

GLOBAL PROCESS STANDARDIZATION: A CASE STUDY

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In the age of globalization, improving a company's operational competitive advantage has become a priority for many companies. One of the ways to achieve this objective is through internal global process management and standardization.

Standardization is not a new concept; it has been a key ingredient for success for many firms. McDonald's seeks to serve its customers with the same quality product and experience, whether that restaurant is located in Moscow, Idaho or Moscow, Russia. This requires standardized processes and similar quality ingredients.

However, no firm can operate without taking into account various cultural or geographic differences. For instance, the menu in a McDonald's in Tokyo is different than the offerings in Paris, France or in the U.S. These issues are not the sole challenge of restaurants. Increasingly, as firms become more global, their expectation is that their suppliers will be able to support them in the same consistent manner that they did in the domestic market.

This, in short, is the dilemma facing firms today: How can processes be globally standardized to meet the needs of a global market, while still taking into account various cultural and geographic dimensions?

Using a case study, the research looks at process management of a global third party provider and focuses on a systemic method for implementing and managing a broad scale and on-going process management improvement project. The case study provides a method for understanding what aspects of a process can be modified to the local market without impacting the robustness of the global process and provides a method for continuous improvement.

The purpose of this exploratory study is two-fold. First, it is to describe the process used by a transnational firm to identify their most critical processes, based primarily on how they provided value to their business partner. Second, the article will describe how the firm standardized key processes across their global operations.

This paper is not a “how-to” on process mapping or benchmarking; many of these have been written (Ackerman et al. 1987; Camp 1989; Donnell and Dellinger 1990). Rather, this article is an explanation of how a firm can begin the journey of identifying key processes within their organization, determining which processes to initially standardize, and how to implement this strategy across global operations.

The paper is organized as follows. First, there is a literature review focused on global firms. Second, a framework for standardizing global processes is discussed. A brief overview of the case study firm is presented, followed by key learnings related to identifying and standardizing global processes. Finally, implications of the case study and future research are noted in the concluding section.

LITERATURE REVIEW

Much has been written about logistics and processes. This is not surprising, given that the Council of Logistics Management defines logistics as “that part of the supply chain process that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customers’ requirements.” Even definitions of supply chains allude to the idea of processes or process management. Keebler et al. (1999) identified key processes that managers should focus on in order to be more effective in managing their supply chains. Others have also discussed the importance of viewing logistics as a series of intertwined processes (Bowersox 1997; Cooper, Lambert, and Pagh 1997; Lambert, Cooper, and Pagh 1998).

The complexity of managing these processes increases as the firm moves towards global integration in such areas as inventory management policies like quick response, just-in-time, supply chain management, or business re-engineering (Ellram 1991; Houlihan 1985; Jones and Riley 1987). Global integration has been undertaken to achieve economies of scale and scope and operating flexibility (Bartlett and Ghoshal 1989; Kogut 1985, 1989; Prahalad and Doz 1987; Yip 1992).

According to Nix (2001, p. 2), “there appears to be three distinct paths of supply chain improvement to be considered in the management of a global company: (1) integration of supply chain processes, (2) strategic management of supply chain activities, and (3) global integration (globally integrated management) of supply chain processes and activities.” The focus of this research is on the second path, strategic management of supply chain activities, which has received limited attention (Nix 2001).

Some suggest that increased pressures toward global integration and local differentiation will require firms to manage their firms to simultaneously achieve global efficiency, local responsiveness, and world-wide transfer of knowledge and capability (Barlett and Ghoshal 1998). This is the impetus for global process standardization.

Two questions arise in this quest for global process standardization. First, how should global or transnational firms balance both global and local perspectives (White and Poynter 1989)? That is, at the operational level, how should the organization determine the right mix of following the global standard, but also have the flexibility to modify it to meet the needs of the local market?

Second, where should firms focus their efforts? Much attention has been placed on integrating supply chain activities and processes; this should lead to better customer service and reduced costs (Keebler et al. 1999; Mentzer et al. 2001). While supply chain management has primarily focused on integrating key processes with customers and suppliers, a critical component is the integrated management of internal functional areas and business processes (Cooper, Lambert, and Pagh 1997). This integration is also referred to as “intragration” (Manrodt, Holcomb, and Thompson, 1997).

The literature is clear that global and transnational firms can benefit from a coordinated and integrated management of their key processes. This again is a primary focus of supply chain management. What is lacking is a specific method of identifying which operational processes are key to the organization, and how they can be standardized across the world.

Achieving global process management on a wide scale is extremely complex. A short list of common obstacles includes language, customs, current standards, education levels, and government regulations. Increased competition, demanding customers, and constantly changing business environments have forced management to seek radically different ways for their companies to succeed in the marketplace. High service expectation from customers, intensified competition, and rapidly changing business environments are transforming the marketplace (Paik and Bagchi 2000). Bartlett and Ghoshal (1989) explored the challenges facing transnational firms, characteristics of these firms, and ways to build and manage the transnational entity.

