Successfully Navigating the ERP Journey at Advantec Coils Pvt. Ltd.

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Introduction

It was a bright sunny morning in April of 2006. As the sun shone through the window, Mr. Gurjinder Singh, Managing Director of Advantec Coils Private Limited (ACPL), a manufacturer of indoor units of split air conditioners sat in his office, reading the performance report for the last quarter. A smile broke across his face. Despite the many challenges faced by their business, Advantec had performed well. He was reminded of the struggles they had gone through.

ACPL operates in a highly competitive business environment, which is typified by seasonal demand patterns and high requirements during festivals (Pasha, 2004). The year was 2004 and ACPL was faced with many challenges. Although ACPL had created a market niche for itself and enjoyed a good relationship with its customers, the threat of low-priced air-conditioners from China had increased the pressure to perform. ACPL had realized that it needed to ensure smoother operations to sustain the company's growth curve.

Mr. Singh recalled how overwhelmed he had felt by the growing needs of his business. ACPL was unable to deal with fluctuations in market conditions. At any point in time, they did not have a clear picture of the stock on hand and were not able to reduce the inventory costs, try as they might. Given the dynamic market conditions, they needed a system that could provide for effective analysis and forecasts.

During lunch one day, Mr. Singh had shared his problems with his friend from Lloyd Electric. After listening to Mr. Singh and understanding ACPL's needs, his friend had suggested that they consider an Enterprise Resource Planning (ERP)[1] system as a possible solution. While Mr. Singh was inspired to evaluate popular ERP solutions including those supplied by local players, he was not quite sure if it was the right choice.

Apprehensions were bound to be present, as for most Small and Medium Enterprises (SMEs), the word 'ERP' conjured up an image of an extremely high priced and complicated set of applications that were difficult to understand and use. Most SMEs believed that ERP systems were meant for large organizations owing to its high price. Stories about the failure of ERP implementations driving organizations to bankruptcy were rife. Being a SME, ACPL was constantly battling capital constraints. Hence, instances of implementation cost overrun or failure could be fatal for it. Like most SMEs considering purchase of ERP, the question lurking in Mr. Singh's mind was '*Is ERP the right solution for us*?'

ACPL: A Brief Background

ACPL, a manufacturer of indoor units of split air conditioners, was founded in 1992 and is based in Delhi, India. ACPL has its units at 5 different locations, spread in two cities, in two different states (Haryana and Jammu). Its employee strength is greater than 500 and it has an annual turnover of Rs. 125 crores.

It is an Original Equipment Manufacturer (OEM) supplier for Carrier, Hitachi, Haier, Videocon, Zamil, Whirlpool, and Godrej. It also exports complete built up units (CBUs) and its components to branded air conditioner manufacturers in the international market. ACPL also has its own brand of indoor air conditioning units called *Azure*. The split air conditioners come in 1, 1.5, 2, 2.5 and 3 ton capacities, and are fitted with air purifier and deodorizing filters.

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[1] ERP is a packaged business software system that allows a company to automate and integrate majority of its business processes, share common data and practices across the entire enterprise, produce and access information in a real time environment.

Back in 1996, ACPL used to import moulded plastic components for indoor units of air-conditioners from the Far East, and assemble them in India at its Bahadurgarh unit. Shipments of indoor units (for split air conditioners) rose from 6,000 in 1999 to over 100,000 in 2003. In 2001, its heater exchange coil sales also increased from 20, 000 to 35,000 per month. ACPL decided to vertically integrate its business and lower the cost of raw material inputs due to competitive pressures. So it began manufacturing the components necessary for the production of split air conditioners in-house (*About Us*, n.d.)

IT at ACPL

ACPL had a very small IT department comprising of two people who took care of all the IT requirements of ACPL. Until 2004, ACPL had been using Tally software for financial accounting and Microsoft Excel for inventory management. In addition to Tally and Excel, they also used stand alone software for automating the HR function. The management clearly understood the importance of IT to assist in everyday operations and considered IT as an enabler to help achieve competitive advantage. Thus, they had made significant investment in IT even prior to 2004.

