieving process during the implementation phase as they have lost items such as work identity, learned confidence, and the familiar and moved into the “new normal.” It is important to identify who will continue to monitor training needs and implement them when necessary. Project leaders should be realistic about how long it will take each individual to reach the stated goals. Include plans for sustainability beyond the end of the project roll out. One example is to train local experts to play a role in solving problems during the change roll out so they become change agents who can shepherd the project beyond the implementation phase.

**Sunsetting the Project**

Some disruptive innovation or large-scale change may not be intended for long-term sustainability. In this case, it will be important to communicate to all involved the intention to terminate and the reasons behind termination. Collect and provide feedback on the innovation, the implementation process, and the results for use in future efforts.

**ANTICIPATED OUTCOMES**

- There will be a plan for the continued success of the project beyond implementation, which can also include a sunset or termination.
- Resources will be identified to maintain the integrity, training, and improvement of the project.

**POTENTIAL CHALLENGES**

Resources may not be available to support ongoing maintenance of the innovation.

When termination is identified, there will be resistance to change and to starting the disruptive innovation process again.
Interview Results: Project Management

Feedback regarding project management focused primarily on the importance of project planning and execution, but there were gaps in reporting and project closure components of traditional project management methodologies. A summary of the feedback received regarding the trends in innovation at the University of Minnesota and a summary of the rationale for using basic and fundamental project management methodologies are included below. Through the feedback process a key deliverable for this component emerged: “use project management fundamentals.”

Put In Time Planning

Many people interviewed stated University projects often do not include enough time for planning, and all agreed adequate planning is a key to success. The inclination to rush to implementation is strong, particularly when there is pressure to hurry solutions to the market.

The Project Plan

The most pervasive feedback that our team received was regarding the use of basic project management fundamentals and to have an associated discipline with project rollouts. University leaders emphasized the importance of setting milestones, critical paths, risk management and communication plans and creating cost estimates for projects.

Quote: “Break projects out into stages to provide opportunities to advertise successes and to show progress is happening.”

They also focused their feedback on the importance of outlining a project scope. One respondent shared, “Make sure to scope your project and communicate expectations to all involved. Project managers need to stick to the message and know it is okay to say no. Protect against mission creep.” Respondents also shared that a great deal of project management is about communication and relationship building so be sure to involve auditors and align with your finance department to ensure appropriate staffing levels.

Another significant interview theme was to give ample lead time to departments to allow them to prepare for project rollouts. Respondents shared that it is best to use a phased approach and that roll outs should occur at different times, depending on staffing needs and workloads for specific units. This then creates an opportunity for implementation schedules to be determined locally.

Project Team and Leadership

Veteran project managers shared their experiences regarding the human components of project management. They shared that not everything will go as planned and leaders should acknowledge when the unanticipated occurs during project implementations. They shared it is important to be prepared to make modifications on the fly and to be flexible because the project is often not what was expected. Respondents shared there is a need to be iterative, agile, responsive and humble.

They also emphasized the importance of having a good, cohesive team committed to the objective with well understood roles by all the project participants. The team needs to understand that “much of what you do will be behind the scenes; understand accolades will be few and far between as a result.”

ANTICIPATED OUTCOMES FOR PROJECT MANAGEMENT

- A well-defined project plan is followed effectively.
- A highly committed and knowledgeable project team is formed.
POTENTIAL CHALLENGES

Those interviewed generally felt there was a lack of project management fundamentals at the University. A general challenge could be resistance as project management standards and data-driven decisions become the norm.

Comparison of Planned Change Models

After identifying common themes during the interview process, Team Crookston proposed a model with three implementation stages: Innovation, Implementation and Sustainability. The team returned to resources about project and change management models to determine the validity of the proposed stages.

Almost all “planned change” models investigated involved three or four stages, with the fourth stage being termination or movement away from the implemented change. This was consistent with interview anecdotes about a lauded presentation made by Ed Clark to the University’s IT Leadership Alliance regarding “Innovation at the Edge,” which included a four-stage model illustrating the cycle of information technology innovation at the University of Minnesota.

