

EVOLVING AT THE SPEED OF CHANGE: MASTERING CHANGE READINESS AT MOTOROLA'S SEMICONDUCTOR PRODUCTS SECTOR¹

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Executive Summary

Motorola's Semiconductor Products Sector (SPS) is a sector of Motorola that builds embedded semiconductor solutions for several industries. SPS has built an internal change readiness (CR) organization to be the steward of change management across the sector. Over time, this CR organization has developed a set of processes, tools, methods, and practices for the day-to-day management of change. This paper describes how SPS institutionalized change management while implementing a global ERP project, and how its change management activities have enabled widespread "knowledge integration" and collaboration across its globally dispersed business and IT communities. Automating the change management tools and capabilities has also allowed its business groups to deploy change management daily with repeatable processes, consistent results, and less intervention from change specialists. SPS's success in building and institutionalizing change suggests a number of lessons for management.

THE CHALLENGE OF CHANGE MANAGEMENT

As the world economy has downsized, firms have been under great pressure to make sweeping business and organizational changes. Such changes often require using information technology (IT) to leverage the firm's core business to improve market competitiveness. Despite a high potential for failure, and growing evidence of the importance of change management, executives often launch major IT initiatives without the necessary level of assurance that the change will be supported and mastered across all functions and processes. More than ever, IT implementations fail because of the organization's lack of preparedness for change.²

Few firms have dedicated resources to change management, even though it's clear that well-managed

change efforts reduce risk and boost return on investment (ROI). The benefits of well-managed change include positive press and stockholder reactions, on-time within-budget delivery of projects, tightly managed communications and training activities, productivity increases, and a prepared and committed workforce.

How does a firm manage business change to realize all these benefits? Management gurus advocate a variety of approaches to accomplish change in large companies. Change strategy can take a cultural,³ learning,⁴ organizational design,⁵ emotional and cognitive frames,⁶ or human relations⁷ route. Others have noted that success of an enterprise-wide change effort de-

¹ Jeanne Ross was the senior editor accepting this paper.

² Brown, C.V. and Vessey, I. "Managing the Next Wave of Enterprise Systems: Leveraging Lessons from ERP," *MIS Quarterly Executive*, 2,1 (March 2003), 65-77. Markus, M.L., Axline, S., Petrie, D., and Tanis, C. "Learning from Adopters' Experiences with ERP Problems Encountered and Success Achieved," *Journal of Information Technology*, 15, 2, 2000, pp. 245-265.

³ Schein, E.H. *Organizational Culture and Leadership*, Jossey-Bass, San Francisco, 1985. Kanter, R.M. *E-Volve*, Harvard Business School, Boston, MA, 2001.

⁴ Argyris, C. "Good Communication that Blocks Learning," *Harvard Business Review*, July-August 1994, 77-85.

⁵ Christensen, C.M. *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail*, Harvard Business School Press, Boston, MA, 1997.

⁶ Kotter, J.P. and Cohen, D.S. *The Heart of Change*, Harvard Business School Press, Boston, MA, 2002.

⁷ Bennis, W. *Changing Organizations*, McGraw-Hill, New York, NY, 1966.

Table 1: What is “Knowledge Integration”?

“Knowledge integration” is a fairly recent term in the knowledge management field. A goal in knowledge management is to leverage the knowledge of many individuals for the benefit of the organization. To obtain that leverage, the knowledge of those individuals somehow needs to be integrated so that it is an asset usable by others.

Knowledge integration is at the heart of change management. For a company to accomplish change, individuals with specialized knowledge need to integrate their knowledge and document it in terms that others can understand. For example, employees who work on two interconnecting processes need to integrate their knowledge of their individual process so that both processes, and the interconnections between them, can be properly designed and documented, and training prepared.

As the size and scope of a change effort increases, so does integration complexity and the need for change management. On relatively smaller projects, where few processes or functions are being changed, the project team itself can handle the integration, and the level of involvement required of others is “relatively” small. On large projects – with multiple processes integrating with one another, many roles involved, many functions involved, many organizational changes, and many countries involved – the change management group needs to become the integrator.

Too often, change management activities are not constructed so that knowledge integration occurs. Each group is stretched to the limit with its own specialized projects. Each lacks the time, opportunity, and authority to ensure that its work integrates with others. Information is tacit, organization structures are decentralized, and project teams are divided into many sub-projects – all of which add to the integration challenge. In a volatile and downsizing environment, the complexity increases further.

Knowledge integration is supposed to happen consistently in every phase of a project’s life cycle, but it often does not without specific “interventions” that essentially force people to share their knowledge – effectively and efficiently. The change management group builds these interventions into its approach

depends significantly on the organization’s ability to integrate knowledge and ideas from many different groups (IT, business), individuals (managers, end users), and geographic locations.⁸ Change management provides pivotal points during the project to manage the “knowledge integration” efforts and improve change readiness at all levels.

Various industry sources have applauded the rapid and innovative organizational response that Motorola’s Semiconductor Products Sector (SPS) has made in its turbulent industry.⁹ Its journey toward change mastery can provide insights for other companies. SPS deployed elements from many of the above-mentioned approaches to build a change competency that emphasizes knowledge integration.

⁸ Pan, S.L., Huang, J.C., Newell, S. and Cheung, A.W.K. “Knowledge Integration as a Key Problem in an ERP Implementation,” *Twenty-Second International Conference on Information Systems*, 2001, pp. 321-327. Newell, S., Huang, J. and Tansley, C. “Social Capital in ERP Projects: The Differential Sources and Effects of Bridging and Bonding,” *Twenty-Third International Conference on Information Systems*, 2002, pp. 257-265.

