

## ERP Selection at Custom Fabrics: A Teaching Case

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### **Abstract:**

As firms try to replace outdated legacy systems and modernize their information systems, they seriously consider implementing Enterprise Resource Planning (ERP) packages. However, the firm selecting an ERP vendor is faced with several difficult issues besides the typical issues of software vendor selection, and the process is fraught with risks. Such issues include: the degree of fit of the package with existing business processes, the possible restructuring of the business, and the degree of business integration. In addition, the typical factors include vendor selection criteria as well as the management of the selection process. In this case, Custom Fabrics wrestled with many of the issues either implicitly or explicitly. The case describes many of the objective and subjective processes Custom Fabrics went through. In spite of much care and attention to the process, what is interesting is that in the end Custom Fabrics reversed its original decision.

**Keywords:** ERP Implementation | Business Process Reengineering | Vendor Selection | Business Integration | Selection Criteria

### **Article:**

Peter and John looked out of their office window in downtown Hillsboro, South Carolina<sup>1</sup> with a mix of relief and apprehension. The past year had been very hectic as they went through the process of selecting a vendor for their Enterprise Resource Planning (ERP) system. They had finally made a decision and looked with relief at the presentation they had put together for tomorrow's board meeting to formally approve their decision. They also knew that the real hard work lay ahead. Implementing the system would not be easy and it was with apprehension that they thought about the difficulties ahead. But first they had to convince the Board of Directors to commit resources to the project. Back in their mind, they felt like what Winston Brown, the VP of operations had said:

*Because we thought, I mean, as a company our systems are like 25 years old, just putting people on a new system is going to be traumatic enough and to try to change our business processes with this culture would be impossible.*

## **BACKGROUND**

Peter had joined Custom Fabrics about four years ago, in 1997, as Financial Controller and had been promoted to Co-Chief Executive Officer about 18 months ago (see Appendix A for an overview of Custom Fabrics). The information technology infrastructure at that time could best be described as archaic, fragmented and inflexible. It consisted of an IBM ES9000 mainframe running most of the systems and two IBM AS400 mid-range machines. The applications included payroll, maintenance, purchasing and a number of custom developed packages for manufacturing operations, such as work order system, lab data, finished inventory and invoicing. In addition, there were a number of stand-alone PC-based applications, mainly for report generation. The mainframe machines and most of the application programs they ran had been inherited from Custom Fabrics' erstwhile parent, Diversico. Custom Fabrics had been spun off from Diversico in 1989 in a leveraged buyout. Custom Fabric did not fit Diversico's core business.

At the time of the spin-off, Diversico had made copies for Custom Fabrics (CF) of all the software applications that CF was using. Even today these applications formed the backbone of CF's operations. In the years after the spin-off Custom Fabrics' management had frozen investment in IT and other capital assets as it focused on repaying debt and reducing its financial leverage. CF's financial system had not been upgraded for the last twelve years and was no longer being supported by the vendor. An external contractor had been hired to maintain the system. Reporting capabilities in the current systems were very limited. Most reports were generated by manually re-entering data from the mainframe outputs into custom built spreadsheets. Cost accounting reports even required collecting raw material consumption dockets and other information from shop floor records and entering the required data into spreadsheets. Requests for new reports from the mainframe or AS400s had to be approved by the centralized IS department (see Appendix B for an overview of CF's IS architecture).

IT modernization had always been on the agenda but till now had taken a backseat to investment in new products, processes and R&D and repaying debt. The strategy had paid off and CF had developed profitable new product lines and entered into stable long-term relationships with some very large clients. In fact, CF now saw its business as consisting of two distinct areas - the traditional lines and the new lines.

## **PROJECT INITIATION**

In March 2000, after waiting to tide over the Y2K problem, CF decided to go in for an ERP system to replace its existing suite of applications. Only Payroll was to be left out of the scope of this project as CF had outsourced its payroll function about two years ago. The outsourcing had not gone smoothly in the initial stages but over time the payroll system was performing to CF's satisfaction. CF saw no advantage in revisiting the payroll system again. In the preceding months

Peter had consulted extensively with his senior and middle-level managers and developed a vision statement for the project. The statement was circulated extensively within the organization (see Appendix C for highlights of the vision' statement). In his discussions with senior and middle-level managers Peter stressed that the ERP package should be a good fit with CF's current requirements and should not require extensive re-engineering. Peter also decided not to use external consultants for the project, even though CF did not have much expertise in IT, especially within its plants and operations. Still, it decided to rely on internal expertise and not hue external consultants. Peter's thinking was influenced not only by his previous experiences but also reinforced by his informal discussions with his Board members regarding their experiences with other organizations they were involved with. In-principle approval was obtained from the Board for investigating the feasibility of the project, without any formal budgetary commitment.

