ERP Systems Issues at Smith Cabinetry

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Abstract

ERP systems issues at Smith Cabinetry were studied through data analysis due to the rising costs of business, which included costs to support IT help desk calls, costs to enter data, as well as costs to correct data entries. Employees lacked a familiarity with the ERP systems; communication between employees was deficient; and data entry and data management techniques were different per customer service representative. These issues were addressed by opting for one hybrid ERP system; new efforts to improve relations between the Florida and Michigan offices; and development of Standard Operating Procedures and Standard Training Procedures. Employees will be involved in the implementation of the solutions. They will be evaluated on a periodic basis to determine their level of success.

Smith Cabinetry

Memorandum

Date: March 26, 2010

To: All Office Staff

From: Paul Elling

Subject: ERP Systems Issues at Smith Cabinetry

As you know, the merger at the beginning of the year of the former rival companies, Smith Industries and Ace Cabinetmakers, into Smith Cabinetry has introduced challenges that we have worked to overcome and continue to do so. Among these challenges has been the operation and maintenance of two distinct ERP (Enterprise Resource Planning) systems. Supporting these separate ERP systems has proven to be inefficient and more costly to the new organization than we had expected. While there were initial discussions on how to deal with the problem, we realize that resolving this problem is now a top priority.

Supporting two ERP systems has affected the merged department of CSRs (Customer Service Representatives), as they have had to cross-train in the ERP systems in order to enter and maintain customer and order information. With the two companies merging, the integration of CSR staffs is an ongoing process, as they try to manage this information on a more widespread basis. In addition to the CSRs, manufacturing staff have also been cross-training to learn the ERP systems. The integration of warehouses has required the manufacturing department to manage additional product lines. Staff in the IT (Information Technology) department has also been affected by having to maintain two large and complex ERP systems. They have been learning the separate systems and continue to respond to any technical problems that arise.

This problem is causing orders to be entered incorrectly in both systems. Customers have received incorrect shipments. Orders are delayed as CSRs learn both systems. Having to correct orders, reship the correct orders, and integrate product lines has cost thousands of dollars. Our reputation among customers has taken a hit as a result. As the IT staff has been largely focused on supporting the ERP systems, it has taken attention away from the department's other responsibilities, including integrating the networks, email systems, and file repositories.

In order to avoid losing market share, resolving the ERP systems issues must be of the utmost importance. We will immediately put together a team to investigate the problems and determine common sources of those problems. A priority list will be created to identify the most problematic issues. Emphasis will also be placed on working to support customer service and repair relationships with customers. In addition, we will be discussing how to move forward in the future with a strategy for using and maintaining our two ERP systems. Although the merged company is separated by geography, with corporate offices and manufacturing facilities in St.

Petersburg, Florida, and Ann Arbor, Michigan, and distribution centers in different locations throughout the United States, we believe we can overcome this problem by working together in a timely fashion. The merged company will develop synergy as we strengthen our presence in common locations and increase our presence in new markets. In order to achieve this goal, we must focus as a team and collaborate to alleviate the ERP systems issues.

Thank You,

Paul Elling
Chief Executive Officer

ERP Systems Issues at Smith Cabinetry

Since Ace Cabinetmakers and Smith Industries merged, the new company, Smith Cabinetry, has experienced issues with their Oracle-based ERP system and their SAP-based ERP system. The issues that the company has faced include distrust between the Florida and Michigan offices, varying data entry and data management procedures, a lack of standard training procedures, and the differences between the two ERP systems. With the ERP systems being central to the operations of Smith Cabinetry, it is in the best interests of leaders within the organization to take these issues seriously. The issues have affected the bottom line by significantly increasing costs. The cost of order entry rose 53% and 42% in Michigan and Florida, respectively, in the quarter following the merger (See Appendix D). Similarly, the cost to fix orders rose 104% in Michigan, while also rising to 114% in Florida, during this same time period (See Appendix E). As customer service representatives in both offices have struggled to adjust to the two ERP systems, the Information Technology department's help desks have experienced a greater cost per call, with a 175% rise in Michigan and a 188% increase in Florida (See Appendix F).