While the literature on transnational firms is helpful in developing a framework for understanding the global complexities of managing the organization, the unit of interest is still relatively broad. The focus is on tasks, such as advertising or pricing, and not on the processes themselves. It is this level that is of interest to the research team.

RESEARCH METHODS

In order to answer these questions, the research team utilized two methods. First, an extensive literature review was conducted in the areas of global process standardization and the issues and challenges facing global organizations. Second, an in-depth case study of a global firm was conducted. The case study provides for richer understanding of how one company has successfully taken the concept of global process standardization through implementation.

Since the focus of this research was the investigation of unique purposes and processes for global process standardization, great insight was gained by asking open-ended “how” and “why” questions (Ellram 1996). We wanted to identify the major issues and problems facing companies implementing global process standardization projects, the process employed, and the results of these efforts. These questions could not be planned as easily as quantitative “how much” or “how many” questions.

The company selected – Modus Media International, Inc. (Modus) – had been identified as a leader linking metrics from strategy to the plant level across its 23 manufacturing/distribution facilities (Keebler et al. 1999). One of the members of the research team had been instrumental in facilitating the global process management solution process and, as such, brought a significant amount of historic information to the effort.

Case Study

A case study is a good tool for exploratory studies. According to Yin, a case study is an effective strategy for exploring “how” or “why” questions (Yin 1994). In this research, we wanted to find out why standardized process management was being conducted and how it was carried out. In addition, we wanted to show examples of how companies can realize the benefits of standardization across a global scale. Given the research goals, the primary field study technique used was the case study. It allowed direct observation of a phenomenon in its natural setting, thus promoting profound, realistic understanding (Babbie 1983). While other methods would have compiled broad conceptual overviews and isolated quantitative facts, field research produced rich explanations and illustrative examples that generated great insight (Babbie 1983).

Design of case study protocol and interview guide

The case study protocol and interview guide were developed based on the input from leading experts and the exploratory survey. In addition, the researchers looked to academic journals outlining proper use of case study methodology such as Bonoma (1985), Eisenhart (1989), Ellram (1996), Marshall and Rossman (1995), and Mentzer (1990). Ellram (1996) notes three types of interviews useful for case study data collection: unstructured, semi-structured, and structured. For this study, interviews were semi-structured, using broad questions to “thematize” or formulate the purpose of the study. This approach revealed global process standardization practices from the interviewed subjects’ perspectives, expressed in their terms.

Lastly, as suggested in the literature, prior to case study execution several experts critiqued the guide and refined input (Ellram 1996). Given the phenomena being studied, only one firm matched our criteria.

Case interviews

The interviews were conducted with a broad level of individuals at Modus ranging from senior management to line managers. The case studies penetrated deeply below the surface, producing insight into the motives, practices, and performance of global process standardization within Modus. This use of purposive sampling ensured that information was gathered from highly knowledgeable people within the organization (Kuzel 1992). Finally, the semi-structured nature of the interviews allowed the consideration and investigation of new information as it was collected and helped overcome researcher biases (Eisenhart 1989). This was done to give a wider perspective on how Modus approached their global standardization effort and how it was accomplished.

The data collection was done in two phases. Thirty-one standardized questions were used during the interview to better understand Modus's process management standardization practices. In addition to these standardized questions, several open-ended questions were asked to solicit a wide range of respondents' opinions. After conducting interviews, the second phase included a follow-up written review of the case study information with the respondents. This approach enabled us to compare verbal responses with written validation. Consistency between the results from the two approaches ensured data reliability.

Depth interviewing was the primary method used to collect case study information. The survey questions sought to elicit the perceptions of the respondents on the impact of process management standardization practices on their operations. It involved asking open-ended questions from the interview guide, recording the answers, and posing additional relevant questions. Although straightforward, this process produced greater detail and generated a holistic understanding of the interviewee's views (Patton 1987). The semi-structured nature of the depth interviews allowed participants to initiate their own observations, rather than act strictly as question respondents. This additional informant role encouraged participants to provide spontaneous insights, identify sources of corroboratory evidence, and initiate access to such valuable information (Yin 1994). The dual respondent/informant role increased interview clarity and improved the probability of developing accurate, reliable models and theories (Eisenhart 1989). Lastly, archival data such as training manuals, employee presentations, memos, etc were collected to demonstrate and support the interviews.

Reliability and validity

The case study research design paid particular attention to reliability and validity. Ellram points out two keys to case study reliability: use of a protocol and development of a case database (1996). Given the semi-structured approach used in the current study, the protocol includes general questions (listed above) and Kvale's (1996) guidance on qualitative research interviews. In addition, the two-phase approach with a follow-up written review enabled us to validate respondent's verbal responses. Consistency between the results from the two approaches ensured data reliability. Sandberg (1995) and Kvale (1996) point out two additional criteria for validating qualitative research, communicative validity and pragmatic validity.

