Change Analysis: Adoption of a Central Data Library by Researchers

Applying change management principles within a project can help transition to new ways of working

Linda Urban, MSc, Organizational Performance and Workplace Learning, Boise State University

Abstract: Regional Approaches to Climate Change (REACCH) is a 5-year, transdisciplinary research project to improve long-term sustainability and profitability of cereal production systems in the Pacific Northwest. As part of the overall project goals and grant specifications, researchers from across REACCH will upload and maintain data in a central Data Library, part of a larger data repository and portal that supports the REACCH project. The Data Library will facilitate both individual and collaborative research on the project, and eventually some data in the library will be available to researchers and stakeholders beyond the project.

Use of a central Data Library is a significant change for researchers, and as of Summer 2013, adoption had been somewhat slow. A change analysis case study was undertaken to understand what factors might be constraining adoption and what might help facilitate and support adoption of the Data Library across the project. This case study used diffusion of innovation and other change management perspectives (Dormant, 2011, based on Rogers, 2003 and Kotter & Cohen, 2012) to understand the change from the researchers' point of view and to consider the impact of the project structure, culture, and resources.

Case Study Background and Focus:

This change analysis focused on one set of adopters—thirteen members of one of the REACCH research teams—and included principal investigators, graduate students, and research technicians, as well as change sponsors. Through a combination of interviews, observation, and review of the Data Library and supporting portal, this case study sought to understand what factors were impeding adoption of the Data Library and what actions could help promote and speed adoption.

Approach: The CACAO model of change reviews factors that have to do with the **C**hange itself, the **A**dopters (the individuals being asked to make the change), available support for the change by **C**hange **A**gent staff and related sponsors, and the culture and structure of the **O**rganization.

Change Characteristics: How adopters perceive certain characteristics of a change can make acceptance of it easier or more difficult (see table below). In this case, use of a central Data Library is a challenging change for the adopters, because it requires people to work in unfamiliar ways, and to set aside long-standing work habits (it is low on the "compatibility" scale). Fortunately, the change process can be adapted to address researcher needs (high on the "adaptability" scale).

Change Characteristics, from the Adopters' perspectives

Relative Advantage: The extent to which adopters see an advantage in making the change, compared to their existing way of doing things.						
Much worse than alternatives	1	2	**3**	4	5	Much better than alternatives
Simplicity: How easy it is for adopters to understand the change.						
Very hard to understand	1	**2**	3	4	5	Very easy to understand
Compatibility: How similar or different the change is from the way adopters currently do things.						
Very different from what's usual	**1**	2	3	4	5	Very similar to what's usual
Adaptability: The degree to which the change can be adapted to fit the needs of the adopters.						
Very hard to modify	1	2	3	4	**5**	Very easy to modify
Social Impact: Whether the change will disrupt or further current social relationships.						
Very negative with regard to relationships	1	2	**3**	4	5	Very positive with regard to relationships

Total score: 14 to 15 – an indication that this change deserves careful planning
A combined score of 20 and above indicates acceptance appears likely; 10 to 20 indicates careful planning is needed; below 10 indicates the change is likely to be difficult.

Driving and Restraining Forces (Highlights)

Individual Challenges and Constraints:

Reasons to Resist the Change, Forces Constraining the Change

- Lack of clear understanding of what's involved in preparing and uploading data to the library
- Using the Data Library will be very different from current ways of managing data
- Uncertainty about what data should be included, and at what point (in what state) it should be uploaded
- Project-wide data policy not yet finalized and understood
- Variance in existing data structures and collection within this set of researchers
- Time and resources required for data preparation

Individual Opportunities and Driving Forces:

Reasons to Adopt the Change, Forces Driving the Change

- Researchers recognize long-term importance and value of a central data repository
- Ability to see others' data will facilitate collaboration and integration; researchers are excited by this potential
- Preparation to use the REACCH Data Library will help researchers address backlog of other data

Organizational Challenges and Constraints:

Factors Constraining the Change

- Lack of recognition of how significant a change this is for the adopters resulted in lack of resources to provide change management communication and support.
- Cultures and practices from 3 institutions and multiple disciplines are involved and may contribute to difficulty arriving at consensus and common practices.

Organizational Opportunities and Driving Forces:

Factors Supporting the Change

- The Data Library is part of project data management requirements and expectations and supports overall goals, collaboration, and integration
- Strong sponsorship and strong technical expertise support this change

Strategies to Address Resistance and Support Adoption

On their way to adopting a change, people move through a series of stages. Dormant's stages (2011) shown below align closely with those that Rogers (2003) identifies—knowledge, persuasion, decision, implementation, and confirmation. Each stage is best supported by different strategies and resources, as shown.

In this case study, researchers often expressed positions that reflected more than one stage, indicating the importance of employing strategies that address multiple adoption levels at the same time.

Stage of Adoption	# Adopters*	Communication Strategy
Awareness: Potential adopter is passive about the change, has little or no information about the change, and little or no opinion about the change.		**Advertise**: •Get their attention •Be brief •Appeal to their perceived needs
Curiosity: Potential adopter is more active about the change, has personal concerns and opinions, and asks questions about the impact on themselves.	4	**Dialogue**: •Elicit/listen to their concerns •Respond to their concerns and questions •Provide relevant information
Mental tryout: Potential adopter imagines how it will be with the change in place, has job-focused concerns, and asks questions about task and job impact.	3	**Demonstrate**: •Show the change in action •Provide examples of success •Connect with satisfied peers
Hands-on Tryout: Potential adopter is ready to learn how to use change, has opinions about the change and its use, asks questions about impact on the organization and beyond.	1	**Train**: •Provide knowledge and skills training and performance support •Accept/consider their opinions •Provide relevant information
Adoption: The adopter uses the change on the job, makes suggestions for improvement, and asks detailed questions; may need help.		**Support**: •Provide trouble-shooting help •Reward and reinforce •Accept and respect

*Based on interviews with 11 of the 13 adopters

Key Strategy Highlights to Meet Researcher Needs:

- Understand and respond to adopter questions
- Show examples of benefits to other researchers (early adopters)
- Establish a change team that includes and integrates adopters
- Provide additional training and support

References

Dormant, D. (2011). *The chocolate model of change*. Lulu.com.
Kotter, J. & Cohen, D. S. (2012). *The heart of change*. Boston, MA. Harvard Business Review Press
Rogers, E. (2003). *Diffusion of innovations* (5th ed). New York, NY: Free Press.

Contact: Linda Urban   **Email:** linda@lucommunications.com   **Phone:** 510 658 1748