Investigation of the Issues

In the initial discussions of the ERP systems issues, it became obvious that the issues were not the result of one source, but rather a culmination of causes that affected multiple departments within Smith Cabinetry. Thus it was incumbent for a team to be formed of members from the affected departments from both former headquarters in Ann Arbor, Michigan, and St. Petersburg, Florida. The team included the Chief Operating Officer, customer service representative supervisors, the vice president of Information Technology, and employees in the departments who have been working through the systems issues since the merger happened. The team held meetings in which they engaged in dialogue that included everyone sharing their knowledge of the ERP systems and the issues (Spector, 2010, p. 62). With the ERP systems issues affecting the fundamental operations of the company, the team would have to investigate the situation through root-cause analysis rather than observing symptoms of the issues.

According to Williams (2008), “if conducted properly, a root cause analysis will enable the investigator to isolate the circumstances” of an existing problem (p. 34). A problem-solving method, root-cause analysis is a means of looking beyond the symptoms of an issue. Root-cause analysis can yield valuable results, but it takes time away from operating the actual business (Eckhardt, 2007, p. 62). Having the Chief Operating Officer and VP of IT on the team meant that this process is supported by the executive team. The method of investigation the team chose is the focus group approach that would include data collection to gain more understanding of the known issues (Spector, 2010, p. 68). The various skills and knowledge of the team members made the focus group an obvious choice for studying the issues at hand. Through the focus group approach, the team selected case studies that involved mismanaged orders and customer accounts, instances where IT staff failed to communicate, ERP systems features, and training procedures.

Results of the Investigation

Order Management and Customer Management

The ERP systems served as the central information management hubs for the cabinet companies, and for customer service representatives, it means they spend much of their time each day entering and managing order and customer information. The team found that between Florida and Michigan, management of the information and related processes was different, which was not surprising given that the two companies were on different ERP software platforms. The unexpected part was finding out that customer service representatives at the same location were each processing and managing the information in an individualistic manner rather than doing so in a standard way. This problem was happening in Michigan and Florida. Out of the ten customer service representatives in Michigan who were part of the focus group, it was found that they each varied from one another in how they managed information. The same can be said for the Florida CSRs who were involved in the focus group. The focus group found that the disparity in procedures was likely a contributing factor to the differences per order and per customer within the systems.

ERP Systems Familiarity and the Ongoing Merger

Smith Industries brought its SAP-based ERP system into the merger, while Ace Cabinetmakers utilized an Oracle ERP system. Employees at each company naturally developed familiarity with the ERP system in place at each location. The new company, Smith Cabinetry, wants to serve more customers with more product offerings, so it made sense to have customer service representatives and the information technology staffs learn both systems in order to grow the business. The team found out, however, that using the two ERP systems simultaneously was easier said than done. It has required employees in Michigan to communicate with employees in Florida and vice versa. This part of the merger has slowed order processing considerably as employees in both locations gain familiarity with both ERP systems, as order entry time has risen from 24 minutes per order to 35 minutes per order for both locations since the merger happened (See Appendix A). In addition, the IT department has been slowed as it has had to reprioritize supporting the ERP systems. The lack of familiarity with the ERP systems has required Information Technology workers to devote time to learning the other system while also continuing to support inter-departmental clients. There has been a dramatic increase in the amount of time the Help Desk has spent on calls since the merger happened from 7 minutes to 19 minutes for the two locations (See Appendix B).

Communication

The information technology staff at each company maintained and supported the ERP systems in place. They had each cultivated a level of competence with the specifics of their respective systems. When the companies merged, it became the responsibility of the IT department to become familiar with both ERP systems since order and customer information were housed and maintained separately. Although the information technology employees in Florida and Michigan have been mostly civil toward one another, there has been a growing sense of anxiety that there will be layoffs to eliminate the inefficiency of employees doing the same job. Trust has not been fully established between the offices, which has prevented information from being shared more willfully. This lack of communication has contributed to the load already placed on the IT staff.

Training

Much of the training for the ERP system in both companies was informal, happening on the job as the daily work took place. When a new employee joined each company as a customer service representative, they would be given basic instructions on how to work within the ERP system. Now, with the introduction of an additional ERP system at both offices, training has become more complicated and rushed. New CSRs must become familiar with both ERP systems with limited instruction. Lack of training has led to mistakes being made in both entry and management of the data. Since the merger, the number of mistakes has profoundly increased from 16 per month to 38 per month for Florida and Michigan combined (See Appendix C). Not having standard training procedures is preventing the Florida and Michigan offices from becoming a truly merged company.