There was extensive support from management to overhaul the existing systems. Managers had long been complaining about the difficulties in reporting and decision-making. It was also felt that an integrated ERP system would solve many of the operational and reporting problems that they were facing. Melanie Conner, Director Purchase and Planning, had this to say:

I mean it takes us forever to close the books financially, and we're talking about two weeks now. We should be able to do it in hours if not sooner. Right now, because none of our systems are integrated and every month we get these financial reports and there is this category called "unallocated". Basically that was a pile of money we couldn't figure out what happened to, and that's because the system's not integrated, so then what happens is that at the plant or wherever, whoever is in that pile, they spend a week trying to figure out what it is. We waste a lot of time backtracking all data to try to figure out what happened...

Managers were also convinced that CF had to develop extensive e-commerce capabilities to link with its suppliers and customers. CF was already being pressurized by some its large clients to develop these capabilities. At the very minimum, managers expected that an ERP system would eliminate much of the manual data re-entry that even senior managers routinely needed to do. Managers hoped to be able to have more time for analyzing the data and reports and taking steps to improve performance. Some manpower reduction was also expected on account of eliminating data re-entry functions but managers did not see it as a big issue. Most expected that those people would be absorbed in the growing organization in other roles.

## **PROJECT MANAGEMENT**

One of the earliest decisions that Peter faced was to appoint a Project Leader. Peter and other senior managers with whom he was consulting strongly felt that they needed an insider with a strong knowledge of operations. In March 2000 John was selected to be the Project Leader. John at that time was the Plant Administration Manager at the Hillsboro plant where, among other things, he was responsible for the Plant's communication and network infrastructure. John had been with CF for a very long time (19 years) and over time he had been responsible for a number of functions at the plant including finance, inventory and manufacturing. In addition, he had worked in CF's traditional as well as non-traditional businesses in senior operational roles. His strong understanding of CF's operations was considered an asset for the position even though he

had no experience in large-scale IS projects. As Project Leader he would be spending most of his time either in the Hillsboro Corporate Office or the Hillsboro plant. This was to be his full-time job. His previous position was not filled but his responsibilities were distributed between other senior managers at the Hillsboro plant.

A few years ago CF's IS department had informally investigated the possibility of implementing an ERP system. A number of ERP vendors had been investigated and a preliminary report was prepared. However, IS had not pursued the project at that time because of lack of support from the business units. As such, now IS decided to take a back seat because it did not want it to be seen as an IS project. IS people were convinced that to be successful the project had to be run by the business people.

John started by forming a project team. It consisted of many people who had been actively involved in shaping the project. The team consisted of key senior functional managers from the traditional and non-traditional businesses, as well as corporate functions and a representative from the IS function (see Appendix D for an overview of the project team). Their first task was to identify a suitable ERP vendor. Team members obtained information on vendors from their clients, vendors, suppliers, professional contacts and even professional associations. Team members collected whatever information they could find on the vendors' products, customers, textile industry specific experience, financial position and history. Company profiles of prospective vendors were reviewed on the Dun and Bradstreet database.

## **VENDOR IDENTIFICATION**

By April 2000 the team had identified 10 prospective vendors. One key criterion for selection was that the vendor should have extensive experience in the continuous process textile and fabric coating industry. Size was also an issue. Vendors such as SAP and Oracle who were too large compared to CF were not considered, neither were those who were too small. John Thompson, the Project Leader, made the following remark about the dynamics of vendor search:

*I guess we looked at the willingness to respond to us, we looked at their answers to questions. These were real basic questions, ... it really knocked them out. We had some of that, there were some that were just knocked out because basically stuff they were telling us was just too good to be true, and some were knocked out because they did not have the size to handle us, some were knocked back because they just had too much size, too big for US...*

While the team was investigating vendors, it was simultaneously preparing a process flow chart. The team decided that they should document the business processes and include a process flow chart and detailed functional requirements with the RFP. This was as much for the benefit of the vendor as much for its own need to understand the scope of the project. It was also felt that it would be easier to evaluate the bids by comparing them with the extent to which they matched their business processes.