Placing several models side by side led to the following:

Stage one: Initiate / Initiation / Startup / Search / Interact

Stage two: Incubate / Developmental / Grow / Set / Envision Goals

Stage three: Implement / Implementation / Harvest / Implement

Stage four: Terminate / Termination / Terminate / Dissatisfaction

The similarity across different models for a phased approach to planned change was impossible to ignore; a second version of the model emerged to include four stages: Innovate, Incubate, Implement and Terminate (I3T). The team agreed original interview components would fall within the stages, and associated tools could be leveraged at multiple points throughout each of the stages.

<table>
<thead>
<tr>
<th>Our Proposed Model</th>
<th>Innovation Journey¹</th>
<th>Life Cycle (regulated change)¹</th>
<th>Teleology (planned change)</th>
<th>Slings and Arrows (PCMC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation</td>
<td>Initiation</td>
<td>Stage one: Startup</td>
<td>Search/Interact</td>
<td>Act I: Setting the Stage (Initiating)</td>
</tr>
<tr>
<td>Incubation</td>
<td>Developmental</td>
<td>Stage two: Grow</td>
<td>Set/Envision Goals</td>
<td>Act II: Planning the Act (Planning)</td>
</tr>
<tr>
<td>Implementation</td>
<td>Implementation</td>
<td>Stage three: Harvest</td>
<td>Implement Goals</td>
<td>Act III: Doing the Deed (Executing)</td>
</tr>
<tr>
<td>Termination</td>
<td></td>
<td>Stage four: Terminate</td>
<td>Dissatisfaction</td>
<td>(Closing)</td>
</tr>
</tbody>
</table>

¹ Van de Van, Andrew H., The Innovation Journey, Oxford University Press, 1999
I3T – A Disruptive Innovation Model for the University of Minnesota

With the proposed I3T model in place, Team Crookston met with the project sponsors and mapped their experiences with disruptive innovations at the University of Minnesota through the I3T process. This involved discussing the upcoming PeopleSoft upgrade and the Constituent Relationship Management (CRM) implementations. This exercise clearly illustrated tools and components repeated throughout the four I3T stages and the importance of identifying the purpose driving the use of various tools.

This led to the inclusion of proposed “action steps” within the four stages. These action steps describe an activity rather than listing a generic component (e.g. communication) or an out-of-context tool (e.g. stakeholder analysis). Communication occurs throughout the entire implementation process but there may be differing communication goals during different implementation stages. Action steps like “Building a Case for Change” and “Creating a Guiding Coalition” will include a detailed description of the action, relevant tools, and examples helpful to completing the referenced action.

Within the I3T model, steps illustrate the increased elevation of costs as implementation continues through
the stages. Discontinuing the implementation within the Initiate stage incurs less cost than discontinuing at the Implement phase. “Monitor and Evaluate” was included to reinforce the need to monitor and evaluate the process based on established metrics.

The inclusion of a “Project Management Foundation” reflects feedback and illustrates the need to anchor the entire implementation process using project management fundamentals. As indicated during interviews, the success or failure of a project often depends on effective use of project management tools.

Placing “Managing Culture Change” at the top of the model served as a reminder that the most challenging aspect of change is changing the preconceived notions of the people involved. Action steps highlight activities that can help reduce challenges associated with change management.

**Conclusion and Next Steps Toward Creating a Toolkit**

Team Crookston began the journey intending to practice and grow project management principles, to develop individual leadership skills, and to create a connected, highly functioning team. These goals were achieved throughout the completion of the project cycle and the conclusion of the PEL year. In addition, Team Crookston wished to foster the creation of a practical, useful model the University community can leverage to minimize negative impacts associated with disruptive technology innovations. This final goal is an ongoing process.

With the support of our project sponsors, resources were provided to initiate the creation of a functional, online representation of the model and its associated toolkit. A mockup has been developed and team members are working with Office of Information Technology (OIT) staff to transition from mockup to reality. The I3T model and associated website will reside in OIT’s Project Management Office (PMO), where resources exist to foster its growth and continued existence.