Analysis of the Results

Although Ace Cabinetmakers and Smith Industries possessed similar characteristics prior to the companies merging to form Smith Cabinetry, particular differences led to the issues that surfaced through the ERP systems. Each company had developed processes over time that eventually amounted to operating procedures. Since both companies manufactured cabinets and provided customer service, they maintained similar operations, such as order processing, customer management, manufacturing, cabinet delivery and installation, and corporate support departments. However, details with each of these operations contained differences that became very evident through the ERP systems. The team began to understand that the organization lacked operating procedures that are standard regardless of the physical location of an office or a facility. In addition to the disparate procedures, the ERP systems themselves are incompatible, as they run on different software platforms. It was inevitable that employees who had always worked on the SAP ERP system had a learning curve to endure just as it should have been expected that the employees who had always worked on the Oracle ERP system also had much to learn. With the differences in ERP systems, it became especially critical that the IT staffs communicate with one another. However, a distrust between the IT staffs in Florida and Michigan ensued, hindering communication. Furthermore, training procedures had not been effectively developed to help customer service and IT adjust to the different ERP platforms. These communication and training concerns indicate that the merger contains a lack of cooperation, coordination, and direction.

The root cause of the ERP systems issues is that the recent merger of Smith Industries and Ace Cabinetmakers happened very quickly, but the merger is an ongoing process, and the new company, Smith Cabinetry, is not yet a fully integrated operational unit. Lack of planning and direction from the executive team, feelings of distrust experienced by staff in Michigan and Florida, and failure to pay attention to details have all contributed to the problems associated with the ERP systems. According to Galeta, Kljajin, and Karakasic (2008), ERP systems are "firmly oriented at manufacturing" and "support the product development process" (p. 25). Since the ERP systems are central to the operations of Smith Cabinetry, a manufacturing company, it is necessary for everyone in the organization to commit to making the merger a success. Wei (2008) stated that "the installed ERP system is not an ending but instead is continuously working and improving over time and across the organization in a complex exercise" (p. 180). With the issues of the ERP systems outlined, the team can now proceed with developing a solution to correct the problems.

Proposed Solution

Impact of the Problems on the Bottom Line

The impact of the problems on the bottom line of the business is eye-opening, if not shocking, at both the Michigan and Florida offices. All costs factor into the operations of an organization, including employee wages, facilities, energy consumption, office equipment, and more. The focus here will be on employee wages, as they are closely tied to the utilization of the ERP systems. Wages paid to customer service representatives for their work within the ERP systems, which is $8.51 per hour and $8.21 per hour, in Michigan and Florida, respectively. Before the merger, in the fourth quarter of 2009, the cost per order entry was $3.38 in the Florida office and $3.21 in the Michigan office (See Appendix D). In Florida, in the first quarter of 2010, the cost rose 42% to $4.79 per entered order; and, in Michigan, the cost of order entry in the ERP systems rose 53% to $4.91 (See Appendix D). While the costs of order entry increased significantly, the rise in the cost to correct mistakes made during order entry was even greater. The first quarter of 2010 saw a rise from $1.18 per corrected order to $2.41, a 104% increase in Michigan (See Appendix E). Similarly, the Florida office experienced a 114% increase in the cost of revised orders from $1.31 to $2.83 (See Appendix E). As customer service representatives adjusted to the merger, so did the IT help desk staff. The cost of support calls to the help desk is based on the wages paid to the support staff, $13.58 per hour in Michigan and $12.06 per hour in Florida. In Michigan, the cost of support calls rose from $1.21 per call in quarter four of 2009 to $3.32 in the first quarter of 2010, a 175% increase (See Appendix F). The story was similar in Florida with a 188% increase from $1.61 per call to $4.62 per call in the first quarter of 2010 (See Appendix F).