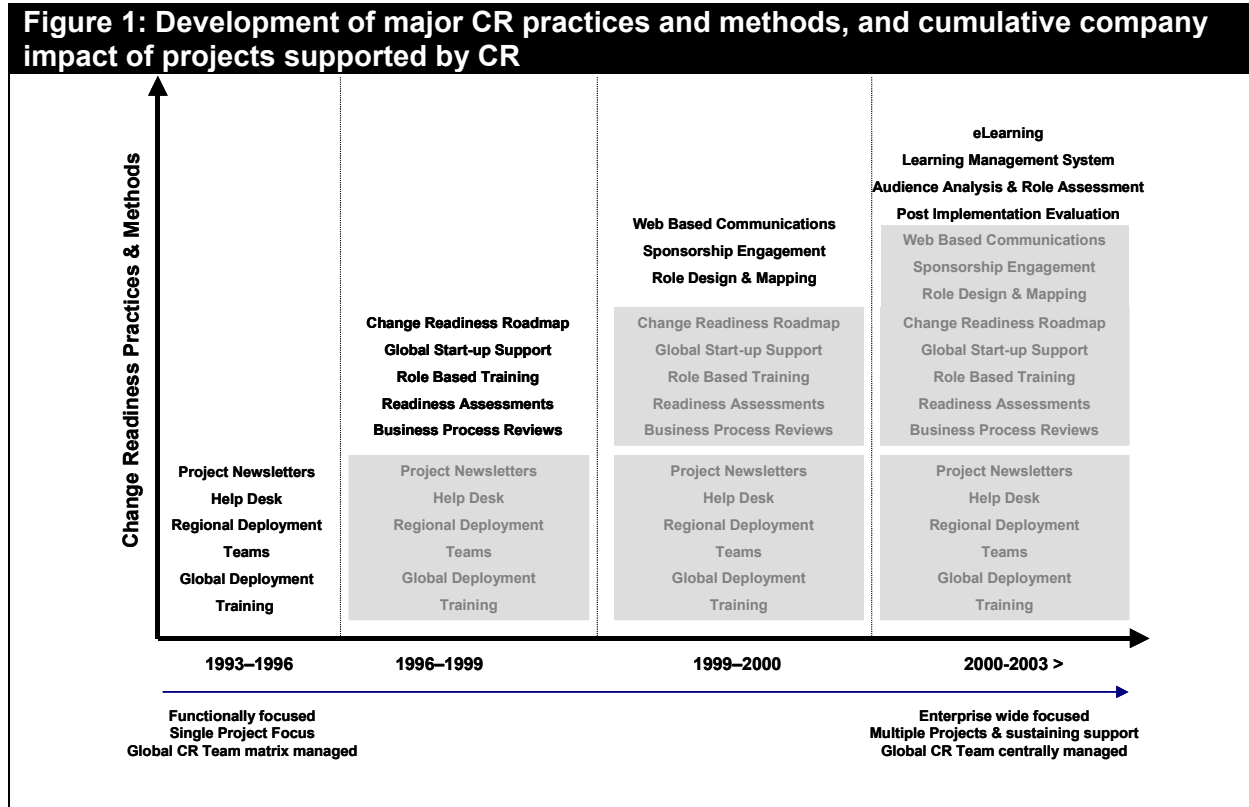
⁹ Hammonds, K.H. “Motorola Bets on Its Chips,” *Fast Company*, March 2003, p. 42.

THE CHANGE READINESS CHALLENGE AT MOTOROLA’S SPS

Motorola is a U.S.-headquartered global electronics and communications company with leadership positions in wireless, automotive, and broadband communications. Among its many sectors is the Semiconductor Products Sector (SPS), which builds embedded semiconductor solutions for the wireless communications, networking, and transportation industries. SPS is the world’s largest producer of embedded processors; it creates system-on-a-chip solutions.

The semiconductor products industry is characterized by sharp ups and downs in customer demand, frequent entry of new and nimble competitors, and disruptive technologies. In such an industry, where change is constant, a valuable asset would be a core management competency in managing change.

SPS has built such a change management competency – even while it transformed itself to respond to an unrelenting economic downturn. The change competency was built while SPS implemented a division-



wide Enterprise Resource Planning (ERP) system. Some steps along the journey included:

- Developing an internal change management capability rather than relying on external consultants to manage change
- Creating a roadmap with a set of tools and practices for day-to-day management of change in business and IT projects
- Providing strategic guideposts and metrics for executive sponsors so that they remain informed and engaged from project inception to cutover
- Implementing the capabilities in such a way that SPS business groups around the world can manage their own changes without supervision or intervention by change specialists
- Automating processes and institutionalizing knowledge so that change management activities can scale up or down to meet the fluctuating needs of the business

The next section describes the evolution of SPS's change readiness (CR) organization, which was charged to lead development of the change management competency. Later, we examine the large ERP implementation that promoted the institutionalization

of the change competency. We conclude by discussing the broader business impact of this competency along with lessons learned.

Building a Change Readiness (CR) Organization

Between 1993 and 1996, SPS's change management capability consisted mainly of a small training group established to support the implementation of a new quote/order entry program for the sales community. The group delivered training and help desk services, and, during that time, it expanded its role to include audience preparation for these and other business process changes.

The years 1996-1999 marked the second growth phase, focusing on further building the change competency. Resources were coordinated to form a central CR group, which began working on a large-scale Enterprise Resource Planning (ERP) implementation that subsequently failed.

Motorola's SPS realized that the root causes of the failure included lack of top-down and cross-functional executive sponsorship, lack of active business and regional involvement, and a culture of individualism – where individuals and business groups decided whether and when to contribute. Given these findings, SPS decided change management was not a compe-

tency that was just nice to have. It was a necessary condition for success in all major change projects. “It is easy to figure out how much a CR team costs,” said Jan Harris, Corporate Vice President and Director, Global Sales for Motorola’s SPS. “But it is impossible to calculate how much it costs if you don’t have it.”

Growth of the CR group sparked in 1999-2000 with another large-scale change project – a major redesign of customer service and factory planning processes, roles, and tools. For this change project, the CR group formalized the change competency by putting in place a robust stakeholder-engagement process, developing Web-based assessment tools, and forming transition teams to support go-live and post-implementation activities.

In 2000, following the very successful implementation of this customer service and planning system, the CR group turned its focus to a renewed ERP initiative. In this effort, SPS could develop its CR capability to its fullest extent because deployment of SAP’s finance and procurement modules would affect every enterprise in SPS’s supply chain. The number of CR resources grew as did the CR skills of individuals throughout Motorola’s SPS. Figure 1 summarizes the growth of SPS’s change capabilities.

IMPLEMENTING SAP RELEASE 4 PROCUREMENT AND FINANCE

Over three decades, Motorola’s SPS accumulated more than 1,200 systems, all built by the IT organization, which was fragmented by region and technology group. Manufacturing, planning, and decision support systems were developed independently.

SPS’s procurement and finance processes were also fragmented. They included some 80 different legacy systems, used by 5,700 individuals in 11 functional organizations, eight countries, and 21 sites. All the legacy systems held SPS back from innovating with business technologies, such as e-commerce and RosettaNet, and did not support the disciplined processes required to ensure core integrity of business data.

The procurement, payment, and receiving business processes were inconsistent across SPS and lacked effective controls and compliance. Employees in one function could make a decision without realizing or accommodating the downstream or upstream impact on other functions. Buyers in Supply Management spent a significant portion of their time contacting employees in other departments to research the history of a transaction. Data integrity across the systems was unreliable, and in some cases the organizational struc-

ture did not support centralized data management. The approval process for procurement requests was often redundant and lengthy. Furthermore, processes and tools were not in place to reap the economies of scale of an effective standard pricing model.

Clearly, a system-wide change was necessary. The goal was to standardize worldwide procurement and finance processes on a single technology platform. The effort involved simplifying global business processes and retiring legacy systems related to capital planning and budgeting, requisitioning, accounts payable, receiving, and asset accounting. The project was the most complex ever undertaken by SPS’s IT organization, and it had the greatest potential to disrupt business continuity.

As noted, a previous effort to replace the systems with a “best of breed” ERP system and simultaneously re-engineer business processes failed. But by 1999, SPS was ready to try again. The program was called Mercury, and SPS fully engaged its CR group in supporting the effort.