Problems with the Current Systems

After ACPL started manufacturing all the components in-house, even the smallest component had to be accounted for. Their need for a good system to manage the large amounts of information generated increased now. With the existing systems, Advantec was facing a lot of problems. The systems were not robust enough to handle the demands of the highly dynamic and competitive environment and the growth requirements of the organization. Each of the systems was meeting the specific needs of one department and thus there were information islands that were difficult to bridge. Maintaining data security, accuracy of data, managing inventory among other tasks were difficult to achieve with Tally and Excel.

Tally's limitations resulted in overstocked inventories. Without an effective system, the company was inclined to keep higher levels of goods in inventory, which were often not required, leaving too much scope for revenue loss to the company. Due to the unavailability of even the smallest of components, production could get delayed adversely impacting the time-to-market. On the other hand, maintaining excess inventory levels could be an expensive proposition considering the costs involved in holding the inventory.

A purchase order (PO) for buying raw materials for different components was not linked to the bill of materials (BOM). The accounting system was not able to give the exact BOM required to manufacture a given quantity of components. There was no means to check the inventory holding against production. Additionally, there was no visibility in manufacturing, supply chain and inventory. The non-availability of accurate data also prevented the top management from taking quick business decisions to respond to market conditions.

Checking the credentials of suppliers and the materials supplied by them was another bottleneck. In addition, Mr. Singh emphasized that they were unable to do the costing of the end-product. Since their business was influenced by seasonal surges in demand and they also faced stiff competition from Chinese products on the price front, they were struggling with a whole lot of issues with the existing systems (*Case Study,* 2005). All of this resulted in ACPL not being able to meet the market demand in time.

What ACPL required was a solution that would help improve its operations while helping it to remain competitive by performing the following functions (*Case Study,* 2005):

• Effective allocation, planning and control of crucial resources of men, machines and materials

• Well-tuned production environment with good synchronization among the various units to enable adaptation to the fluctuations in demand

- Effective cost control to be able to deliver better value to its customers

- Better stock visibility among the various units and inventory reduction across the supply chain

- Availability of up-to-date information to the top management to allow better decision-making

These requirements, the company understood, warranted an enterprise-wide automation solution. Based on their needs, they zeroed in on ERP. They had considered implementing ERP in 2002, but had deferred it. This was mainly because ERP system implementation called for a dedicated team of the best minds in the organization to be spared during the implementation phase. This was not possible as Advantec could only spare its key users in the lean production season for two months. No ERP vendor promised the completion of the ERP implementation in such a short period of time. Hence, the decision had to be put off.

Dilemma: To Buy or not to Buy?

According to Mr. Singh, while the need for an ERP system was imperative today, one of the key concerns was the time taken to adopt new information architecture and the disruptions that could arise in the organization's operations. The fact that ERP system implementation was notorious for time and cost overruns, was bound to create apprehensions and influence the final decision, especially so because ACPL had already deferred the decision to implement an ERP system, as mentioned earlier, on account of the time needed for the implementation.

Though for most projects, the return on investment (ROI) could provide the cost justification and motivation for investing in it, it was not so for an ERP implementation. Precisely quantifying the extent to which an ERP system would add value to the firm was problematic, due to the difficulty in getting a grip on the cost side of the equation.

This was due to the fact that many of the benefits derived from an ERP implementation were intangible. Therefore, an attempt to justify ERP investment using conventional ROI metrics could fall short of expectations.

Mr. Singh was in a dilemma whether to buy or not to buy an ERP system. But, one of ACPL's biggest compulsions was to plan production for the coming season. They needed a new system that would be easy and quick to adopt without any compromise in its functionality. Hence, based on their critical needs, ACPL made the decision to take the plunge and implement ERP.