In August 2011, the team presented the I3T model and website mockup to the project sponsors and the BCC. The enthusiasm expressed by the group for the model and the concepts informing it helped begin a process that could lead to the I3T model’s use on future University projects.

In October 2011, the team will present the I3T model and plans for a website to the University’s Project and Change Management Collaborators (PCMC) group to inform this active community of the work and to solicit input.

The final steps involve continuing to work to inspire the greater University community to populate the model with practical, resonant descriptions, accompanied with tools and examples and to inculcate a sense of community ownership. Anchoring the I3T model and website with a resourced organization like OIT PMO and inspiring an engaged community like PCMC to own and modify its associated processes and tools provides the best opportunity for the model to endure and thrive.
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Appendix A

Sponsor-Provided Definition of Disruptive Innovation at the University of Minnesota

A Disruptive Innovation is an innovation that disrupts an existing market (source: Wikipedia). In a higher education context, Disruptive Innovation is a product or service that radically changes the University’s current way of operating by accomplishing at least one of the following goals:

1. Improving a product or service by designing it for a different/new set of users (i.e., disrupt current concepts of who should be using the product or service).

   Current examples:

   a. Business Intelligence (BI)
      i. As-is state: Administrators using siloed data inconsistently.
      ii. To-be state: Everyone responsible for providing and using quality data and sharing it across departments.

   b. Workflow
      i. As-is state: Business process management is the domain of organizational effectiveness staff or other business analysts.
      ii. To-be state: All employees are business process managers, and can determine how middleware workflow can be used.

   c. Constituent Relationship Management (CRM)
      i. As-is state: Relationship managers are primarily those recruiting students or requesting donations.
      ii. To-be state: Relationship managers are anyone who comes in contact with constituents.
2. Improving efficiency and/or effectiveness of existing operational processes by implementing products and services that eliminate or dramatically reduce the need for currently implemented technologies (i.e., disrupt current systems in use), or introducing a brand new tool for University usage.

Current examples:

a. Business Intelligence (BI)
   i. As-is state: Departments use various homegrown tools to generate their metrics and make decisions based on that data.
   ii. To-be state: Departments all use the BI module (and shared data definitions) to generate their metrics and make decisions based on that data.

b. Workflow
   i. As-is state: There is currently no broadly adopted middleware workflow solution to improve efficiency and effectiveness of paper-heavy processes.
   ii. To-be state: There will be a new common-good middleware workflow solution available to the University.

c. Constituent Relationship Management (CRM)
   i. As-is state: The University owns several distinct CRM solutions, which are not integrated.
   ii. To-be state: The University will implement an enterprise-wide CRM solution that will integrate with some solutions, replace others, and provide new capabilities for providing effective and efficient service to units without CRM.
Appendix B

Interview Questions

“Road Map for implementing Innovative or Disruptive Technologies”

2010-11 University of Minnesota’s President’s Emerging Leaders

Interview Questionnaire

Thank you for taking time to assist us with our project. We are seeking feedback on our University of Minnesota’s President’s Emerging Leaders project, “Road Map for Implementing Innovative or Disruptive Technologies.” Our goal for this questionnaire is to gather your experiences and reflections regarding project implementations and to solicit your feedback on our current model, which has been developed using literature reviews and stakeholder interviews.

Our project seeks to create a robust and flexible change and innovation road map to help the University of Minnesota be an efficient administrative innovator. Respecting current financial and staffing limitations throughout the University, our road map will join existing resources across the entire University with an eye toward creating a unified model, which will encourage innovation and collaboration while being fiscally responsible.

We appreciate your willingness to provide feedback and respect your privacy; all responses provided will be kept anonymous. No attribution or implication of attribution will be made without your consent.

1. When you think about successful project implementations you have been involved with or experienced, were there situations, actions, or outcomes especially influential on the success of these projects?

2. What do you think are key elements of good project rollouts?
3. Are there specific project rollouts where you found these key elements were handled particularly well? Can you provide a short description of the rollout, your role, and what you feel was especially effective?

4. Are there insights you learned through the process? If so, what were they? If you were mentoring someone taking over a large-scale implementation, what advice would you give him or her?