Problem Solutions and Justification

In order to move the Florida and Michigan offices in the direction of an integrated operational unit, it became obvious that employees should be working with the same procedures, undergoing the same training, and utilizing the same systems regardless of location. If training procedures and data entry and data management procedures are to become consistent, using the same ERP system rather than two completely separate ERP systems became evident. Indeed, the organization may need to view a singular ERP system as just one part of an integrated environment that will also include “shared databases, data warehouses, ERP modules, workflow management systems, and electronic marketplaces” (Daneva &

Wieringa, 2006, p. 197). For these purposes, simply stating that Smith Cabinetry will employ one ERP system is easier said than done. Since the Michigan office, formerly Smith Industries, is larger in terms of revenue, profit, employees, and production, it could have attempted to force the Florida office, formerly Ace Cabinetmakers, to abandon the Oracle ERP system and adopt the SAP-based system. The Florida office could make the counter-argument that, despite their smaller size, they were more efficient by the evidence of a larger profit margin. Their operational costs were lower than the Michigan-based company's costs. In addition, Oracle licensing fees are less expensive than SAP licensing fees. Arguments, such as these, between the offices could become political and divisive and could potentially derail the merger. Selection of an ERP system was a delicate process. The team, composed of leaders in both offices, studied both ERP systems and came to an optimal conclusion of selecting SAP for its ERP system with the caveat that custom modules from the Oracle-based ERP system would be developed and integrated by Smith Cabinetry programmers in Florida and Michigan. The SAP-based ERP system, despite its higher licensing fees, provided more of the features that both offices need to operate the combined business than does the Oracle-based ERP system. Those features missing from SAP could be brought over from Oracle, but careful planning is required to incorporate the elements from the Oracle-based system. As Chung, Skibniewski, and Kwak (2009) wrote, "Extensive customizations result in a greater challenge in implementing ERP systems" (p. 207). The end result of having one ERP system means that the IT department only needs to provide support for one system. Likewise, customer service representatives will only be required to work within one ERP system. As employees in both offices become familiar with the hybrid SAP ERP system, costs of order entry and order corrections should decline and the cost of support calls to the IT help desk should also decrease.

The customized SAP ERP system that Smith Cabinetry employs will drive the creation of Standard Operating Procedures (SOPs) and Standard Training Procedures (STPs). While SOPs exist for other parts of the business, they are non-existent for ERP data entry and data management. While technology can be used in a variety of ways to improve organizations, the team wants to use the ERP system in addition to standard procedures to transform employee behaviors to become more supportive of the organization's operations (Spector, 2010, p. 159). Senior customer service representatives from Florida and Michigan will work together to identity the best practices that have been developed over the years. They will also work to become familiar with the hybrid ERP system in order to adapt existing best practices as much as possible. Of course, in reality, not all orders are standard. The senior CSRs understand that exceptions happen, because Smith Cabinetry handles custom orders in addition to manufacturing standard product lines. Certain aspects of custom orders can be made consistent. The senior CSRs will work with programmers in the IT department to develop modules in the ERP system to handle custom orders. The senior CSRs will create the SOPs to enter and manage both standard orders and custom orders. SOPs can then serve to develop Standard Training Procedures, which senior CSRs will use to train junior CSRs. As employees become familiar with the hybrid ERP system, and new employees join the company, the variations that previously existed in data entry and data management will be diminished. The order process will be streamlined, training will be standardized and easier, and mistakes will be mostly marginalized. All of these results will reduce the costs of the business.

The distrust that exists between the offices, which is both obvious and subtle, will take time to overcome. Much of the distrust between the offices is driven by fear of possible pay cuts or job losses. Leadership of Smith Cabinetry has not yet fully addressed the organization with regard to job status or reorganization. With the former cabinet companies each entering into the merger profitably, the leadership team has been focused on growing the newly combined business in terms of market share, not reduction of costs. The executive team and managers will place emphasis on employees in both offices, including those people in customer service and information technology, being able to keep their jobs. They will point to the hybrid ERP system as a major reason for employees in both offices to remain with the newly combined company. Although the SAP-based ERP system will continue to be used, Florida employees will play a crucial role in leading the effort to implement valuable features from the Oracle-based ERP system. Leadership in each location views joining the other office as a major strategic advantage. The Florida office maintains a significant presence in the southeastern United States, while the Michigan office dominates the Great Lakes region. Both offices also serve other regions of the United States. Leadership will send the message to employees that the combined offices are part of the overall strategy in order to alleviate concerns about job security. The leadership team will stress to employees that the implementation of one ERP system in both locations indicates the company's need for both offices. Thus the elimination of variability by embracing one ERP system will help to quell the suspicion between Michigan employees and Florida employees.