Ushering in ERP at ACPL

After the decision to implement an ERP system was taken, ACPL started preparations to usher in an ERP system. A steering committee was formed involving the ACPL MD & top management. The steering committee fully backed the project and was involved in every step. The steering committee identified the core team and determined a high level project scope and broad implementation approach. This team consisted of some of the best employees from various functions such as Finance, Manufacturing, Sales and Marketing etc.

The core team spent time on educating themselves about ERP. They took inputs from the end users to understand the business needs/ requirements, costs involved and benefits expected. Almost 8 months before the ERP system was implemented, internal homework was done on three basic elements, namely the gathering of business data, the setting and follow up of business policies, and establishing standard business practices that the application would handle.

Vendor selection

ACPL scouted the market for ERP vendors and found that the ERP market was dominated by SAP, closely followed by Oracle and Microsoft. SAP, Oracle, SSA Global Technologies and a few smaller ERP players were evaluated to finalize the purchase decision. A clear

definition of need helped in the short-listing of vendors. The criteria considered for vendor selection were:

- Product functionality, technical architecture, product cost and cost benefit analysis (product evaluation)

- Implementation time, changes required in the processes, service and support provided by the vendor and the implementation partner (Ease of implementation)

Of the several vendors considered, SSA Global Technologies was the only vendor who met ACPL's requirements. This vendor also promised to complete the implementation of the ERP system within two months during ACPL's lean production period. Cost was another factor that tilted the decision in SSA's favor. ACPL finally decided on SSA ERP LN (Exhibit 1) because of its strong customer base and maintenance support. According to Mr. Singh, the solution provided everything ACPL was looking for: robustness, close fit with the business requirements, and cost effectiveness (*Case Study,* 2005).

Since the need of the hour was to install and get the system running in the shortest possible time frame, the company chose Polaris for implementation, following SSA Global India's advice. Polaris had vast experience in SSA's ERP implementation and had very good project management skills. Moreover, its 'Speed' framework promised to carry out the implementation in less than two months, which is what ACPL needed.

Implementation

Considering their requirements, ACPL decided to acquire 7 user licenses from SSA and implement the Manufacturing, Finance and Distribution modules of SSA ERP LN (Refer Exhibit II for application module details). The company procured the requisite hardware and software needed to implement the ERP system (Refer Exhibit III for System component details). It also connected its various locations via Very Small Aperture Terminals (VSAT).

The next step was to decide to implement the ERP system as-is, called the "Plain Vanilla" approach, or customize it to suit the requirements of the organization. Since ACPL understood that any customization would stretch the implementation time, they decided to go with the "Plain Vanilla" approach. Thus, they streamlined all the non-standard practices and procedures using SSA's ERP procedures and Business Process Reengineering (BPR) directed by the ERP system.

Rapid Implementation

The implementation was completed in 33 working days without any time or cost overruns (*Advantec Coils Breaks ERP Speed Barrier, n.d.)*. Both the end users and the top management were satisfied with the new system. This remarkable feat was achieved due to various reasons. The Polaris' 'Speed' framework used pre-defined templates for data collection, business reference models and process documentation; this helped speed up the deployment. ACPL's comprehensive background work in terms of requirement assessment, outlining the needs and objectives, and the kind of solution required further helped hasten the pace.

With the Director being involved in day-to-day activities of the implementation, the decision-taking cycle was shortened, as there was no time wasted in accessing the different hierarchies for the decision to be taken. Effective project management and coordination ensured completion of all tasks on time, even that of master data for remote sites like Jammu.

During the implementation process itself, Polaris trained 10 users on SSA ERP. This made it easy for these users to start using the system soon after deployment of the new system. They in turn trained the other users. A proper documentation of processes was done for effective knowledge transfer. Very effective and logical system-testing gave sufficient confidence to the company to switch over to the new system. ACPL maintained both SSA ERP and Tally 6.3 in parallel till March 2005. By April 1, 2005 it moved completely to SSA ERP with all modules, and discontinued the use of Tally (*Case Study,* 2005).