Using a phased and global approach, SPS planned to issue releases of the system, starting with a foundation release and increasing the impact, complexity, and team experience with each successive release. Four key SAP modules would be implemented on regular, 6 to 9-month intervals. Releases 1, 2, and 3 would add business value via integration and efficiencies, primarily within a functional area. Release 4 Procurement and Finance broadened integration from requisition to receipt across numerous functional areas, to accomplish full supply-chain integration. Having learned from its past IT implementations, SPS increased its commitment to and cross-functional executive support for the project.

The Release 4 team, led by three executive sponsors (one each from IT, Finance, and Supply Management), included some 200 people at its peak. Beyond the core team were extended team members from the stakeholder community involved in non-core activities. Most of the core team was co-located in Phoenix, Arizona; however, the team was global, so it also included members from the Americas, Asia, and Europe.

The team was split into eight core sub-teams, each responsible for a process area or function. The sub-teams were further subdivided into approximately 20 cross-functional and specialized teams. Depending on their skills and responsibilities, some people were members of multiple sub-teams. Additionally, the team composition changed frequently by project phase and to reduce costs. The complex configuration of the

Figure 2 – Sample of Key Milestones For Release 4 Procurement and Finance Project

<i>Date</i>	<i>Milestone</i>
<i>30 May 00</i>	<i>Project Kickoff – Design Phase</i>
<i>06 Oct 00</i>	<i>Initial Audience Analysis Complete</i>
<i>13 Oct 00</i>	<i>Design Phase Signoff</i>
<i>06 Apr 01</i>	<i>Sponsorship and Communication Plan Complete</i>
<i>18 May 01</i>	<i>To-Be Role Definitions Complete</i>
<i>25 June 01</i>	<i>Training Development Plan Complete</i>
<i>30 Nov 01</i>	<i>End User Role Mapping Complete</i>
<i>14 Sept 01</i>	<i>Critical Path Development Complete</i>
<i>17 Sept 01</i>	<i>System Test Begins</i>
<i>28 Jan 02</i>	<i>Global Readiness Assessments Begin</i>
<i>22 Feb 02</i>	<i>Mock Conversions Complete</i>
<i>01 Mar 02</i>	<i>Train-the-Trainer Complete</i>
<i>11 Mar 02</i>	<i>Training Delivery Begins</i>
<i>22 Mar 02</i>	<i>System Test Complete</i>
<i>29 Apr 02</i>	<i>Training Delivery Complete</i>
<i>29 Apr 02</i>	<i>System Go-Live</i>

overall project team matched the complexity of the business change, presenting Motorola's SPS with significant knowledge integration challenges. The team aimed to implement standard, and integrated, business processes across functional areas and geographic locations.

Taking a Big-Bang Approach to Release 4

From the beginning, the executive sponsors set the expectation that business disruption at cutover must be minimized. Once agreed upon, the timing of cutover was non-negotiable. Project leadership decided to implement Release 4 with a big-bang approach to ensure high ROI. To build global commitment to and ownership of the change, regional representatives

were engaged in the new system and process design. Outside consultants were used only to fill knowledge gaps and validate designs.

Following implementation of Release 2 and 3, personnel moved to the Release 4 design team, adding fresh implementation experience and a deep understanding of how Release 4 needed to align with 2 and 3. With this team continuity, the sponsors confidently embarked on implementing Release 4, which was far more complex. Figure 2 shows a sample of key project milestones.

The new system went "live" on 29 April 2002 – on schedule, without stop-work issues or production downtime, and without interrupting supply lines or stakeholder confidence. The sector moved to a "steady state" within 45 days.

Critical change management activities contributed to the successful implementation.

Investing in a Comprehensive Change Management Program

The initiating sponsors of Release 4 resided in Supply Management and Finance, and initially they were skeptical of allocating budget for a full-time change management group. However, benchmarking indicated that change management was necessary to ensure minimum business disruption at Go-Live. Release 4 would cut across numerous organizations and would require widespread collaboration among many areas – many of whom did not report to Supply Management or Finance. In fact, the release would impact the entire supply chain. To mitigate the risks of such widespread change, the sponsors decided to invest in developing a comprehensive set of change management capabilities. They approved the budget.

Making the CR Manager Part of the Project Leadership Team

The broad participation in this major change would allow Motorola's SPS to integrate knowledge and build ownership in the change process. To better ensure knowledge sharing, the sponsors made the CR manager part of the project leadership team. As a result, change management was discussed throughout the project and given the same level of importance as IT or business process discussions.

The CR project manager provided direction to the regional readiness deployment managers even though they continued to report directly to their local management. The CR team had four full-time leads to handle audience and role work, one for training development, one for training deployment, and one for training environment. They led CR project sub-teams aligned with the business process sub-teams. CR specialists facilitated the relationship with the business process teams and provided information to a shared-service Instructional Design and Tools team that documented and packaged training materials.

Automating the CR Process

Automating the CR process allowed change management activities to occur globally in a standardized manner. In prior efforts, CR specialists spent a significant amount of time manually collecting audience and readiness metrics data, causing delays. Executives and regions could not address issues quickly. Furthermore, the business demanded real-time readiness metrics.

After researching standard industry tools and off-the-shelf software, and finding these insufficient, the CR team developed an in-house learning management system (LMS). At its core is a central repository for storing the data and documentation generated by the change management activities. Specifically, LMS stores end user audience data and related role mapping, audience communication, training registration, training materials, deployment assessment and reporting, and e-learning modules.

LMS provided real-time global training metrics and allowed for both centralized and decentralized administration and use. "The LMS pulled our global audience together and allowed us to work more fluidly around the clock," said Shaun Burch, Change Readiness Manager Instructional Design and Tools. Regional teams could view information without working through a CR specialist, and they were empowered to take immediate local corrective action. "The LMS proved critical for the sites to determine who was delinquent in training," noted Susan Sutherland, Europe Regional Readiness Deployment Manager. For example, LMS reminded management of their training gaps and provided flexibility on when and where to complete training.

Developing a Change Management Project Structure and Roadmap

The change management roadmap guided all activities throughout the project. Figure 3 illustrates the roadmap and how each activity integrated with the overall project plan. The eight activities are discussed below.

1. Change Strategy and Planning

In early planning sessions, the CR manager collaborated with project leadership to build specific change management activities into the overall project plan. The sponsorship and communication structure, for instance, provided ways for stakeholders around the globe to give their input into the change process. Jerry McClean, IT Director SAP Program, noted, "The hard thing is getting business commitment from Day One; CR had a huge part in this. They mapped out a strategy for how to get buy-in, and worked behind the scenes to engage the business."

The change management activities helped integrate knowledge across the core team, the extended team communities, the regions, and Motorola's SPS at large. This knowledge integration helped bridge many knowledge voids that typically exist on large-scale IT projects.

