

Change Management as Designed Adoption

Insights into CLOC Design Methodology

By Jeff Merrell

Abstract

The Center for Learning and Organizational Change's Design Methodology suggests that a design mindset can lead to evolutionary adoption of an organizational change, in contrast to a process of managing adoption as a phase at the back-end of a project. But how is this concept to be executed? This paper explores the distinction between design leadership and project leadership and the implications for turning change management into designed adoption.

Keywords: Change management; design; empathic design; innovation; project management; diffusion; adoption; leadership.

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In the context of the Center for Learning and Organizational Change Design Methodology (Table 1), the objective of a design effort is to create organizational change – in strategy, consumer behavior, operational processes, etc. But the Design Methodology also incorporates a specific point of view about the *process* of achieving the desired organizational change by contrasting *implementation* with *adoption*. This point of view is first expressed as an objective in the Design Adoption phase to “through participatory design, testing, seeding and iteration [make adoption] more of an evolution, or welcomed

revolution in extreme cases, rather than an implementation.” The Design Methodology also encourages design

Table 1

CLOC Design Methodology Phases
Phase I: Assessment
Phase II: Design Planning and Development
Phase III: Design Adoption
Phase IV: Impact Review

leaders to be explicit about the seeding process by knowing “where were the seeds planted, how and by whom.” Although the distinction between implementation and evolutionary adoption first appears in Phase III, this line of thinking impacts the entire design process. Are there ways to frame the design effort to leverage the evolutionary adoption idea (Phase I: Assessment)? Are certain design strategies more conducive to evolutionary adoption (Phase II: Design Planning and Development)? What organizational indicators do we watch to measure evolutionary adoption progress (Phase IV: Impact Review)?

Underneath these questions lies a critique of what might be called the project mindset of organizational learning and change efforts. Think about how an organization approaches adopting Six Sigma principles and techniques to drive quality improvements. Or improve its sales force capabilities by adopting more strategic sales techniques. Or improve customer service by adopting new knowledge management tools. Each of these efforts is routinely addressed using the tools of project management: A need is identified, a project scope is defined, resources are allocated and progress is monitored in milestones completed and measurable results produced. This project mindset focuses first on producing an outcome – a new program or technology-

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based tool – and then systematically working on adoption. Communication, change management and even brute political force come into play to support the adoption effort. The question is: Can this project mindset effectively accommodate the idea of evolutionary adoption? Or does the project mindset have a blind spot which can only be addressed by thinking differently about the change effort?

The hypothesis of this paper is that it will take thinking differently to challenge the assumption that change management must occur on the back end of a project. A new “design mindset” must include thinking about and acting on adoption issues as an on-going part the design problem. Organizations will improve their ability to execute evolutionary adoption by moving from a project mindset to a design mindset and by reframing project leadership into design leadership. Design leadership includes 1) the ability to lead design and development of the desired outcome (the actual “designed thing”) and 2) the ability to design and execute the adoption strategy. To explore these ideas further, we examine the nature of evolutionary adoption by reviewing the research on the diffusion of innovations and then look at empathic design methods to uncover processes that best fit the purpose of designing for evolutionary adoption. Two major themes emerge from this review:

- Projects tend to treat adoption as a single phase, or as a series of events with weak linkages. Innovation diffusion research, however, views adoption as a *process* which *depends upon* the links between adopting groups and the continuous re-invention of the innovation.
- Projects typically depend on an abstraction of user needs (e.g., business requirements) that are weakly linked to the complex and rich context in which the user operates. Empathic design, however, emphasizes observation of the user *in their environment* and puts the richness of user context at the center of design thinking.

Each of these themes is further examined in the following sections, concluding with an application of lessons learned to a business case scenario.