The process flow charts and detailed functional requirements were prepared using a publication from APICS as a template ("How to select an ERP package for the textile industry", published

by the Textile Industry Special Interest Group of APICS). Team members took portions of the book relevant for their functional areas and went back and prepared the documents in consultation with their subordinates. The following quotes express concerns related to process flow mapping:

*I had process maps for planning processes, because of all the work I had done. But we actually went through the exercise when we were preparing RFP's for the software companies. We went through the exercise because this was a cross functional team that was selecting a software package ... we process mapped our entire business. - David Edwards, Quality Control*

*The other risk of letting them (vendors) do the process mapping is that they could twist the map to match their product, so that in my opinion is a big risk ... - Carl Russell, Sales/Marketing*

In April 2000 a RFP was sent to the ten short-listed vendors. It included a 38-page document documenting process flows broken down by business processes. It also included a 44-page document of "Detailed Functional Requirements" broken down by functional areas. The RFP asked vendors to indicate the extent to which their product met each of the functional specifications. The response ranged from "Full Functionality Available", "Meet requirements with use of another vendor-supplied tool", "Meet requirements with use of external bolt-on program", "Can meet with minor modification", "Can meet with major modification", "Cannot provide functionality". The RFP included a diskette with a spreadsheet file containing the Functional Requirements. Vendors were required to fill in the functional compatibility for each requirement and submit that along with the bid. The RFP also specified product and vendor information to be included in the bids. The RFP gave the vendors approximately 4 weeks to submit their bids. Vendors were encouraged to contact John for clarifications and further information. Selection criteria to be used in CF's decision were also included in the RFP. These included items such as Functional Fit, Customer Support, Flexibility and Total Cost.

Nine bids were received by the due date. Of these, one bid claimed to fully meet all functional requirements. However, this vendor had not contacted John or obtained any information or clarification on CF's business processes and requirements. When contacted, the vendor wanted clarification only on CF's budgeted outlay for the project. John and the team decided to summarily reject this bid. Other vendors had established contact and tailored their bids to meet CF's requirements. According to John Thompson, the Project Leader:

*We gave them a deadline - 2, maybe 3 weeks to respond. We wanted people who were really interested. Some knocked themselves out. We had one that basically when we got their RFP you didn't have to really beat him to knock them out. They didn't know anything about us, they didn't call asking questions, they responded perfectly to everything, they had the things we asked ... more than just responding to our actual needs, by grading how their system would fit, they didn't provide us with quotes or anything. You just knocked them out and said, if they can't follow the directions of an RFP then they can't follow directions of an implementation. One was ERP Solutions, we knocked them out, they said we've never been*

*knocked out on the first review for an RFP, and we said there's a first for everything.*

## **VENDOR PERFORMANCE EVALUATION**

After evaluating the bids, CF invited three vendors to give a proof of concept demonstration of their products. The demos were held in a conference room in the Hillsboro plant three weeks later. All vendors were given a common script, a list of functions and operations complete with data provided by CF, to demonstrate their product's functionality. Vendors had spent between one and two days with CF trying to understand their business processes and requirements in order to prepare a customized demo. Each demo lasted two days. All CF employees were invited to walk in and watch the demos and to ask questions and to provide feedback on their impressions.

Objectia, a Europe-based vendor, was the frontrunner after the demos. Their demonstration was very slick, very polished and very professional. They were extremely well prepared for the demo, were able to demonstrate all the functionality and answer all queries raised by CF's operational people who came to the demos. They even had prizes for best questions and things like that. It was a very high energy, very professional show. Everyone was impressed. Objectia was the group's unanimous choice when they met after all the demos to decide their preferred vendor.

Objectia offered an integrated solution and an advanced planning module that CF saw as a core requirement of the system. Objectia had a generic ERP package and special modules for specific industry segments, including one for the textile industry. John, the project team and the people who evaluated the demos appeared to have confidence in Objectia's product and their ability to handle the project. Their initial reference checks gave very positive feedback and its reference list included textile industry experience.