The interview process attempted to elicit not opinions, but knowledge about what people were really doing. To draw a broad picture for pragmatic validity, people in different focus areas were selected as interview subjects. The researchers verified the interviewee's comments in subsequent interviews to ensure consistency of responses. When empirically-based patterns and trends of data coincide with predicted ones, the case study is believed to achieve internal validity (Yin 1994). Using archival data, we compared the data with the interviewee's responses which ensured validity.

The case study interviewed people and collected data from a wide variety of people involved with the process standardization efforts at Modus. This was done to address problems of construct validity and reliability. Eleven logistics and supply chain managers were interviewed. These individuals formed a "purposive sample."

Overall, the research methodology used several methods to achieve triangulation, which the researchers believe provides a strong substantiation of validity and reliability (Eisenhardt 1989).

Interviews conducted

A total of fifteen interviews were conducted over eight months, starting in January 2002. Four were at the executive management team level, five at the middle management level, and the remainder were line level individuals. Six of the interviewees had direct global responsibilities. Interviews ranged from one hour to eight hours. The average interview lasted just under two hours.

In addition, as noted earlier, one member of the research team had been employed by the firm during part of the global standardization process. These insights were helpful in framing the questions and selecting the appropriate individuals to participate in the interviews. Given the nature of the sample, this exceeds the 6–8 sampling units that are commonly thought to be sufficient for homogenous samples (Carter and Jennings 2002; Lincoln and Guba 1985; Marshall and Rossman 1995; McCracken 1988; Patton 1990).

Limitations

It should be noted that while using only one company to provide the basis of a case study is not ideal, it is not uncommon. Paik and Bagchi studied a single port/process reengineering study; Mintzberg and Waters' (1982) study of Steinberg's grocery empire also comes to mind.

Ellram (1996, p. 100) supports the use of a single case study when appropriate and suggests it "is suitable when that case represents a critical case to test a well-formulated theory, an extreme or unique case, or a case which reveals a previously inaccessible phenomenon."

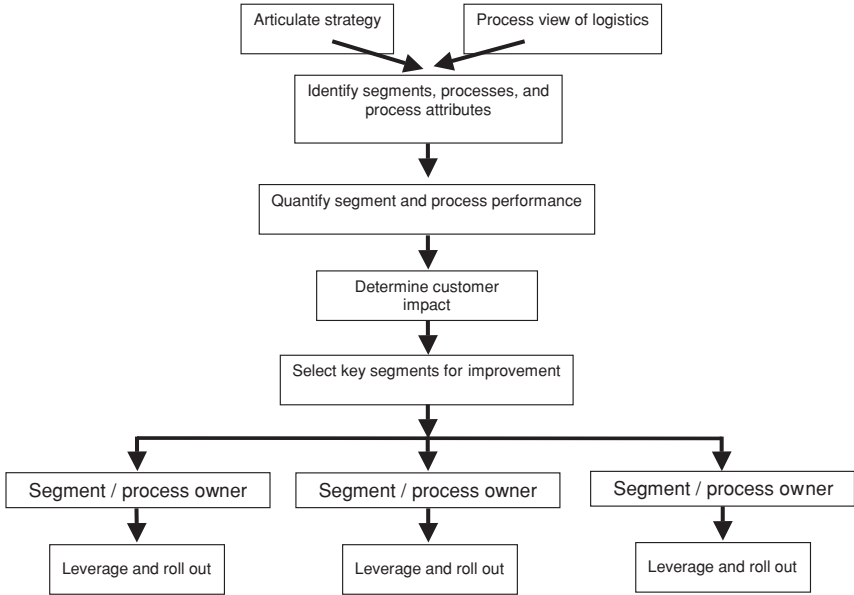
One of the limitations of such studies is the generalizability of the findings; however, generalizability of the data is not the objective of the case study. It is our belief that Modus represents a unique case of a previously inaccessible phenomenon.

GLOBAL STANDARDIZATION FRAMEWORK

Despite the growing interest in global and transnational organizations, there is little research on how firms can better develop and standardize global processes. The case study research explores the need and provides a foundation for global process standardization.

Based on the case study that follows, there are several steps that firms should consider as they work to standardize global processes (Figure 1). Each of these is briefly discussed below.

FIGURE 1
FRAMEWORK FOR STANDARDIZING GLOBAL PROCESSES



Articulate Firm Strategy

It was evident in the research process that Modus had a clearly articulated strategy that was understood by both managers and employees. Each knew how efforts impacted the strategy, and the profitability of the firm. This enabled top management to explain how global process standards would benefit the firm, as well as the employees.

Adopt a Process View of Logistics/Supply Chain Management

This single step may be one of the most difficult challenges facing organizations today. It requires that managers no longer think in terms of functional silos, or direct reports, but rather focus on how value is created in the organization. Processes that are mapped will be boundary spanning and require the efforts of multiple functional managers. Those firms that have developed matrix organizations may have an advantage over more traditionally organized firms.