Figure 3 – Change Management Activities Integrated with Project Life Cycle Phases

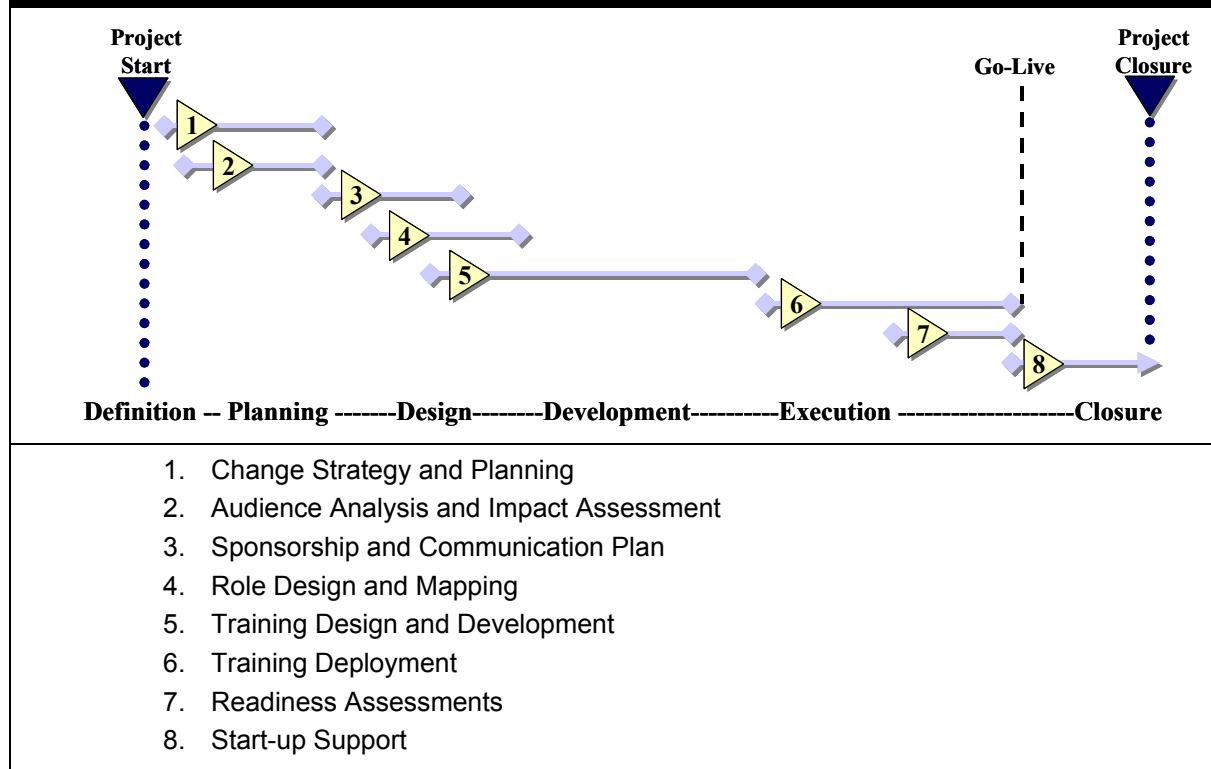


Figure 4 illustrates how the change-curve phases (listed in the middle) aligned with the project phases (listed at the top). As shown in the arrow, in the early phases, many of the change management activities were generalized and targeted to mass audiences because audiences and roles had not yet been defined. Later, when end user audiences became well-defined, messages became targeted to each audience or role.

“CR has created a very robust process over the years. We work together to overlay the technical project plan with the CR plan, and we have automatic clarity on each other’s roles,” stated McClean. Strict timelines and project plans ensured that the various parties had clear signals about when they had to be on board and in agreement.

Figure 4 – The Strategy and Planning Model

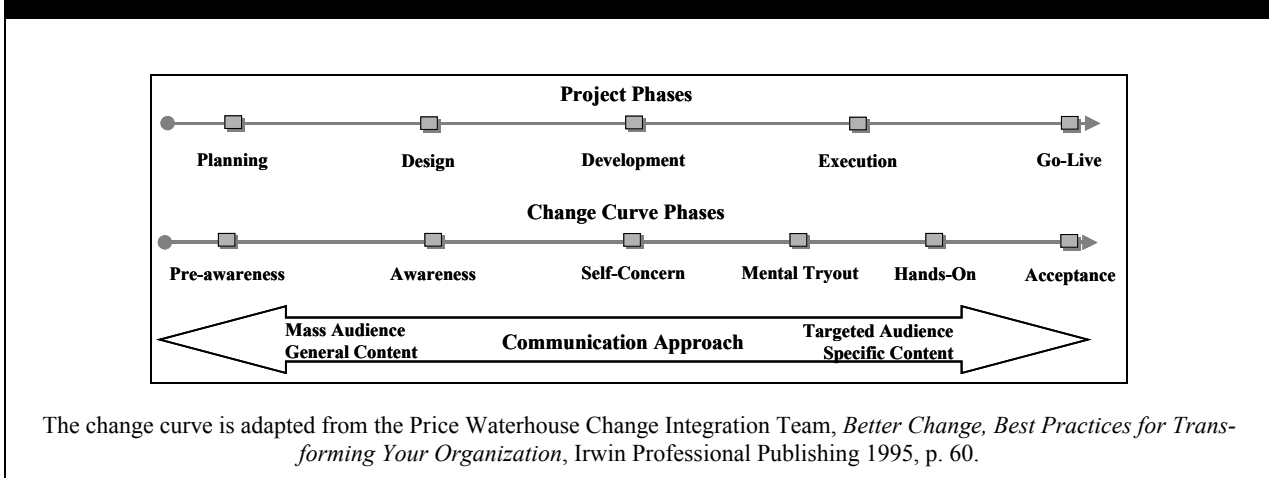


Figure 5 – Change Management Activity by Change-Curve Phase

<i>Project Team Activity</i>	<i>Change Curve Phase</i>	<i>Change Readiness Activity</i>
<i>Plan Project</i>	<i>Pre-awareness</i>	<i>Develop change strategy and plan Conduct audience analysis and impact assessment</i>
<i>Design Business Processes Determine Technology Requirements</i>	<i>Awareness and Self-Concern</i>	<i>Conduct initial awareness communications Develop to-be role definitions Conduct training needs assessment Build sponsorship tree</i>
<i>Conduct Process Prototyping Develop Technology Configure the System Conduct System Testing</i>	<i>Self-Concern and Mental Tryout</i>	<i>Conduct to-be role mapping to end users Conduct formal awareness sessions Distribute training preparation messages</i>
<i>Conduct Conversion Activity Cutover System</i>	<i>Hands-On and Acceptance</i>	<i>Deliver role-based training Conduct global readiness reviews Provide post-implementation support structure</i>

Figure 5 shows specific examples of how change activities were aligned with project team activities.

