Embracing System Complexity in a Shared Service Center Collaboration

Arthur P. Tomasino, Bentley University (U. S.)
Jane Fedorowicz, Bentley University (U. S.)
Christine Williams, Bentley University (U. S.)
Arthur Gentner, Winnebago County, Illinois (U. S.)
Todd Hughes, Winnebago County, Illinois (U. S.)

Executive Summary

Complexity is a growing threat to successfully managing IS projects: the more complex an implementation project is, the less likely it is to succeed. For example, interorganizational systems for supply chains, product design, public safety and healthcare delivery are highly complex, with hundreds of interacting parts embedded in ever-changing political, economic and social environments. To cut costs and improve services, public-sector agencies are adopting shared services that require complex interorganizational systems to support them. The full article describes how a U.S. local government (Winnebago County) successfully embraced the complexities of aligning the regulated processes of multiple independent departments as it developed a criminal justice court and case management system for a new shared service center.

The Winnebago County Shared Service Organization

Shared Services Lead to System Complexity

A shared service center (SSC) can deliver significant cost savings without sacrificing the quality of the services provided. A recent trend is for organizations to share mission-critical activities in an SSC, including IT functions, to achieve specific performance goals. Sharing services is thus more than centralization or outsourcing: shared services allow participating units to remain in control of their own service decisions while gaining cost savings from economies of scale and standardization of best practices without sacrificing service quality. An SSC can involve departments within a single organization (intra-organizational) or, as in the Winnebago case, across organizations (interorganizational). Establishing a new SSC presents a management challenge in terms of how to manage the SSC and the accompanying complexities associated with new interorganizational collaboration.

1 The full article is published in the June 2014 issue of MIS Quarterly Executive, available online at www.misqe.org.
Embracing System Complexity in a Shared Service Center Collaboration

Three Key Practices for Managing Interorganizational System Complexity

The Winnebago County shared services project involved establishing a new SSC used by the county's various judicial agencies. We analyzed this case from a complexity theory perspective, a basic underpinning of which is “the butterfly effect”—how small events become magnified through feedback. Our analysis identified three key practices that enable organizations to embrace system complexity and that help ensure project success.

Acknowledging Complexity. Winnebago engaged a consulting firm that specializes in court automation to conduct a gap analysis, which resulted in agreement, across all stakeholders, about the complex state of the current systems and the needs of the county. The analysis educated each agency about the needs of the other agencies, and uncovered previously unrecognized problems. The conclusions of the analysis were important because a shared understanding of the initial state of the system prior to making changes is critical to any complex system project. Even very small differences in assumptions, understanding of the existing system or required functionality by the members of the development team can have large impacts on the resulting system.

Promoting Complexity. Winnebago formed a working team composed of stakeholders from the highest level of each participating agency and system users from each department. The creation of this team actually promoted complexity in the project because the diverse members introduced new and strong external influences (such as the need to get re-elected) to the deliberations. They interacted with each other, discussing needs, educating each other, negotiating and arguing over system specifics.

Preserving Flexibility. Because the implementation was overseen by a highly interactive team that included high-level stakeholders, Winnebago County was able to evaluate the impact of a missed “go-live” date quickly and modify some functionality to meet a new schedule. There was less concern about what went wrong and who was to blame; instead, the focus was on getting it right the next time. The decision makers, interactive channels, resources and “will to succeed” were in place to adapt the project timeline and allow a new, potentially enhanced solution to emerge.

Guidelines for Successfully Managing System Complexity

We have derived five guidelines from the lessons learned in the Winnebago County case.

1. Use a Gap Analysis to Gain Consensus. A gap analysis determines the needs of the organization, identifies current organizational shortcomings, particularly in technology, and aligns the perceptions and views of stakeholders. Additionally, it can be used to educate and cross-train the constituents in a complex system project. A gap analysis provides a project with a firm foundation that pervades the remainder of the project. Without this foundation, the likelihood of project success is low.

2. Create a Highly Interactive Governance Structure with High-Level Participants. Creating a governance structure that encourages interaction among team members ensures that disagreements (and tensions) are brought to the surface, so the team can move to a consensus solution. Project teams perform at their peak when there is tension between the members brought on by interaction, negotiation and collaboration. This interaction will not occur spontaneously—managers must force it to happen. Although this approach may make the project more “chaotic,” as the team learns to collaborate, better solutions will emerge with fewer surprises.

3. Preserve the Flexibility to Control for the Butterfly Effect. When implementing a complex interorganizational system like an SSC, there is virtually no chance the project will proceed as planned. Managers must therefore preserve project flexibility and make sure the team realizes that problems and change will occur. Instead of spending vast amounts of time analyzing the causes of problems, project teams should be forward looking, anticipating that problems will occur, seeking to understand the “unknowns” of each project and preparing contingency plans.

4. Don’t Let Workarounds Become the Norm. When participants in a shared system create workarounds they threaten the integrity of the system. Project teams should watch out for workarounds and quickly fix them or upgrade the functionality to remove the need for workarounds.

5. Secure Long-term Funding to Ensure Future Sustainability. Complex shared systems require continuous post-implementation funding. The project plan must therefore include detailed yet adaptable funding plans for operations, maintenance and upgrades.

Complexity raises the bar for successful interorganizational system implementations. A small or simple unexpected event can catapult a project onto the road to failure—the “butterfly effect.” By recognizing and embracing complexity, with practices similar to those identified in the Winnebago County case study, we believe that the likelihood of success in interorganizational system projects is significantly increased.