Infofib, another Europe-based vendor invited to demo had not offered an integrated system. Its ERP system only had a manufacturing module and was not integrated with a financial and accounting module. Infofib had tied up with Endenum, a US based firm specializing in financial and accounting systems, and included their financial and accounting package in the bid. The two firms had a history of working together. Infofib's bid included in their reference list clients in the textile industry where they had worked with Endenum to supply an integrated ERP solution. Their references from the textile industry clients were very positive. John and the team had reservations about the bid but decided to invite them on account of their obvious strengths in CF's industry. In fact, Infofib concentrated on the textile industry niche market and their ERP product was designed specifically for the textile industry. They had put in a considerable amount of effort in understanding CF's operations and business processes in preparing their bid. The team was generally impressed with their grasp of the textile industry processes. Their obvious strength in the textile industry appeared attractive to CF. However, their demo was disastrous. Instead of sending their best marketing people for the demo, they sent their implementers, technical people who would implement and customize the package for clients. Their presentation focused too much on the technical details of the product without addressing the "big picture" that CF expected them to address during the demo. Further, Infofib's Vice-President, who had flown

down from New York for the demo, had managed to antagonize all team members during the demo. CF had made it clear in their RFP and discussions with vendors that they saw advance planning and just-in-time operation as a critical component of the ERP system. The VP was fairly dismissive of the idea and engaged in hostile discussions with the team members, and particularly with Melanie, CF's Director of Purchasing and Planning, on the issue. Melanie was one of the key members of the team and the only one with previous experience in ERP implementation. She was also one of the key line managers who would be responsible for implementing the ERP system. Infofib was clearly not the preferred vendor.

John informed Objectia that they were the front-runners, subject to a detailed evaluation. Objectia and two other vendors, including Infofib, were invited to submit financial bids.

## **DETAILED EVALUATION**

The team now got down to a detailed evaluation of Objectia's product, its references, its experience in the textile industry, the company position etc. Over the next two months the team gathered the information, working closely with Objectia. John went for a site visit and talked to the people at site.

Earlier he had spoken to the contact person nominated by Objectia and had received positive reviews, but that person had since left the company and had not been involved in implementation. The feedback from the site was not very positive. The customer was facing implementation difficulties. The managers also complained that Objectia kept asking for "dimes and nickels" for every customization request, even for features included in the specifications document. Similar implementation problems were reported from other Objectia clients. A closer examination of Objectia's references in the textile industry revealed that their experience in the textile industry had mainly been with clothing manufacturers whose operations, processes and ERP system requirements were very different from CF's. Clothing manufacturers primarily run a batch operation whereas CF's operations were mainly in fabric coating, which is a continuous process. Their advance planning module, which was one of the selling points for CF, also did not turn out to be as well developed as CF had expected it to be. Some members even considered it unsuitable for the just-in-time continuous process that CF were running. An examination of Objectia's financial results revealed deteriorating performance, particularly in Europe, which was their stronghold. The nature of the dialogue is captured in the following quote:

*Basically they were saying JIT won't work in textiles and advance planning is not the way to think in textiles. Well it may not be for a weaving operation, but it definitely is for a woven business. They were argumentative over that. They knew it was a key point to us yet they didn't present their advance planning system, they just did some solutions which just didn't make sense ... John Thompson, Project Leader*

As information on Objectia was gathered and shared with team members there was concern within the team. It was becoming increasingly clear that they might not have made a good decision. Other team members did not place as much significance on the negative information that was flowing in. The operations people in the team were still convinced that Objectia offered

the best product that fit their operations. John was also concerned that re-opening the decision would set the ERP project back considerably. Team members, and those outside the team too, were becoming increasingly skeptical about whether the project would go ahead or not and that it might even be totally scrapped. Final approval and financial commitment had not yet been obtained from the Board and some people felt that this may become an excuse on the part of top management to abandon the project.