2. Audience Analysis and Impact Assessment

Before executive sponsors approved the execution phase of the project, they required answers to the following four questions:

1. How many people and how many organizations will be affected by the change?
2. What must other organizations do to support the effort?
3. How complex is the change for each organization involved?
4. What is the geographical distribution of the end user community?

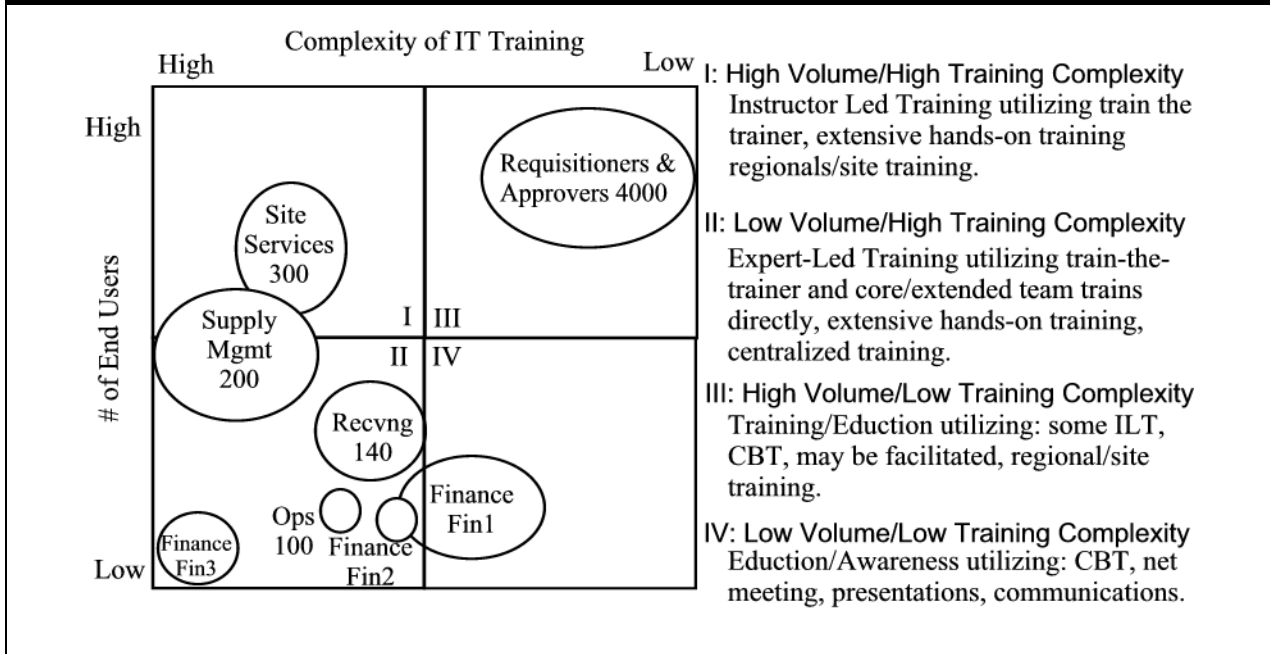
Previously, this information had been gathered in an ad-hoc manner; the data was unreliable, so people could not take actions. For Release 4, CR created a means to perform SPS-wide audience and impact analysis. The process involved working with representatives from each organization to identify all existing

stakeholders (by job and organization) and determine the scope of change for each audience – in terms of business processes, technology/tools, organizational re-design requirements, and direct impact on customers. Each change was given a simple weighting to yield a degree of change for each audience (high, medium, or low). This audience analysis led to audience-specific sponsorship, communication, and training strategies.

The audience analysis also gathered information about the systems and transactions to be retired. End users received a list of the systems they accessed within the prior six months and how often they used the to-be-retired transactions. The analysis showed that 5,700 employees worldwide would be affected.

The next phase listed the jobs affected by the project. The CR team gathered information on 154 jobs, including regional job variations and the estimated number of people in each job. They also gathered job descriptions and organizational charts for each affected organization. Figure 6 provides an example of how the team summarized the data.

Figure 6 – Summary of Affected Users, by Organization



The CR team presented the summarized data to the executive sponsors and key stakeholders for approval. “Bringing the key players together at key points to review information and make decisions prevented a lot of resistance and rework,” noted Amy Rollis, CR Audience and Role Lead. The CR team was able to convey complex information in simple terms, such as presenting each organization with the magnitude of change it would experience, and giving each a first glimpse at its requirements throughout the implementation. Before moving to the next project phase, the CR team facilitated obtaining a common, high-level understanding and approval of the scope and impact of the change management plans. This facilitation generated buy-in and support as well as actionable information for future sponsorship and communication planning.

3. Sponsorship and Communication Plan

Sponsorship and communications were not left to chance. A robust structure was put in place to ensure that information and knowledge flowed among the functional communities. The sponsorship and communication plan activity answered the following questions. Usually, on most large-scale implementations without a focused CR facilitation, these questions are left unanswered or vague:

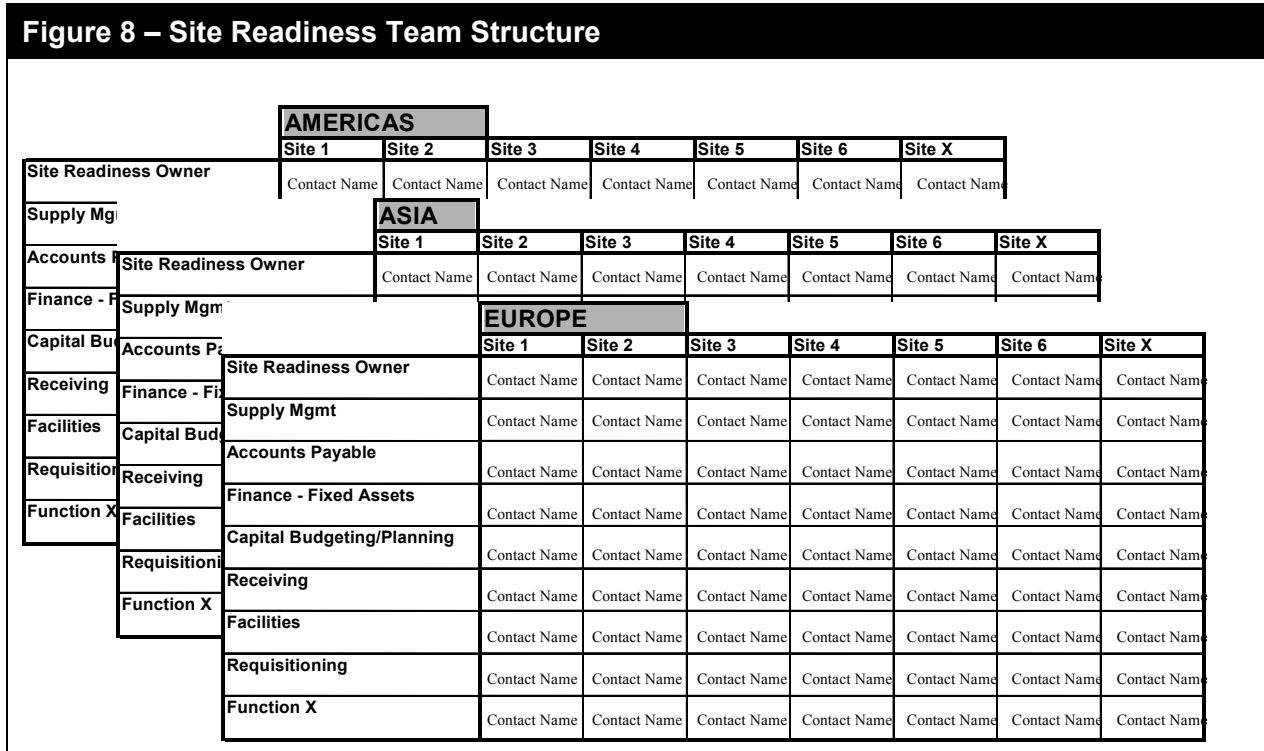
- What is needed to build global buy-in and support for this effort?