Lessons from Innovation Diffusion Research

One approach to clarifying the distinction between evolutionary adoption and adoption as an implementation phase is to focus on the organizational energy source required for each. Implementation may be viewed as the part of a change process that requires resources and energy *external* to the change target (e.g., communication efforts, education, change agents, etc.). Evolutionary adoption may be viewed as the part of a change process that uses resources and energy *inherent* within the change target (e.g., social networks, opinion leaders, individual decision making). Taken to an extreme, this distinction raises the question: Could you design an organizational change that requires no external energy (implementation) but instead depends entirely on inherent organizational energy (evolution)? While this may be an unrealistic question, the distinction between implementation and evolution suggests that focusing more explicit design effort on the evolutionary aspects of a specific change may lead an organization to discover a new set of levers to improve the change process and resulting outcome.

A very similar theme runs through the research on the diffusion of innovations. An innovation is defined as “an idea, practice or object that is perceived as new by an individual or other unit of adoption” with diffusion being “the process by which an innovation is communicated through certain channels over time among the members of a social system”¹¹ who then adopt the new idea, practice or object. Innovation diffusion research explores the elements and conditions that might explain the differences in the scale and speed of adoption of different innovations. Among the intriguing questions is why some innovations are successfully adopted with apparently little external energy applied to the diffusion effort, while other innovations never reach full adoption in spite of significant resources being applied to promote diffusion. Research into the diffusion of innovation, therefore, may provide guidance into the nature of a design strategy that incorporates an evolutionary adoption approach.

Diffusion research includes consideration of the timing (speed) of innovation adoption; the attributes of adopters (innovators, early adopters, early majority, late majority and laggards); and the nature of the innovation (incremental or disruptive). Adoption speed appears generally related to successfully engaging early adopters and to leveraging factors that then influence the efficiency and effectiveness of networking. Early adopters are characterized as self-confident and independent thinkers (Wejnert, 2002)ⁱⁱ and are furthermore capable of engaging in a planning activity to visualize (imagine) novel possibilities (Redmond, 2003)ⁱⁱⁱ. From this starting point of imaginative individuals, the spread of innovation is influenced by the existence of social networks, the communication intensity within the network, and an evaluation of adoption costs vs. benefits by individuals in the target group (Wejnert, 2002). Another view suggests that innovation adoption is also strongly related to the ability of followers to first observe and then emulate early adopters. Early adopters use imagination to initially adopt the innovation; followers replace imagination with observation and emulation (Redmond, 2003). This is an important distinction because without the existence of a capable “follower” network, innovations may never make the move out of the hands of early adopters.

Other researchers have explored the process of diffusion within organizations rather than the attributes of individual adopters. Process issues include looking at the type of innovation adoption decision being made (Is it an optional innovation? Does it require collective agreement? Is it mandated by some authoritative figure?); the structural characteristics of organizations; and the impact of the organization dealing with multiple innovations simultaneously. In a more general sense, researchers have also defined a standard innovation process framework (Rogers, 2003) which appears to apply to all organizational adoptions. The framework includes the following activities:

- Initiation activities, defined as all the activities leading up to an organization’s decision to adopt an innovation. These include:
 - Agenda-setting (perceived need identified)
 - Matching (fitting the need with an innovation)

- Implementation activities, defined as all the activities involved in putting the innovation into use. These include:
 - Redefining/restructuring (re-inventing the innovation to fit the organization)
 - Clarifying (relationship between the organization and innovation are more clearly defined)
 - Routinizing (the innovation becomes an on-going element of the organization)

Within this process framework, research that focuses on the sustainability of an innovation in an organization (routinizing) points to two critical elements: The degree of organizational participation in the entire innovation process and the degree to which the innovation is re-invented to fit the organization during implementation (Rogers, 2003).

Implications for Design Leadership

Diffusion research suggests two key themes that may be used to differentiate design leadership from project leadership:

Theme 1: Engaging early adopters is important, but design leadership should incorporate strategies to leverage this initial effort to effectively reach subsequent adopting segments: early majority, late majority and laggards. Teams with a project mindset may explicitly understand that overall project success depends on the success of an initial pilot effort, but a pilot is viewed more as a project milestone than a prototype in an on-going design effort. Project planning does not typically include an analysis to determine whether the initial early adopters were the *most appropriate* adopters to facilitate diffusion through the entire organization (e.g., reaching laggards) and how to adapt design implementation based on early adopter use. Instead, project-minded organizations routinely follow a path-of-least-resistance or a release-it-to-the-world approach in attempting to push adoption through the organization.