John had considerable discussion with team members about the situation. John himself was not in favor of re-opening the decision. Meanwhile Objectia was pressurizing John to sign the contract. The final straw came when Objectia submitted their financial bid. CF had not yet specified a budget for the project. Their selection was based primarily on finding a right fit for their requirements. On that criterion, despite some negative information, the team still favored Objectia. But Objectia's asking price seemed excessive. John tried negotiating with Objectia, but was not very successful. Peter finally informed the team that they could not afford Objectia. It had come down to a financial decision. The team was very disappointed. Some felt that had they been given an indication of the true budget, they would not have spent all this time on Objectia's bid.

## **REEVALUATION AND DECISION REVERSAL**

CF now had to open discussions with other vendors. Infofib appeared to be the vendor whose product appeared to be the best fit. However, there was a problem. Many team members objected to Infofib on account of the unpleasantness at the demos. Many team members refused point blank to have anything to do with the Infofib's VP from New York, who was termed by many as "that horrible guy". However, Infofib's product seemed to be the closest fit to CF's requirements. Finally, it was decided that CF will negotiate only with Infofib's CEO, Reagan, who was based in Europe. Infofib agreed. Reagan, who was one of the original founders of the firm and had written the first versions of the package, came and gave a demo of the product, including all the specific issues that had not been satisfactorily demonstrated in the original demo. This included an advance planning module that was under development and already in use in Italy, but was not known to Infofib's US personnel. Reagan was extremely engaging and managed to work with John, Melanie, and other team members to address their concerns from the original demo. He managed to undo all the damage that had been done previously by Infofib's people.

CF now went in for a further reevaluation of Infofib's product. The feedback from Infofib's clients was very positive. Client had generally found Infofib to be responsive, competent and accommodating during implementation. However, Melanie still had doubts about their advance planning module, which was not yet fully developed. Melanie insisted on seeing it work. Melanie flew down to Milan, Italy, where Infofib's developers were developing the product. Melanie spent three days with the developers working on the module and also visited a local client who was using the advance planning module. Though the module was still not at a stage where Melanie was satisfied, Reagan had indicated that they would include CF's requirements into the module as a standard feature. Which meant that Infofib would treat the customization as a development and not charge CF for it. Melanie's concerns were more or less addressed and she reported to the team that she was satisfied that the product would work for them.

John negotiated with Infofib's CEO over three days. Infofib submitted a very competitive offer. This included a fixed price for implementation, rights to the source code instead of the standard industry practice of licence for a particular number of seats, staggered payment to coincide roughly with "go live", and absorbing a lot of customizations that CF wanted.

John and the team decided that Infofib was their preferred vendor. Infofib's CEO had overcome many of the objections that CF people had about dealing with Infofib people. The product appeared to a close fit with their requirements, Infofib obviously had a deep knowledge about the textile industry, feedback from the US client and the Italian client was very positive. The team's decision was made.

### **DECISION APPROVAL?**

John informed Peter about the decision. John prepared a detailed proposal with a cost-benefit analysis. Peter went through it carefully with John over the numbers. The proposal was submitted to the Board. Tomorrow John is to make a presentation to the Board to obtain financial approval for the project. It had taken almost a year to get to this stage. A lot of work had gone in to the project. A lot of senior managers had been closely involved with the project during the year and become attached to it. Had they taken a good decision with the choice of vendor? Could they have done better by involving external consultants? Further progress, of course, depended upon obtaining board approval.

### **SUGGESTED STUDY QUESTIONS**

1. Make a presentation to the Board justifying the project and requesting funds for the project.
2. If you are appointed as a Project Manager for an ERP project, what activities will you need to perform to make a good vendor selection decision?
3. How would you rate CF's vendor selection decision? Is Infofib a good choice?
4. Comment on the CEO's vision statement. Is it seeking radical improvement in performance or only incremental gains?
5. Is CF likely to gain major performance gains from its ERP package?
6. What is the advantage of selecting an ERP package to fit existing structures and processes?
7. What are the consequences of not using external consultants? Do you approve of this decision?
8. Should CF use the ERP system to integrate the traditional and non-traditional businesses?

### **APPENDIX A: OVERVIEW OF CUSTOM FABRICS**

Custom Fabrics is a medium-sized, privately held manufacturing company with two large plants and a few small facilities in the US. CF's traditional business includes fabric manufacture, which is supplied to various downstream industries, and value added fabric products for various industries, including medical products, home fashions and printing. CF is the global leader in some of these segments. However, many of its traditional products are in markets experiencing a slow long-term decline or where manufacturing is shifting to low cost Asian countries.