If the organization is traditionally organized, or slow to change, management must create a compelling event that will encourage new behavior (Keebler et al. 1999). A compelling event could

be new competitors entering the market, losing a key customer, or new technology making the firms' offering less attractive.

Identify Key Segments, Processes, and Process Attributes

After adopting a process view of the organization, managers must decide which segments, processes, and process attributes are most important. What is a process? What attributes within the process are most critical? It is anticipated that firms will differ widely on defining processes that are critical to the firm based on the firms' strategy and industry. Several techniques can be used to identify and map the segments; this methodology should be familiar to those using the SCOR model or other process mapping techniques.

Determine Customer Impact

Not all segments are created equal; not all segments or processes will impact customers in the same manner. As such, managers should determine which areas will give them the biggest return for their efforts. Plotting this (even if it is done subjectively) can provide managers with a visual tool that can stimulate the discussion and bring agreement as to next steps.

Select Key Segments for Improvement

Once the impact of each of the segments on customers and the firm has been determined, key segments and processes should be selected for global standardization and improvement. The global standard is to be adopted by the rest of the organization, with care given to allow for some customization at the local level. In other words, all common points across the transnational organization should remain consistent, yet allow for features to support the local level, such as language, geographic, or statutory policies. However, given the global nature of the customer (and that the setting is business-to-business, and not business-to-consumer) customization should be kept to a minimum.

Identify and Train Global Segment Owner

Success in these endeavors will require the identification and training of a global segment owner who will be responsible for the rollout. Miscommunication is minimized by having a single focus of control.

CASE STUDY BACKGROUND

The following section is divided into three parts: a brief introduction regarding Modus's background and the factors that lead to change many of its processes, key findings regarding identification of key global processes, and key findings regarding the standardization of these processes.

Modus Background

Modus is one of the tenth largest privately held high technology companies in the world (*Business Week* 2002). Modus operates 21 manufacturing/distribution facilities in 12 countries. The company's mission is to be the global supply chain management infrastructure for technology-enabled commerce, connecting supply to demand for both traditional and e-commerce business models. Technology and e-commerce companies such as *Fortune 500* software, hardware, and telecommunication companies outsource their supply chain management processes to Modus, which offers customer care services, content and materials management, product assembly, and fulfillment.

Building the Case for Change

History of global process standardization

Modus began its global process standardization in the area of quality in 1996. The company realized that their global customers expected the same level of quality from its manufacturing and distribution operations regardless of location; that is, global customers wanted consistent quality standards. Modus believed that having globally consistent quality processes and measurements across its facilities would be a key competitive advantage and benefit for clients. The firm set out in 1997 to develop a Global Metrics System and Standard Attributes Manual that outlined in detail all of the quality standards needed for operations across its facilities. The Standards Attributes Manual set specific minimum quality related standards while the Global Metrics System captured 99 quality related metrics across the firm's different facilities. Each of the standards and metrics were uniformly defined to avoid any potential confusion. These efforts were well received by the client base; in one instance, the Standards Attributes Manual was adopted by the firm and used to measure Modus's direct competitors.

Expansion and objectives of global process standardization

In the summer of 1999, customer satisfaction and loyalty surveys showed that key global clients perceived working with Modus was like working with several different companies. Each facility had its own way of performing the tasks as indicated by the global contract. Senior management felt that if they could ensure global process standardization that was trusted and predictable globally, they could increase customer satisfaction and create a competitive advantage by leveraging knowledge and efficiencies across all sites. Both the processes for completing the work, as well as the outcomes, would be consistent, transparent, and standard. Managers also believed that creating a sustainable and systematic method for measuring and standardizing processes would help embed a continuous improvement mindset among all of its facilities.

Identifying Critical Processes

Framework for global process standardization

The firm began to develop a systemic method to leverage knowledge and create stability through global process standardization. In order to achieve this, they had to fully understand their

global, regional, and local processes. These processes had to be benchmarked internally with competitors and with world class firms (Modus Process Handbook 1999). In doing so, the firm created a common understanding and language for standardizing its processes. This allowed the business to constructively analyze and prioritize the plethora of tasks.

The result was the development of the Global Enterprise Operating System (GEOS) framework for measuring and standardizing their practices. Developed in conjunction with a European consulting firm, the program was customized to reflect the detailed processes of Modus's business. In doing so, Modus created a "roundel" or wheel that is a visual representation of all the processes they would be benchmarking and attempting to standardize.

As noted earlier, one underlying objective was to provide a common language for discussing processes, their interaction, and interdependencies. Modus believed that the program would drive its individual facilities towards identifying gaps in key processes and performance. That in turn would lead to taking action to correct shortfalls. The program was organized in a way to challenge employees to learn about other facilities. The framework and benchmarking process led to action plans that were aimed at producing global process standardization and creating real operational improvements as facilities "learned" from each how to achieve process best practices.