An alternative to these two push-based strategies is to more explicitly consider adoption/diffusion as an integral element of the design effort. Among all of the choices for early-adopter

implementations, which ones occupy the most influential points of diffusion within the organization? Which will provide their own energy to help move the innovation into the early majority, late majority and laggards? Are there existing communication networks where the intensity of communication will benefit adoption? Assuming an organization can identify this innovation-network structure for initial adoption of technology-enabled learning solutions, an intriguing possibility is to explore whether this same network is effective in diffusing the “next phase” innovations required to sustain business value contribution.

Theme 2: Design leadership should focus on two key aspects of participation in the organizational innovation process: 1) clarifying the relationship between the organization and the innovation and 2) re-inventing the innovation to meet local adoption needs. The question here is how design leadership’s *explicit* use of the general innovation process model might improve the overall diffusion of the innovation. The Routinizing stage is where innovation sustainability ultimately unfolds, but success in Routinizing depends on the degree of active organizational participation and the degree to which the innovation is re-invented to fit the organization during implementation. Explicit consideration of this insight might lead design teams to consider ways to “design in” flexibility for re-invention or to establish on-going prototyping resources through which adopting organizations can model potential re-invention. There is a subtle but important distinction between this explicit consideration of re-invention and the use of prototyping or piloting that is characteristic of a project mindset. In the project mindset, prototyping is a phase which has a completion date. In the design leadership approach, *prototyping is on-going reinvention.*

Lessons from Empathic Design

Innovation research tells us about the process of adoption, but it is also useful to unpack the design process to identify key activities that might connect the two target capabilities of design leadership: 1) the ability to lead design and development of the desired outcome (the actual “designed thing”) and 2) the ability to design and execute the adoption strategy.

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Some experts from the traditional design disciplines (who advise organizations on how to improve innovation) define design as the process “of visualizing raw ideas, showing their potential as well as their flaws, facilitating a common understanding of a problem or challenge, and enabling the iterative refinement of ideas through auditing, editing, prototyping and other methods”^{iv}

Proponents of *empathic design* – which puts significant emphasis on understanding user context -- describe design as a process that depends a great deal on visual processing, idea refinement and creative interaction of interdisciplinary team members.^v In empathic design, the critical first step is to observe a target user interacting with the product or designed process within their “normal” environment (e.g., user context). During observation, design team members must exhibit “open-mindedness...and curiosity” to internalize the user’s mental models (Leonard, Rayport). After observation, empathic designers engage in additional data gathering to further develop their insights; brainstorm potential design solutions; and use iterative prototyping to test potential solutions. In summary, designers visualize solutions and continuously test them against reality.

The empathic design process (Leonard and Rayport, 1997) includes steps that on the surface appear somewhat generic: Observation; capturing data; reflection and analysis; brainstorming for solutions; and developing prototypes of possible solutions. But the emphasis on having designers physically observe how the designed thing is used in the user’s own environment yields several new types of information for the design effort (Leonard and Rayport, 1997). This includes: Triggers of use (what prompts people to use the product or service); interactions with the user’s environment (how the product or service fits into the user’s own unique systems or processes); user customization (reinvention or redesign of the product or service); intangible attributes (of the product or service); and unarticulated needs (what users are unable to do that – if resolved – would provide benefit). Each of these items is only observable when the user is in their own environment. Contrast this approach with usability testing, an approach used routinely in the design of technology-based solutions, where testing is typically conducted in a lab environment. Although such testing generates important information for designers, only the observation techniques supported by empathic design provide the richness of user context. In support of

design leadership, this user context information may also provide insight into the diffusion issues related to the designed innovation. Observing how and when users customize the designed innovation, for example, may provide insight into the “re-invention” phase of organizational diffusion (and thus improve the probability of sustaining the innovation). Observing the differences between early adopters and subsequent followers may provide insights into design attributes that will speed up the process of adoption.