We have identified the following components in the current iteration of our disruptive innovation road map.

- Building the Case for Change
- Environmental and Stakeholder Analysis
- Communication
- Change Management
- Subject Matter Expertise Training
- Evaluation
- Sustaining the Change

5. Do you have any immediate feedback regarding the proposed components?

6. Do you see any gaps with the road map?

7. What needs improvement or clarification?

8. Are some of these components more important than others? If so, could you rank them in terms of importance?

9. Do you have any other comments you would like to share?

Thank you!
Appendix C

Resources

Resource: Academic Technology Advisory Committee (ATAC)
http://www.oit.umn.edu/academic-committee
  Location: Internal
  Tool: Stakeholder/Environmental Analysis
  Role: Technical Expertise

Resource: Capital Planning and Project Management
http://cppm.umn.edu
  Location: Internal
  Tool: Stakeholder/Environmental Analysis, Project Management
  Role: Potential Stakeholder

Resource: College of Continuing Education (CCE)
http://cce.umn.edu
  Location: Internal
  Tool: Training
  Role: Expertise Training

Committee on Institutional Cooperation (CIC)
http://www.cic.net
  Location: External
  Tool: Communication and Change Management
  Role: Technical Expertise

Data Warehouse
http://dw.umn.edu
  Location: Internal
  Tool: Evaluation
  Role: Data Resource
Information Technology Leadership Alliance (ITLA)
http://www.oit.umn.edu/leadership-alliance
   Location: Internal
   Tool: Stakeholder/Environmental Analysis
   Role: Potential Stakeholder

Minnesota Project Management Institute
http://www.pmi-mn.org
   Location: External
   Tool: Project Management
   Role: Technical Expertise

Office of Information Technology Project & Portfolio Management
http://www.oit.umn.edu/project-management
   Location: Internal
   Tool: Project Management
   Role: Technical Expertise

Office of Human Resources (OHR)
http://www.umn.edu/ohr
   Location: Internal
   Tool: Communication, Change Management
   Role: Technical Expertise

Office of Human Resources Organizational Effectiveness
http://www.umn.edu/ohr/orgeff
   Location: Internal
   Tool: Training
   Role: Technical Expertise

Office of Human Resources Training Services
http://www.umn.edu/ohr/trainingservices
   Location: Internal
   Tool: Training
   Role: Expertise Training

Office of Institutional Research
http://www.oir.umn.edu
   Location: Internal
   Tool: Stakeholder/Environmental Analysis, Sustaining the Change
   Role: Data Resource
Office of Measurement Services
http://oms.umn.edu/
  Location: Internal
  Tool: Evaluation
  Role: Technical Expertise

Office of the Vice President for Research Communications
http://www.research.umn.edu
  Location: Internal
  Tool: Communication and Change Management
  Role: Technical Expertise

President’s Emerging Leaders (PEL)
http://www.umn.edu/ohr/pel
  Location: Internal
  Tool: Stakeholder/Environmental Analysis
  Role: Facilitators of the Process

Project and Change Management Collaborators (PCMC)
http://pcmc.umn.edu
  Location: Internal
  Tool: Project Management
  Role: Technical Expertise

Project Management Institute (PMI)
http://www.pmi.org
  Location: External
  Tool: Project Management
  Role: Technical Expertise

University Relations
http://www.umn.edu/urelate
  Location: Internal
  Tool: Communication
  Role: Technical Expertise

University Services
http://www.uservices.umn.edu
  Location: Internal
  Tool: Stakeholder/Environmental Analysis
  Role: Potential Stakeholder
University Services Program Management Office
http://www.uservices.umn.edu/pmo
  Location: Internal
  Tool: Project Management
  Role: Technical Expertise

University Senate Information Technologies Committee (SCIT)
http://www.umn.edu/usenate/committees/scit.html
  Location: Internal
  Tool: Stakeholder/Environmental Analysis
  Role: Potential Stakeholder

University Technology Training Center (UTTC)
http://uttc.umn.edu
  Location: Internal
  Tool: Training
  Role: Expertise Training