Modus began developing a process scorebook in December 1999 which was designed as a tool to help each of its facilities assess where they currently were on the continuum towards world-class standards of business performance. Completed in the spring of 2000, the scorebook addressed 46 processes making up the eight segments of GEOS. Each of the processes had several attributes that helped employees determine their level of process excellence. A sample of a process and its process attributes can be found in Table 1.

The scorebook was designed to allow employees to assess their processes against a maturity profile that describes different stages leading to world class performance in that specific process attribute. Each location created a benchmarking team – consisting of both line employees and managers – to score itself on each process attribute based on the agreed maturity profile of a particular process as well as level of application for that process. Overall the scoring process was categorized in three areas – process maturity, process application, and a total score.

TABLE 1
SUPPLY CHAIN CONDITIONING MATURITY PROFILE

PROCESS: SUPPLY CHAIN CONDITIONING		Process Maturity Profile					Attribute Score
		1-2	3-4	5-6	7-8	9-10	
1	Forecasting	Basic financial budgeting over the long term. Demand is too uncertain to forecast	Forecasts based on historical information. Insular, independent, multiple forecasts	Basic forecast monitoring, forecasts changed for cosmetic reasons, exceptions not actioned	Simple process used to modify historic demand. Robust market intelligence used. Performance measured (accuracy, skew and stability)	Whole business works to a single, accurate forecast. Forecasting process given high priority in the business resulting in operational competitiveness	5
2	Sales & Operations Planning	Functions operate in isolation, no cross functional meetings	Informal cross functional interface to deal with problems as they arise	Formal meetings with narrow scope reacting to short-term market conditions. Fragmented planning	Formal meetings address business performance issues. Coordinated functional approach to satisfying market requirements	Monthly meetings link business strategy to detailed facilities, requirements, and resources planning. Business performance reviewed and cross functional actions planned	5
3	Control Techniques	Management time consumed expediting	Inappropriate, single approach to controlling all demand patterns results in high costs and delivery failures	Broadly appropriate single control technique used to achieve acceptable delivery reliability, lead time, and cost	Appropriateness of control techniques reviewed regularly to reflect changes in demand patterns and capacity availability	Synchronized "pull" control techniques minimize costs and lead time throughout the supply chain	5
4	Inventory Setting	Ad hoc stock management, emergency orders, progress chasing, late deliveries	High stock levels set for extra safety. Just in case mentality, high obsolescence	Stock levels set scientifically, but infrequently reviewed. No corrective action after failures	Regular review of (well understood) parameters to set stock levels within the organization for required delivery performance	Stock management part of integrated optimization of stock along the supply chain	5
5	Inventory Accuracy	Annual stock check, many adjustments, high search time for parts	Periodic stock checks, many adjustments, adjustments when count found to be wrong	Regular stock checks. Errors corrected as they are uncovered	Cycle counting frequencies and tolerances defined. Process to eliminate causes of error not in place	Cycle counting fully operational feeding error prevention work groups. No annual stock take required	5
						Total Score	25

NOTE: Attribute scores are for illustrative purposes only.

Process maturity category

Process maturity describes how effective the process attribute performed within a location. Each process had several process attributes which could be scored and totaled to provide an overall process score. For instance, the process “supply chain conditioning” has five process attributes, as listed in Table 1 above. The process attribute “forecasting” received a maturity score of 5, meaning that this particular Modus location uses basic forecast monitoring, forecasts are changed for cosmetic reasons, and exceptions not actioned. To earn a higher score, such as a 9 or 10, the facility would work to a single, accurate forecast, and the forecasting process would be given high priority in the business, resulting in operational competitiveness. In other words, this is the level of sophistication of that particular attribute with the company.

In the example in Table 1, the total score for the Supply Chain Conditioning Process of “25” is found in the bottom right corner.

Process applications

Having a well functioning process is only part of the equation. The second dimension adopted by Modus relates to how extensively the process output had been applied or shared within the particular facility or location. Modus called this measure the “*Achievement Application Score*” which was based on the breadth of implementation of a process or on actual quantifiable performance measures. A process that had been widely shared received a higher score than one that had only been applied to a limited part of the organization.

For instance, assuming that the practice applies to two-thirds of the relevant areas within the facility, and combining it with the Process Maturity Profile of “25” from above will yield an overall Application Achievement Score. As provided in Table 2, such an outcome would have generated a score of “4.”

Total actual score

The last step was to calculate a total actual score, which is used to normalize the data. The Achievement Application Score is multiplied by the Total Maturity Profile Score to generate the Total Actual Score for that process. The Total Actual Score for the process then becomes $4 \times 25 = 100$, (Achievement Application Score multiplied by the Total Maturity Score) and expressed as a percentage of the maximum available score of 150 points. The final score is 66% ($100 / 150$)%.