Over the last decade CF has developed a number of emerging businesses which rely on advanced processing techniques applied to non-traditional fabrics. CF has invested heavily in R&D to develop and patent these processes. Working in conjunction with some large Fortune 500 consumer products companies, CF has developed processes to manufacture value added fabric based consumer products that are being successfully marketed by its clients under their own brand names. CF's Hillsboro plant is dedicated to emerging products while the other large plant is mainly dedicated to the traditional products. CF is significantly expanding its Hillsboro manufacturing capacity to cater to the growing demand for its emerging businesses. Currently, nearly half of CF's turnover is contributed by its emerging business, and this proportion is expected to grow in the future.

## **APPENDIX B: OVERVIEW OF CUSTOM FABRIC'S IS ARCHITECTURE**

IBM ES19000 mainframe running applications for Accounts Payable, Accounts Receivable, General Ledger, Inventory Management, Order Entry, Work Orders, Laboratory data, Shipments and other applications.

IBM AS1400 running applications for Laboratory data, Manufacturing maintenance, Purchasing, Specifications and Lot Tracking.

Digital PDP running applications for Loom Tracking and Yam requirements.

Various Personal Computers running stand-alone applications for Production Planning and Control, Scheduling and Finishing, Financial Statements and Reports, Fixed Assets, Cost Accounting, Marketing and others. These PCs are generally not connected to the mainframe computers and are unable to obtain data from the mainframes. PC applications requiring data from mainframe are generally operated by manually keying in data from reports generated by the mainframe computers.

NT Servers running applications for File Storage, Print Servers, Fabric Grade, Document Imaging, e-mail and Internet.

## **APPENDIX C: HIGHLIGHTS OF CEO'S VISION STATEMENT**

### **Mission**

Replace existing business and financial systems with a new integrated system which will provide accurate, real-time information to the Company's decision makers and support the Company's future growth initiatives.

## Objectives

- Support the lean manufacturing environment the company has created
  1. Flexible enough to support both the traditional and emerging operations
  2. Does not require additional staff to "feed" the system data
  3. Facilitates accurate tracking, recording and management of inventory
- Support the company's revenue enhancement efforts
  1. Establishes infrastructure flexibility to support future growth initiatives (new projects, alliances, acquisitions)
  2. Support future e-business initiatives (new distribution channels, supply chain collaboration with customers, etc.)
- Improve business intelligence throughout the organization
  1. Provide visibility to a single set of numbers throughout the Company in order to better manage the Company
  2. Provide the "right" level of cost center and product costing detail in order to manager customer/product profitability
- Increase the timeliness and accuracy of the Company's financial reporting
  1. Eliminate the manual and/or redundant collection and input of data
  2. Integrate business and financial systems (nothing "off-line")
  3. Close books within 7 days of period-end
- Reduce Costs
  1. Migrate from a mainframe environment
  2. Automate/integrate transactions and data across the entire order-to-cash process
  3. Streamline financial accounting activities
  4. Streamline shop floor work order and inventory tracking activities (bar code tracking)
  5. Evaluate outsourcing options for non-critical processes
  6. Provide daily, weekly and monthly variance reporting
  7. Generate at least \$1 million in annual cost savings

## APPENDIX D: OVERVIEW OF ERP PROJECT TEAM

### Sponsors

1. Peter Barnett: Co-CEO
2. William Huber: Co-CEO

### Steering Committee

1. Winston Brown: VP Operations
2. James Robinson: Director MIS
3. Matt King: Director Manufacturing

## **Project Leader**

John Thompson: Only full time member working on the project

## **IS Coordinator**

George Taylor: Technical IS Manager

## **Team Members**

All team members worked on a part-time basis, in addition to their usual responsibilities

### Emerging business

1. David Edwards: Quality Control
2. Leonard Cook: Manufacturing
3. Melanie Comer: Director, Purchase and Planning
4. Carl Russell: Sales/Marketing

### Traditional business

1. Brett Whisler: Quality Control
2. Mark Sheffield: Manufacturing
3. William Wodehouse: Planning/CS
4. Teri Johnston: Marketing