- How will stakeholders be involved?
- What are the roles and responsibilities of the sponsors, middle managers, core team, etc., in managing the change?
- How can the time commitments needed for training and other change-management activities be secured?

The plan, called the “Business Readiness Ownership Plan,” was actually a global readiness network. The business representatives in the network ranged from

Figure 7 – SPS’s Business Readiness Network



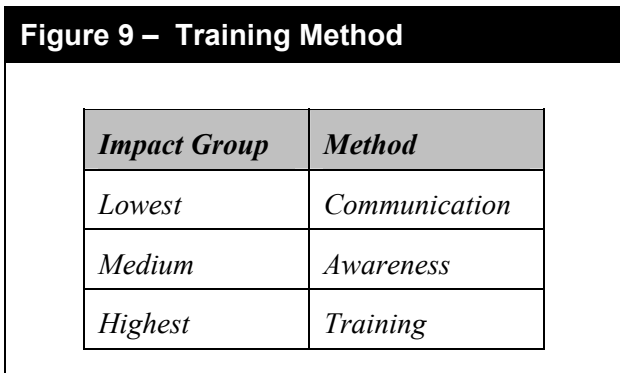


the executive level to the end-user level, as shown in Figure 7. The network lasted the duration of the project and gave Motorola’s SPS the means to complete all subsequent change-management activities.

Taking direction from the project sponsors, the CR team created and managed the deployment of the change activities. It partnered with the regional readiness teams to take inventories at all sites and organizations. These teams also mapped points of contact for each region by process, function, and site. The network comprised more than 45 global sites and approximately 12 main process areas. Each contact had a specific role in the change process and was accountable for ensuring the success of the change in his or her area.

Each regional team (Americas, Europe, and Asia) had a readiness deployment manager who worked closely with the regional leaders and each site to identify a site readiness owner and a site team. The site readiness owner was a senior manager responsible for the readiness of his or her site. The site readiness teams carried out local change-management activities and were the points of contact for project activities. They provided input into readiness assessments and coordinated and ensured local participation. Figure 8 illustrates the template used to create the site readiness teams.

The network, in essence, defined the path for communications, involvement, and escalation. KK Ramamoorthy, Asia Regional Readiness Deployment Manager, noted, “We spent up to two months developing the sponsorship model. As a result, global information sharing soon became so very easy because of this structure.” After the structure was in place, people understood their roles and responsibilities, and the regional teams became self-organizing. They were empowered to innovate and lead their region’s implementation, within the bounds of the global strategy. “This structure worked fantastically for us. The global team gave us the charter and that was the starting point for the entire readiness effort,” noted Ramamoorthy.



4. Role Design and Mapping

One of the first major knowledge integration points was role design – to-be roles to support the new business processes and SAP. The project team envisioned design as an integration triangle – process, tool, and role. The role design work began once the project team had documented the new business processes. The CR team worked with key clients and IT to group related activities into specific roles, because the activities would likely be performed by the one person or one group. The CR team then mapped the processes into the new roles. This “knowledge integration” effort helped validate which jobs would have new role definitions. Some 40 roles were created and role owners were assigned for the remainder of the project.

With roles defined and approved, the CR team identified which employees would play these roles. This activity helped bring dispersed groups together and integrate their knowledge further. The site and regional readiness teams performed most of the role mapping, once they were educated about the new roles. Approximately 4,500 of the 5,700 affected end users were mapped to the new roles. Project leaders and sponsors then reviewed and approved the role mapping. Their goal was to ensure appropriate fit between people and roles. The CR team then presented a communication plan to managers for communicating the new roles to their subordinates and identifying preliminary training requirements for each role.

5. Training Design and Development

The next step was to develop role-based training. Sarah Stratton, Training Development Lead for Release 4, noted, “Our challenge was to design role-based training for 40 roles that were designed by different organizations. This diversity added a level of complexity we had not faced before.” The standard change-management process called for subject matter experts to determine training needs and create a training development plan. The CR team assessed the training needs by role, by understanding each one’s audience size, geographic diversity, degree of change (from as-is to to-be processes), and business impact.

The CR team analyzed the information and then recommended training methodologies and delivery approaches appropriate for each role – based on how much each role would be affected by the change. As shown in Figure 9, there were three impact categories. Each used a different training method.

For low-impact groups, the plan typically called for broad communication events or distribution of global emails. For medium-impact groups, the training plan

prescribed awareness sessions, either in person or by using virtual meeting tools and with no hands-on learning. The high-impact groups were to be given hands-on classroom training, including knowledge transfer and skills checks. Instructors would lead classes for larger audiences and conduct one-on-one coaching, or expert-led classes for smaller audiences. Lastly, for large audiences with less change complexity, the CR team provided self-paced e-learning modules. More than 50 percent of the audience was trained via e-learning, which led to significant cost savings.

The standard training-development process called next for working with subject matter experts to create course specifications for each role. But it quickly became apparent that this standard process was missing a step. The CR team thus spent time on a “knowledge integration” step, prior to developing the course specifications. This new step was necessary because the CR team found that content owners had specialized and sometimes tacit knowledge, they generally worked independently on sub-teams, and they had little insight into how the cross-functional roles integrated with each other. In addition, the subject matter experts generally only knew their own organization, not others. They needed to document integrated solutions in forms easily understood by the stakeholders. An activity called “curriculum mapping” closed this gap. The CR team held a series of meetings where sub-teams from around the world determined an outline for what needed to be in the training for each role. “Once we started the meetings, the touch points between the