TABLE 2

ACHIEVEMENT APPLICATION SCORE FOR SUPPLY CHAIN CONDITIONING

	Score	0–5	6–11	12–17	18–23	24–30
Breadth	Not applied	1	0	0	0	0
	Applied to less than 25% of relevant areas	0	1	2	2	2
	Applied to between 25 and 50% of relevant areas	0	2	2	3	3
	Applied to between 50 and 75% of relevant areas	0	2	3	4	
	Applied to more than 75% of relevant areas	0	2	3	4	5

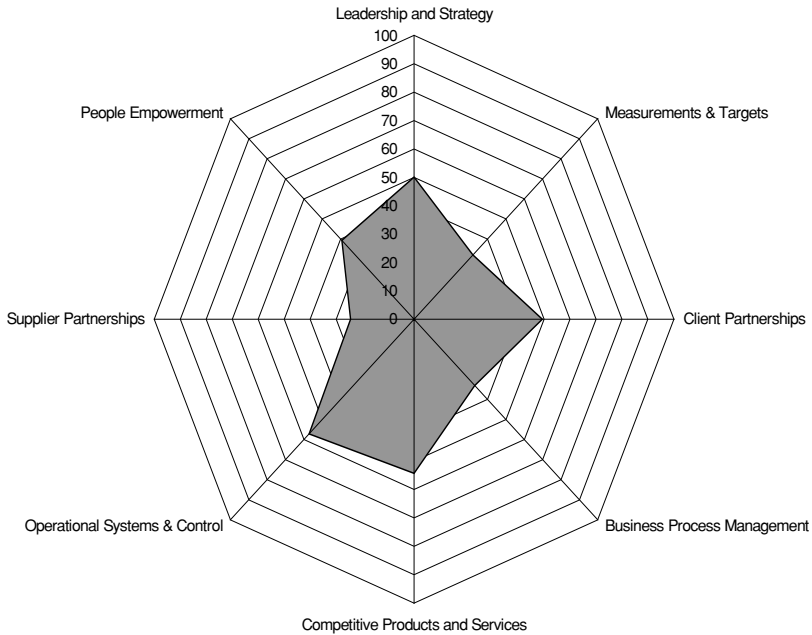
NOTE: Attribute scores are for illustrative purposes only.

Achievement Application Score	4
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At each facility the benchmarking and scoring method was repeated for all of the processes and attributes within the eight segments. The scores were then summed for all the processes to generate an overall result or score for the segment, and a radar chart (Figure 2) displays the results for the segment as a whole. The use of a visual radar chart helps each facility to understand where there are gaps in their processes between what they are currently doing and what is considered World Class.

FIGURE 2

RADAR CHART FOR SUPPLY CHAIN CONDITIONING



NOTE: Attribute scores are for illustrative purposes only.

Two points should be highlighted at this point. During the spring and early summer of 2000 the firm began an awareness campaign designed to explain the GEOS concepts to all of the employees. All full time employees world wide were trained on how to use the newly acquired tools. In order to manage these changes, the firm developed a standardized process and approach for rolling out the GEOS concepts. Standardized training and education materials were created and a “Train the Trainer” approach was adopted for rollout of GEOS. All employees, regardless of level, were required to attend and learn the key elements of GEOS. Training was followed with a standardized test that all employees had to take until they passed.

At the same time general training was taking place, each facility (or solution center) created a benchmarking team and used the tools to complete a self-assessment of their segments, processes, and process attributes using the Scorebook.

Second, no weighting is provided for each of the segments. The tool did not try to prioritize or weight any one segment over another. A segment such as supply chain conditioning (sales forecasting)

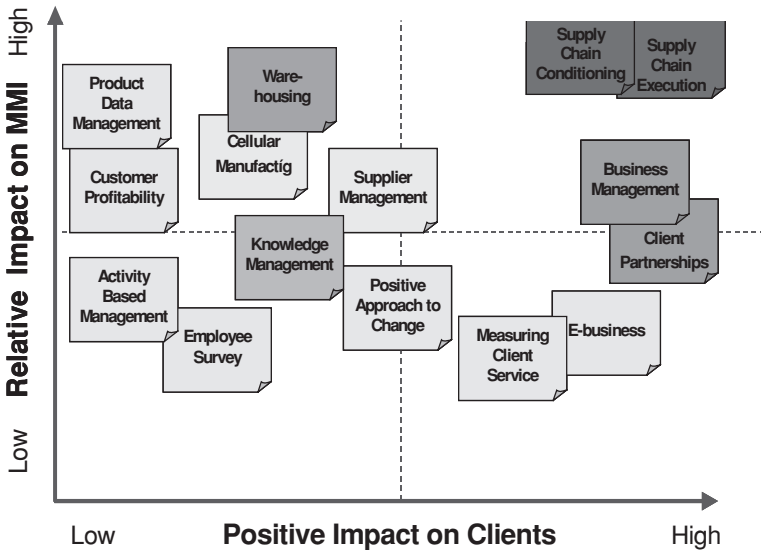
has the same weight as inventory management. It does not try to pre-set thinking that one item is more important than the other. For example, someone with a poorly performing Human Resource process may feel this is more important than a process that is execution oriented. The tool was designed for flexibility and allows each region or solution center within the firm to prioritize their own needs.