### Corporate

1. Drake Jan: Financials. Corporate Controller
2. Dennis Fisher: Cost
3. Ben Adams: Cost
4. Geoff Powell: IS Application Development

## **ERP Selection at Custom Fabrics Research**

### **Research Note<sup>2</sup>**

From a macro perspective, a key criterion for an organization seeking an ERP package is the fit of the package with existing systems and business processes. Organizations are attempting to modernize their IT infrastructure and achieve a higher level of systems integration with ERP package acquisition. At the same time, they also need to address the important issue of how much (if any) reengineering of business processes to undertake. On the one hand, the classical premise of business process reengineering (BPR) is "the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance" (Hammer & Champy 1993; Davenport & Short 1990). At the same time, no one can ignore the high failure rates of BPR projects undertaking massive change. For instance, Craig and Yetton (1997) argue that the BPR approach of undertaking major technological change in conjunction with a major organizational change can pose risks that organizations may not be able to handle. A well-known case is of the Hershey Corporation (Nelson and Ramstad, 1999), where months after implementing its ERP system, Hershey could not reliably deliver its products. Such massive implementations face the difficulty of creating internal fit between the organization's skills and roles, technology, and management processes. A

critical decision for a firm, therefore, is to either select the best-of-class ERP package and undertake major structural changes, or seek an ERP package to fit its existing structures and processes. It is clear that Custom Fabrics took the latter approach.

At a micro level, a software vendor selection decision can be viewed from two perspectives. One is from the point of view of the explicit criteria used in selection. The other is the process used for selection, which itself is part of the larger implementation process. The former view takes a rather static view while the latter focuses on the broader organizational and management aspects of change. Past research in these areas can help us understand and analyze this case.

## **ERP SELECTION CRITERIA**

Numerous lists exist for the criteria to be used in general vendor selection as well for as for software vendor selection. Most of these lists are remarkably similar. In his 2000 book, Davenport lists the following criteria in rank order for ERP vendor selection:

1. Cost
2. Size/reputation
3. References
4. Commitment to your vision
5. Ability to manage change
6. Expertise in your industry
7. Experience with software product
8. Availability of skilled resource
9. Comprehensive knowledge of business processes

While these are in rank order, the distance between rankings may not be very significant, especially those at the top. Thus cost may not be the single most important factor in every case. Nevertheless, it is still a very important factor. This can be likened to the literature on software outsourcing where cost reduction is a major factor to seek external partners in lieu of internal development. An examination of the above factors may reveal the strengths and weaknesses of CF's partnership with Objectia and Infofib. Apparently, VF was heavily swayed by the "slick and polished" demonstration by Objectia and were turned off by the mundane presentation and somewhat hostile attitude of the Infofib VP. A more careful consideration of the objective factors would have probably resulted in the correct choice in the first place.

## **PROCESS FACTORS**

The vendor selection process for a large and complex ERP project involves the establishment of relationships which would last for many years. It is not a one-time decision with only short-term impact. Therefore, the entire process of vendor selection needs to be managed carefully. Some factors gleaned from ISIERP implementation research relevant to successful vendor selection and implementation (Basu & Palvia 2002), listed not in any particular order are:

1. Top management sponsorship & support
2. Compelling business case for change
3. Proven methodology
4. Effective change management
5. Business process ownership by line management
6. User involvement
7. Selection Process
8. Project management
9. Project leader
10. Project composition
11. Operating sponsor
12. Ensuring availability of resources
13. Establishing time limit on project
14. Role of consultants

On many of these factors, CF can be rated positively. However, on other items, CF's judgment can be questioned. For example, the lack of direction in terms of available resources and a project time line may have contributed to some of its problems. Obviously, it was a totally new area for them and the decision to not engage a consultant, although a bold one, may not have served them well. Finally, their methodology on the surface appears to be sound, paying attention to such things as detailed requirements, RFPs, detailed evaluation of proposals, and the like. However, others have argued for employing a "prototype" like methodology in an unstructured arena such as this where a vendor is selected based on its overall capabilities and specifications evolve over time.

## REFERENCES

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<sup>1</sup> All names have been disguised in order to preserve anonymity of the company and its employees.

<sup>2</sup> A detailed teaching note is available directly from the publisher for the instructors adopting the case.