Application to a Business Case

How might the distinctions between a project mindset and design leadership change the process of implementing an actual business initiative? We examine this question by reviewing a business case from the author’s experience: A global pharmaceutical company intent on establishing a single, global learning management system for its internal learning and development activities.

The learning management system project was initiated in 2002 by an ad hoc team of learning professionals from among the company’s businesses. The team proposed an effort to deliver both IT systems benefits (a single system would reduce duplicate system expenses) as well as corporate learning benefits (a global, leveraged resource would improve learning and development processes and effectiveness). Formal sponsorship for the proposal came from a senior-level executive team who provided funding and resources for an effort based on a three-year business case. With sponsorship, funding and resources in place, the team initiated the design and deployment effort using a project-management framework. In the first year, the project met or exceeded all IT systems benefits expectations. The new learning management environment was successfully adopted by key target groups identified as “enthusiasts” in the first-year project plan. During the project’s second full year (2003), the original adopting groups deepened their use of the system resulting in 40% of the global employee population becoming active system users. But then challenges appeared. Early adopter organizations began requesting new design features and new types of project support as they expanded their use of

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the system. Responding to these continuous requests put a strain on project resources. New adoptions proved increasingly more difficult to complete, and system use has plateaued at 40% of the global employee population.

The question to consider is: How would a design leadership mindset have changed the dynamics of this effort?

Let's assume that the pharmaceutical company had reframed its effort from project leadership to design leadership and utilized the four phases of the

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CLOC Design Methodology to organize the design effort. Lessons from innovation diffusion research suggest that several key questions related to adoption could have been addressed during Phase I: Assessment:

- Among all of the choices for early-adopter implementations, which ones occupy the most influential positions in the social network(s) that support innovation diffusion (and therefore should be the top priorities)?
- Are there existing communication networks where the intensity of communication will benefit adoption? Are there influential individuals within the organization who will actively relay success stories and “teach” subsequent adopting groups?
- Which elements of the learning management solution are most likely to be the object of “re-invention” by adopting organizations? How might these elements be designed to accommodate re-invention?
- Which organizational structures and processes are most likely to require change as a result of implementing the learning management technology (organizational clarifying)? How might the design effort anticipate this activity, and support it?

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In the pharmaceutical company case, the implementation team focused its planning efforts on identifying enthusiastic early-adopter organizations. The team assumed – correctly – that a successful pilot and early-adoption effort would be critical to meeting project metrics and expected benefits. But the absence of critical thinking devoted to seeing *beyond* these early adopters may have left the implementation team less prepared to leverage the inherent energy within the early adopter organizations. Early adopters use imagination to initially adopt the innovation; followers replace imagination with observation and emulation. Were there influential users among the early adopters whose success stories would have provided a vision for follower organizations to emulate? With which of the possible follower organizations are the influential early adopters most connected? Are there opportunities to extend their connections? Stories or case studies from successful early adopters provide the added benefit of context (e.g., how does this fit into my situation?) Would the context-rich stories of imaginative early adopters have helped follower organizations translate adoption into their own situations?

The pharmaceutical company would have been better prepared if this richer adoption planning occurred during the Assessment phase. But Assessment Phase analysis must ultimately lead to action steps that guide the design team's activities into Phase II: Design Planning and Development and Phase III: Design Adoption. It is in this transition where the lessons from empathic design provide value.