Linking processes to strategy

The last step was to link the GEOS tool to overall corporate strategy and objectives. This was done by analyzing the individual benchmarking information from each of the facilities and determining which processes should be standardized first across all the facilities. Selecting the critical processes was based on the potential positive impact to both Modus and its clients. Four processes were identified for global process standardization: supply chain conditioning, supply chain execution, business management, and warehousing.

FIGURE 3

MAPPING PROCESS IMPROVEMENTS FOR CUSTOMERS AND MODUS



Each of the four key processes was assigned a Global Process Standardization Expert to lead the implementation of the top priority projects diagrammed in Figure 3. In essence the business created the equivalent of Six Sigma black belts and greenbelts with specialties in each focus area that was to be standardized. In October 2002, facilities were selected to host a pilot project with the goal to close the gap between best practice and current practice for each of the selected projects. Pilot completion

dates varied by project; however, in general, Modus was ready to rollout a best practice standardized process across all of its facilities for these projects between June and December of 2001. Detailed process information and training materials were created for each of the projects. For example, a complete training class, manual, and work instructions were created for the Supply Chain Conditioning project which began its rollout in January 2002.

For the global rollout of the priority projects, the firm decided to better emphasize the roll of process throughout the organization. As such, the firm divided the Process and Technology group into two distinct groups and appointed a Vice President of Global Process Standardization. The focus of the newly created group was to:

- Establish standard global practices to align processes and ensure consistency
- Define and articulate the methodology and process to attain business objectives and metrics
- Measure and report performance in the above

Regional Global Process Standardization teams were put in place to support the new organization and help drive the implementation of standardized processes throughout the facilities.

Managing customization of global processes

One of the issues that faced the organization was to determine how to globally standardize segments, but still allow for customization of the various processes and process attributes at a local level to meet the needs of the local clientele.

In order to manage this, the firm used a two step process. The first step was to develop a robust process during the pilot phase. The pilot teams were chartered with developing a process that was as generic as possible that could accommodate the firm's many customers across its 23 facilities. Client and facility requirements were rationalized and streamlined into a more standard process. The second step was the rollout of the process to secondary facilities where the process was further expanded to take into account any additional regional or client specific uniqueness. The philosophy was to modify the process to accommodate the needs – but to keep it standardized. In the past, the company's culture was to locally manage and develop client specific processes as new clients came on board. Under their GEOS philosophy and structure, each of the Global Process Standardization Experts managed the process expansion and rationalized the process in an effort to control its standardization. This helped to prevent each process from morphing into its own client or facility-specific process.

Results

Modus's main measurement tool for its global process standardization efforts is the scorebook itself. Each facility went through and used the scorebook 18 months after implementation to once again rate their processes across each of their facilities.

Modus realized improvements across all of the facilities with key “priority” focus areas having the greatest improvements. As one senior manager stated, “It (the scorebook) communicates where you are versus where you need to be versus the best practices.” Employees consistently echoed the belief that the business had created a common methodology that fosters an environment for collaboration and process standardization.

Results of this effort were identified in several areas. First, a greater understanding of how benefits were delivered to the customer was identified. This led to overall corporate savings by reducing waste and redundancy. In addition, Modus was able to reduce inventory levels while increasing customer service levels. For instance, Modus’s Supply Chain Conditioning and Execution project yielded the following quantifiable results for the pilot site in Scotland:

- 64% reduction in working capital
- 35% reduction in inventory costs
- 61% reduction in order turnaround time
- 29% improvement in inventory turns
- 17% reduction in warehouse pallet spaced required

The firm is experiencing equally impressive results as its other facilities begin adopting the new standardized processes for Supply Chain Conditioning and Execution.

Lessons Learned

Senior management at Modus agrees its biggest challenge was the actual adoption of the concepts behind the global process standardization framework. Modus had taken the collective mindset of the organization and structured it in such a way that people agreed with the overall approach and goals of GEOS. However, people had trouble in taking time to implement and adopt the concepts and change their behaviors. Certain functions and facilities were better than others. A senior executive summed it up best: “If you look at the original time since we started in June 1999, it gives you a good view on how long it takes for this stuff to catch on. The process to rollout was textbook. We had very little resistance in terms of acceptance of the overall principles of GEOS. However to move an organization the size of Modus takes a long time to get critical mass. To get the first 20% on board was quite tough because we didn’t ultimately have a culture and bandwidth that accepted the requirement for continuous improvement.”

All employees interviewed for the case study, regardless of level in the organization, felt that Modus’s GEOS efforts were worth the effort and were helping to not only create efficiencies but also to drive performance improvements across the organization. “We have all learned that your way is not always the best way. You have to look at the bigger picture.”