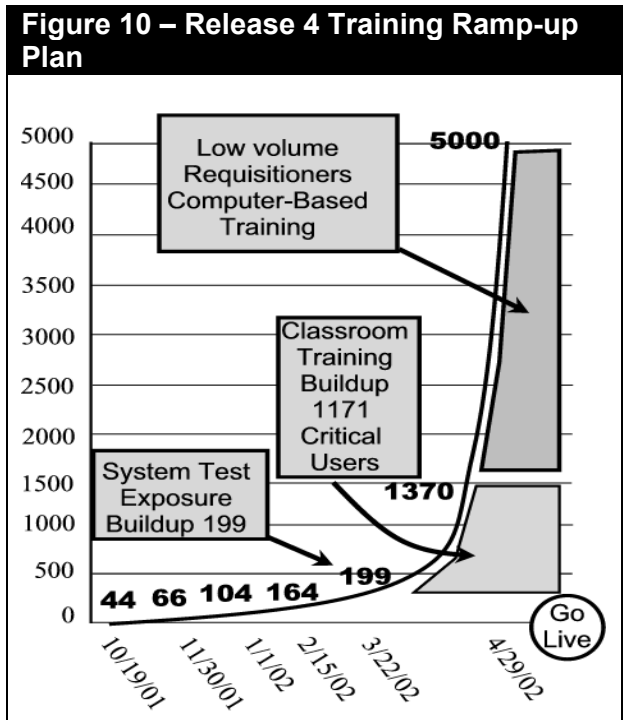


Figure 11 – Global Site Readiness Assessment Sample

SITE #	ASIA					EUROPE			AMERICAS					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Task is behind schedule on major issues encountered may cause missing target date (include comment)	8%	8%	8%	8%	11%	15%	27%	28%	54%	20%	38%	32%	20%	34%
Minor issue but Task Still on Schedule	66%	66%	68%	68%	63%	59%	51%	68%	4%	55%	11%	61%	66%	20%
On Schedule	25%	24%	24%	24%	25%	15%	11%	13%	8%	13%	15%	4%	11%	4%
No Applicable	N/A	N/A	N/A	N/A	N/A	0%	8%	8%	1%	0%	49%	0%	52%	1%
BUSINESS PROCESS														
A Process Area 1														
B Process Area 2														
C Process Area 3														
D Process Area 4														
Sub Process														
Sub Process														
Sub Process														
Sub Process														
Sub Process														
Sub Process														
E Process Area 5														
F Process Area 6														
G Process Area 7														
H Process Area 8														
I Process Area 9														
J Process Area 10														

groups started to be revealed and became obvious. This effort actually resulted in designing a separate process-integration module,” said Stratton. The CR team then worked with the subject matter experts to finalize the training modules, after fully understanding the integration points in the new business processes.

6. Training Deployment

With the training development plans in hand, the CR team created a training deployment plan that included detailed schedules for preparing training resources, building a master training schedule, administering the audience database, and managing communications. Training administration and metrics were to be tracked in real time using LMS.

Given the span of the audience, e-learning, in conjunction with classroom learning, became the primary method for delivering training. Train-the-trainer was used only for the largest audiences with the most complex training. The core trainers attended train-the-trainer sessions and then trained their local communities. The executive sponsors obviously wanted a realistic and achievable training approach – as well as

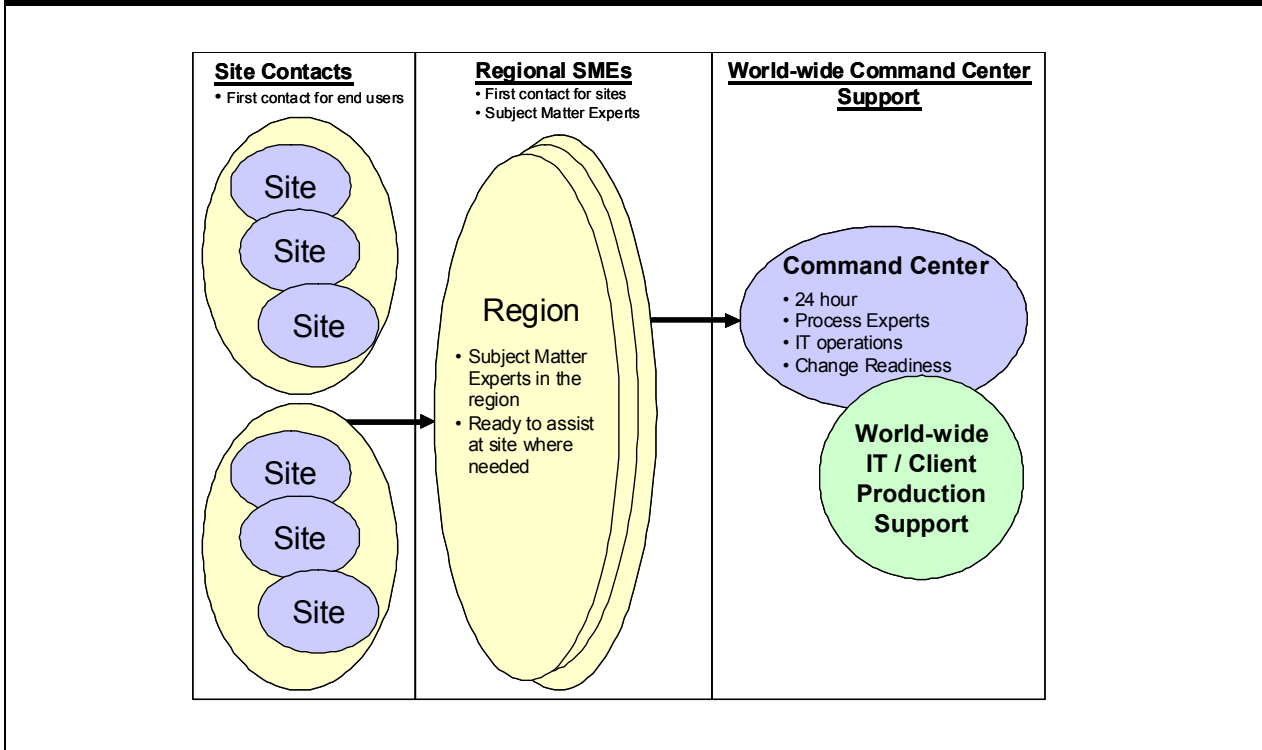
real-time progress reports. Figure 10 shows the training ramp-up plan.

To ensure a gradual build up of knowledge, the team constructed a knowledge base of SPS “super users” around the world. Those who participated in system testing subsequently became the trainers for their local community. The project and regional readiness teams determined how many trainers they needed based on their communities’ process and technology knowledge, presentation skills, and geographic location – then strategically selected the core group of trainers.

7. Readiness Assessments

The CR team facilitated global readiness assessments at each site and at multiple intervals, beginning approximately 60 days before Go-Live. The assessment measured individual readiness in such areas as communications, role mapping, business processes, training deployment, hardware/software deployment, and start-up support. The goals of the assessments were to bring the global stakeholder leaders together with the executive and program sponsors at key intervals to:

Figure 12 – Start-up Support Model



- Measure the state of individual preparedness and enable the targeted communities to mediate areas where desired readiness was not yet achieved
- Periodically assess key success areas to identify early warning of areas that needed more support
- Educate executive sponsors and key stakeholders on the critical components of the project
- Regularly provide opportunities for regions to share results, ideas, and approaches
- Generate a “demand-pull” from the business groups for the expected change, and transfer ownership of readiness preparation to these business groups.