The use of empathic design techniques provides a distinctive approach to a project by developing insight into user context as well as *business requirements*. The pharmaceutical case began – as many similar cases do – with a team of experts assigned to the task of evaluating commercially-available technology that had the potential to be the basis of the learning management system environment. The experts created a set of business requirements, evaluated commercially-available options and then chose the system which most closely met the requirements. A demonstration environment was then created by the project team to show potential users a generic view of the new system's functionality. Prototype systems were then created based on

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user feedback to the demonstration system. Two key issues stand out in this scenario. First, the system was selected by utilizing written business requirements. Business requirements are a *representation* (an abstraction) of user context, and should not be confused with *actual* user context. Second, the demonstration environment was also one step removed from actual user context in that it was set up using fictional demonstration scenarios to be reviewed outside of a user's normal work environment. The emphasis was on the system rather than the user.

Subsequent prototypes (based on user feedback on the demonstration system) continued this bias. Contrast this to empathic design, in which the critical first step is to observe target users interacting with the product or designed process within their "normal" environment (e.g., situated in the user's context). An empathic design approach to the pharmaceutical company project might include engaging the design team in direct observation of select user environments – without the new system in place – prior to exposing any potential early adopters to a demonstration or prototype system. Design team members could also observe target users interacting with the demonstration or prototype systems *in the user's normal working environment* rather than depending on artificial demonstration or prototype scenarios. Direct observation by design team members is always difficult when there are geographical and time-zone barriers, but creative use of such tools as digital video might have allowed the design team to overcome these obstacles.

The goal of observation in this early stage of design development is capture baseline data to establish a more realistic picture of user context in the minds of the design team. But a design effort might utilize the empathic design process (observation; capturing data; reflection and analysis; brainstorming for solutions; and developing prototypes of possible solutions) as a cycle of activities to be repeated continuously as the design team works through the innovation diffusion stages. This iterative approach would provide a number of benefits:

- The design team can release new system functionality in stages, using the observation and prototyping phases of empathic design to create a continuous feedback loop to deepen understanding of user's needs and increase the expertise of the design team.

- Observation of users in their own environment might contribute to understanding the nature of social networks and communication channels that influence innovation diffusion. Each repetition of the empathic design cycle will deepen the design team's understanding of these issues.
- By repeating the empathic design cycle with different sets of users, the design team increases organizational participation in the innovation process. Strategic selection of user groups to engage in these iterations might provide key insights into innovation diffusion issues (re-invention, clarification, progression from early adopters to early majority, etc.).

Summary

A high-level review of innovation diffusion research and empathic design suggests two major distinctions between design leadership and project leadership.

- First, project leadership leads to viewing adoption as a single phase, or as a series of events with weak linkages. Innovation diffusion, however, is recognized as a process among members of a social system that appears to follow a predictable, structured pattern from early adopters to late adopters (laggards). Within organizations, the adoption of an innovation also appears to move through specific phases before becoming an accepted practice: Agenda-setting, Matching, Redefining/Restructuring, Clarifying and Routinizing. A critical component of this organizational adoption process is the continuous re-invention of the innovation by users.
- Second, project leadership typically depends on an abstraction of user needs (e.g., business requirements) that are weakly linked to the complex and rich context in which the user operates. Empathic design, however, emphasizes observation of the user *in their environment* and provides the context required to understand such critical diffusion processes as re-invention and clarification. The focus on observation and user context also matches well with the need to understand the differences between early adopters, early majority, late majority and laggards.

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An understanding of both of these distinctions is necessary to establish a design leadership mindset which views adoption as an evolutionary process that begins in the earliest stages of the design effort, and ultimately challenges the existing assumptions about change management.

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Biography

Jeff Merrell is Principal Consultant of J.D. Merrell Consulting, a research and consulting practice launched in 2001 and dedicated to helping organizations define, design and implement learning environments. In more than 20 years of business experience, Jeff has served as both a consultant and corporate line manager in learning and development, recruiting and marketing. His reviews of learning management technology and analysis of related organizational issues appear in Training Media Review (www.trainingmediareview.com) and he is a frequent contributor at industry events. He holds an MBA from Northwestern University in addition to current studies in Northwestern's Learning and Organizational Change masters program. He can be contact at merrell2@northwestern.edu.