Measurable Goals and Impact of the Solutions on the Bottom Line

After the merger happened, time required for data entry rose significantly (See Appendix A), as did the time required to support help desk calls (See Appendix B) and the number of data entry mistakes (See Appendix C). Success will be measured by the goals of reducing or saving on key items that include costs, mistakes, and time. Clear measurable goals will be to return costs to their pre-merger levels. By the end of the first quarter 2011, after the company has had time to adjust to the hybrid ERP system, the cost per entered order should be down to $3.21 (See Appendix D), the cost to fix a mistake should be $1.18 (See Appendix E), and the cost to support a help desk call should be $1.21 (See Appendix F). These goals also serve as the positive impact to the company's bottom line. The improved efficiency of the integrated company should be evident in the customer service representatives' familiarity with the system and the help desk staff's increased availability to support issues not related to the ERP system. If higher costs persist, the team will need to meet again to assess the reasons.

Support vs. Organizational Resistance

The selection of an ERP system may cause resistance to change in the office that has to completely switch over to one ERP system. Instead of forcing employees into acceptance through content-driven change, the leadership team will include employees in the implementation through process-driven change (Spector, 2010, p. 35). The leadership team will stress how important it will be to give full support to employees that have to transition to the new ERP system. The distrust that exists between the Michigan and Florida offices could lead employees in each location to resist change. To remove some of the distrust, it will be necessary to have employees in each location work together. It will require Michigan employees to travel to the Florida office and Florida employees to do the opposite. As employees gain familiarity with the other office, they will become at ease working together and quite possibly discover commonalities. They will hopefully develop cohesiveness through new working relationships. Rather than forcing employees to relocate, the leadership team will make relocation opportunities available for particular employees who can bring advantages to either office. These employees may realize opportunities exist in the other office that they cannot necessarily pursue in their current location.

Implementation

Smith Cabinetry has the opportunity of switching completely to an ERP system already in place. Opting for a new ERP system would be costly, including purchasing and deploying the system, training, disruption to the business' current operations, and maintenance and support by the IT department. According to Stemberger, Vuksic, and Kovacic (2009), "one of the disadvantages" of implementing ERP systems "is relatively high costs" (p. 91). Since Oracle and SAP are already in place in both the Florida and Michigan offices, the implementation will be more focused on committing to the SAP ERP system and training employees to use it. The Standard Training Procedures (STPs) will use the new Standard Operating Procedures (SOPs) to strongly encourage CSRs to use the identified best practices to enter and manage orders. For employees already accustomed to the selected ERP system, they will need to engage in training to eliminate any poor practices that they may have developed over time. Training with STPs and SOPs will streamline business operations from the customer service aspect and will reduce calls to the IT help desk. As Garcia-Sanchez and Perez-Bernal (2007) indicated, a successful ERP implementation "means that the system is implemented in a correct and complete form at minimum cost, time, and human resources" (p. 294).

Increased costs have made it obvious that Smith Cabinetry needs to implement proposed changes in the organization to improve profitability. The leadership team has decided to use the SAP ERP system with additions from the Oracle-based system. The choice may seem obvious, as it requires far less work to implement. However, the leadership team wants to implement the best long-term solution rather than making a choice that may need to be revisited in the near future. The team knows that implementation of the system will be hard work and will require dedicated employees to commit to the organization. However, even after the hybrid system is in place, the organization will need a way to evaluate the impact of the system on the company's bottom line.

Evaluation of the Implemented Solution

After the implementation of the hybrid ERP system and Standard Operating Procedures and Standard Training Procedures, the organization will need a way to continually monitor the changes to ascertain whether or not they are benefitting the company. One initiative will be for the team to review monthly and quarterly numbers indefinitely for the time required to enter orders, the number of mistakes made, the time required to support help desk calls, and the associated costs. The team will compare these numbers with those from the pre-merger quarter and the post-merger quarters to gain perspective on the progress of the implemented organizational changes. If the most recent month or quarter compares favorably, the team will allow the changes to continue to benefit the organization. However, if the team finds that Smith Cabinetry is not benefitting from the implemented changes, the team will discuss options for investigating the same or new issues. The team will continue to reassess the ERP system issues based on the bottom line impact to the business.