Given the scope of the transformation, as well as the global aspects of the transformation, a few observations are worth noting.

When it comes to communication, special care and attention should be paid to nomenclature used in the process. For instance, the Supply Chain Conditioning process standardization project was originally developed and piloted in Modus's Scotland facility. As the firm began the rollout and training to other facilities it became apparent that the term "supply chain conditioning" was not a common term used in North America or Asia. As a result, the firm has become much more inclusive in its training. For instance, new managerial employees receive a CD-ROM that introduces them to the firm, its key initiatives, and GEOS. The training is hosted by a person whose nationality and accent appears to be a blend of Europe and South America. This reduced the bias that might be present had the moderator been an American.

Second, the firm was able to successfully re-orient its culture by focusing attention on managing processes instead of managing people. Several employees pointed out that focusing on what the process was able to do eliminated the "rock-throwing" mentality within the firm. Instead of judging people for the outcomes of a process, employees sought ways to change the processes in such a way as to ensure better outcomes.

Third, Modus demonstrates the advantages that can be gained by centralizing information flows to a small group of individuals, and leveraging this visibility across the information. For instance, by having a single champion fully knowledgeable about key processes, the firm can leverage the expertise across all of its facilities.

Finally, there was a direct link to each of the facilities' priorities and the overall strategic goals set by the global organization. However, the linkages to an individual's compensation was less direct. Several of the interviewees believed that this is one area of improvement, and a key lesson learned.

IMPLICATIONS

We believe this research to be very useful for firms working to standardize how they deliver benefits to their global customers. The qualitative case study results and archival data clearly show that global process standardization can benefit the company as well as its customers.

In addition, we believe global process standardization can apply not just to the service industry as pointed out in the case study example, but to manufacturers as well. A key reason for this generalization to other industries is that the generic processes outlined in the framework – order fulfillment, business management, and human resources – are similar across industries. We believe the process based framework and the approach outlined in the research is applicable across most industries.

Implications for practitioners

One basic challenge facing companies today is the achievement and leveraging of global standardized processes while maintaining flexibility to meet country specific operational requirements. This research uncovered the need for companies to recognize the importance and benefits of global

process standardization. In addition, the research addressed a variety of practical issues that potential practitioners must consider.

The literature review and case study both found strong support for the proposition that companies can achieve considerable benefits from global process standardization.

A primary benefit of the research is in helping practitioners see the value of starting or continuing their efforts in global process standardization. Through the use of a case study example, the research demonstrates how one company is successfully creating a strategic advantage through global process standardization. In addition, the case study analyzed the process for implementing standardization in detail. Companies wanting to improve their own global process standardization can learn from the demonstrative analysis from this global case study.

Lastly, the Modus case offers valuable lessons for practitioners in how they can benefit from drawing up their own global process standardization efforts and adapting them to their specific needs. Companies that apply the lessons learned should greatly improve the likelihood of establishing a successful program.

A second benefit of adopting global process standardization for practitioners is in mitigating the risk of downtime and in managing capacity utilization. For example, if there is a threat of closing a particular plant – either by a strike, natural calamity, or terrorist attack – the ability to transfer work responsibilities to another facility with consistent and compatible processes is less complicated. Plant capacity utilization could also be improved through process standardization as work can more easily be shared across a company's network. For example, companies can ramp up to secondary or tertiary locations during peak timeframes such as product launch when it is critical to maximize product volume in a short amount of time (e.g., Harry Potter book releases).

A third major benefit where firms could benefit from process standardization is in industries that frequently evaluate their network locations for lowest cost options, such as companies with high labor manufacturing processes. Often these companies regularly review their network and re-locate facilities to take advantage of lower labor costs (e.g., the movement to offshore locations for textiles manufacturing and customer care for the computer industry). Using a framework for global process standardization for critical processes as outlined in this research can significantly reduce the ramp up time and costs for transitioning locations.

Finally, the authors also believe that the application of process standardization can also be applied to domestic firms, and not just transnational organizations. Process standardization can be applied across any firm that operates across multiple sites – regardless of their location. For example, a company that operates multiple distribution centers in the United States would have order management and fulfillment processes in each of their facilities. Domestic firms can apply the framework for process standardization across their multiple locations. In fact, process standardization should be less difficult for these firms because they do not have cultural or language barriers that often exist in a global company.

Implications for researchers and educators

This research fills a void in the logistics literature regarding process standardization in a global environment. This research endeavor attempts to advance the knowledge base through the literature review and the case study presented.

Such information can be used as a starting point and framework for future research initiatives into related topics. The theoretical contribution of the research is that methodologies and frameworks for global process standardization could be so used across different industries and companies. The research shows that global process standardization can be applied in a systematic method to improve operational performance and strategic advantage.

In addition, we propose that global process standardization is a boundary spanning activity – and one that should be well served by our discipline. We believe that global process standardization should be a key area of future research for logistics educators.

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