The CR team distributed the assessments to each regional deployment manager, who then gathered information from the site teams and consolidated it at the regional level. “CR was the common driver. Their big value-add was to keep everyone involved with the program with forced meetings, forced integration, and forced participation,” noted Gregg Goff, Director of U.S. Supply Management Operations. Prior to the global assessment review meeting, the regional teams met with their regional project leaders to review and address the top issues. Each regional deployment manager submitted the region’s assessment results to the global CR manager, who consolidated and facili-

tated the presentation to the sponsors at the global assessment meeting.

The project leaders chose to conduct four readiness assessments. The first assessment was conducted 11 weeks prior to Go-Live. Its goal was to ensure there was adequate time allotted to address key issues. The final assessment was conducted one week prior to Go-Live. Figure 11 shows how assessment was depicted.

The simple red-yellow-green stoplight scale in Figure 11 gives an impartial view of every site’s readiness, by quantitative measure. Each assessment indicates which areas need active sponsorship to keep the schedule on track. In the first assessment, it became apparent that certain sites had more knowledge of upcoming process changes than others. This forewarning gave the teams time to focus more attention on those areas.

“The assessments were very powerful and highlighted immediately where we had issues,” noted Susan Sutherland, Europe Readiness Deployment Manager. In each assessment, the sponsors and business leaders closely monitored progress in the red areas to ensure that the critical issues were indeed being resolved prior to cutover. Likewise, the assessments gave stakeholders a means to air their critical issues to the core team.

8. Start-up Support

Regardless of the extent of change management provided, end users still had issues that required prompt attention by the project team at Go-Live. Start-up support proved critical to successful implementation. The start-up support strategy, facilitated by the readiness teams, included all impacted sites, a regional subject-matter-expert (SME) network, and a 24-hour Worldwide Command Center, as shown in Figure 12.

The sites and regional network acted as the front lines for questions, providing direct and timely support to end users around the globe. The Command Center provided related support, such as a 24-hour help line, so that centralized experts were available for all key areas, including business, IT, and change management. The project team classified the type and severity of each problem as it arose and had the appropriate Command Center team member address the issue.

Facilitated by CR and the project leaders, the Command Center operated on agreed-upon service levels: Red (fully staffed), Yellow (lean staff), and Green (no staff). Although staffing varied, the Command Center typically was in Red mode for the first 30 days after Go-Live, Yellow the next 30 days, and Green (steady state) approximately 90 days after cutover. Throughout the Red and Yellow states, the Command Center conducted global and regional calls with key stakeholders, subject matter experts, and sponsors to inform them of trends and metrics.

The Results

“You couldn’t find a smoother implementation in any other company of any other project size,” said Mark Poulsen, the executive sponsor. The project team, in coordination with the readiness network, trained a global community of 4,500 employees, delivered more than 300 classes in a six-week period, and achieved over 85 percent attendance of the targeted audience. The team’s approach to e-learning avoided \$1.58 million in costs, and further avoided negative stakeholder reactions, schedule overruns, or lost productivity. Additionally, one measure of the impact on productivity indicated that accounts payable reduced defects by 80-90 percent.

Supply Management reported that the average cycle time from requisition creation to purchase-order creation dropped from seven to two days due to increased visibility into the supply chain, automatic population of the master data, automatic controls, and reduced time spent researching issues. “It was an overwhelming success; factories ran, bills got paid, and there was a lot of relief, pride, and good feeling,” noted the Di-

rector U.S. Supply Management Operations. Additionally, measures indicate that the ROI and payback goal of achieving \$89 million in savings over five years is on track.

INSTITUTIONALIZING A CHANGE READINESS CORE COMPETENCE

After Release 4, CR increased its CR competence in subsequent projects while providing continuing support to previous efforts and enabling “self-serve” change management processes, tools, and practices. Despite downsizing, the CR capabilities remain because the processes are well-defined, they use automation, and the communication channels have been established. CR specialists have been able to broaden and deepen their skills, reduce cycle time, and compensate for downsizing.

The methods can be easily customized to support new change efforts, regardless of the type of change. For example, CR applied the methods in a global rollout of a problem-solving methodology for the Quality organization, and in an SPS-wide cycle-time-reduction effort. The readiness network put in place in Asia and Europe for Release 4 is still in place and has greatly increased role integration and knowledge sharing.

Additionally, numerous SPS organizations realize the integration and timesaving value of LMS. They are using it on their own to support other project and training efforts. Using the LMS repository, they can be self sufficient in learning and applying the CR process. “I get more and more people every day requesting to use LMS,” noted CR Manager Instructional Design and Tools.

In essence, the methods CR developed allow the business groups to own the change processes, tools, and results. “CR also has demonstrated to senior executives that the ability to take on even more complex and higher-risk projects is achievable by reapplying the same methods on a larger scale,” noted the IT Director of the SAP Program.

According to Harris, Corporate VP of Global Sales, evidence of achieving a core competence in change management is apparent when the process, people, roles and responsibilities, communications, and all other change management activities are discussed and planned for as prominently as the technology change itself. “I could not lead a project of a large magnitude without the appropriate amount of CR support. I refuse to do it,” she stated.

CONCLUSION

Motorola's SPS faced its change management challenge with a CR team whose primary focus became acting as global integrator, so that ownership and collaboration were ongoing, dispersed knowledge was integrated, and business continuity was ensured at the time of Go-Live. CR's change management activities helped executives and cross-functional project teams reinforce their common goal, unearth conflicts, and address them at the key points in the timeline. The change activities continually brought the key parties together, forcing the needed knowledge integration across the different cultures, functions, and management levels. Common knowledge was built and collaboration was fostered. "The structure has remained in place and there is now a much healthier exchange between the business and the rest of IT," noted Ramamoorthy from the Asian region. The key lesson is:

Use change management to bridge and bond different knowledge communities together. Dedicate resources to bring together divided communities and ensure the proper levels of knowledge integration and transfer.

Motorola's SPS learned four major lessons from its journey that executives in other organizations can use:

One, convey consistent openness and commitment to gaining global stakeholder input. You cannot have true ownership of a change without providing the stakeholders ways to influence the outcome.

Two, conduct change management activities at every phase of the project life cycle, from planning to post implementation support. Dedicate equal time, consideration, and resources to change management. Build a robust sponsorship network in the planning phases and use that network to handle all subsequent activities. Leverage and maintain the community and knowledge building beyond Go-Live.

Three, be sure that systems integration includes people and process integration. Change management cannot be isolated from process design or technical design because it facilitates cross-functional knowledge integration.

Four, use an objective and quantifiable process to measure stakeholder readiness. Ensure that all communities have access to real-time metrics and tools to track their own progress and identify their readiness issues early on, before these create an emergency.

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