Another concern for the team to evaluate the implemented solutions will be to continually assess the working relationships between staff in the Florida office and the staff in the Michigan office. The team will examine whether or not efforts to establish goodwill have had a beneficial impact. The team may consider interviewing key employees in each office to gain an understanding of the level of trust and communication between the offices. For employees who have relocated, the team will consult with them to help assess any existence of animosity between coworkers. These employees may very possibly be helpful resources for improving goodwill. If disdain between the offices persists, the team will consider whether or not new ideas for creating goodwill could be helpful. New projects could be initiated that draft employees from both offices. Six Sigma training could be offered that requires members from each office to become team members who work together to solve real organizational problems.

Conclusion

The merger of Smith Industries and Ace Cabinetmakers brought about issues associated with the two ERP systems employed by the new company, Smith Cabinetry. The differences in the Oracle-based ERP system and the SAP-based ERP system contributed to the issues experienced by employees of the new company. In addition, a lack of standard training procedures, varying data entry and data management procedures, and distrust between the Michigan and Florida offices all contributed to the issues in relation to the ERP systems. The team has submitted a solution proposal after careful root-cause analysis of the collected data that is aimed at resolving the issues and reducing the costs that increased significantly after the merger. After implementation, the team will meet on a monthly basis to review results of the hybrid ERP system, standard training procedures and standard operating procedures, and efforts to improve relations between the two offices.

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Appendix A: Time Required for Data Entry

Appendix B: Time Required for Support Calls

Appendix C: Number of Data Entry Mistakes

Appendix D: Cost of Order Entry

	MI	FL
Month	Cost Per Order	Cost Per Order
Oct-09	$ 2.98	$ 3.42
Nov-09	$ 3.54	$ 3.56
Dec-09	$ 3.12	$ 3.15
Jan-10	$ 5.39	$ 4.38
Feb-10	$ 4.54	$ 4.93
Mar-10	$ 4.82	$ 5.07
Q4 2009	$ 3.21	$ 3.38
Q1 2010	$ 4.91	$ 4.79
% Difference	53%	42%

Appendix E: Minutes per Fix and Cost to Fix Mistakes

	MI	FL
Month	Minutes Per Fix	Minutes Per Fix
Oct-09	8	10
Nov-09	9	10
Dec-09	8	9
Jan-10	17	20
Feb-10	15	23
Mar-10	19	19
Q4 2009	8	10
Q1 2010	17	21

	MI	FL
Month	Cost Per Fix	Cost Per Fix
Oct-09	$ 1.13	$ 1.37
Nov-09	$ 1.28	$ 1.37
Dec-09	$ 1.13	$ 1.23
Jan-10	$ 2.41	$ 2.74
Feb-10	$ 2.13	$ 3.15
Mar-10	$ 2.69	$ 2.60
Q4 2009	$ 1.18	$ 1.32
Q1 2010	$ 2.41	$ 2.83
% Difference	104%	114%

Appendix F: Cost of Support Calls

	MI	FL
Month	Cost Per Call	Cost Per Call
Oct-09	$ 1.36	$ 1.81
Nov-09	$ 1.36	$ 1.61
Dec-09	$ 0.91	$ 1.41
Jan-10	$ 2.72	$ 4.22
Feb-10	$ 3.85	$ 4.62
Mar-10	$ 3.39	$ 5.03
Q4 2009	$ 1.21	$ 1.61
Q1 2010	$ 3.32	$ 4.62
% Difference	175%	188%

Score: 29/30 - You exceeded the requirements for the assignment, great job!

Content: Your final paper was done very well overall. I like what you did with your project and the direction that you took it. You supported your assertion and backed it up with other sources, which was excellent. You also used the numbers and dollars to support your work, which is critical to success.

Writing: Your writing was also very good. It was clear and concise, to the point, which is good for flow and readability. Great job here.

Organization: I like your use of headings and subheadings to organize your paper.

APA: APA formatting, in-text citations and ref. section all look very good.