The company had opted for a 7-user license from SSA Global India. ACPL had clear-cut internal policies in place for effective use of these licenses. States Singh, "We had allocated separate morning and evening slots for users from our Production and Finance departments, and a 24-hour usage period for our Stores department. This ensured that users from the Finance department could not use the application when the Production department was using it." Additionally, SSA had provided the facility to automatically log out a user from the application if it is idle for five minutes. This ensured efficient use of the system.

Benefits of ERP

There are tangible & intangible benefits of ERP system implementation. The quantifiable benefits have a bottom-line impact on profitability, asset turnover, and a potential effect on stock value. The most significant quantifiable benefits involve reductions in inventory, labour & overhead costs, material costs as well as improvements in customer service and sales.

Mr. Singh was a happy man after ERP implementation. ACPL spent Rs. 30 lakhs on hardware, software, support, training and implementation, which was less than one percent of its turnover. The return on investment came quickly from the dramatic reduction in inventory levels. Says Singh, "Within two years, we have been able to achieve a reduction in inventory levels from Rs. 9 crores to Rs. 5 crores. Our aim is to gradually reduce even this level of inventory and reach a level where we will keep only seven day's stock, and we hope this will happen over a period of two years."

The company was able to maintain the right inventory levels for all its product lines so as to avoid both over and under availability of stock. Inventory visibility across the various units also helped make better informed decisions and commitments to end customers. According to Singh, Rs. 8-10 lakhs of the Rs. 30 lakhs invested on the deployment process was recovered within the first year of implementation itself - mostly on account of proper management of inventory levels.

The ERP implementation eliminated the information islands that were scattered across ACPL's business units and replaced disparate systems with a single one. "Another key realization with ERP has been the inculcation of a disciplined approach leading to a more effective and efficient way of working. The company is now able to meet its delivery deadlines well on time in order to be able to take the lead over its competitors," said Singh (*Case Study,* 2005).

ACPL was now able to provide better customer service and reduce delivery time and this led to a 95.5% increase in sales turnover as shown in Exhibit 4. Profit after tax (PAT) has also increased from 0.9874 before implementation to 2.7756 after implementation. Also the Return on Capital Employed (ROCE) increased from 5.98% to 13.84%. Thus, the ERP system implementation had a significant impact on the financial results of the organization.

As the system stabilized, the company started to use the system for generating intelligent analysis reports like understanding demand patterns in the market, and specific patterns of demands from its OEM partners. ACPL holds its customers' inventory, and this cost is borne by them. Customers would like to keep track of their inventory for smoother production. To help its customers access their inventory, ACPL gave them online access to inventory kept on their behalf by ACPL. ACPL also went on to install more modules of the ERP system to help utilize the full potential of an ERP system.

Further Developments

In 2008, Zamil Industrial Investment Company, a Saudi Arabian based manufacturing and industrial conglomerate, acquired 30% stake in ACPL and started a joint venture with them. This enabled their products to reach the Middle East and several other countries. With this, ACPL's information needs increased. They decided to upgrade their ERP system. By this time, Infor Global had acquired SSA. Godrej Infotech, Infor's implementation partner, was called in for the implementation

of Infor LN. This time ACPL went in for some customization. They also decided on some additional modules to meet their needs. The implementation was completed in 4 months time (*Testimonials*, n.d).

The new ERP system helped ACPL cope with the challenges of a global marketplace. By March 2013, Zamil had increased their stake from 30% to 100% and had acquired ACPL. The company is now called Zamil Air Conditioners India Private Ltd. The company would now be the first company in India to be able to manufacture end-to-end turnkey solutions *(Zamil Completes, 2013)*.

Questions for Discussion

1. Why is the ERP decision so difficult for SMEs? Was ACPL's decision to implement the ERP system in its Plain Vanilla form justified? Explain.

2. Can the impact of an ERP implementation be measured? Justify.

3. Considering that Zamil has acquired ACPL, what would the future of the ERP system be? Comment in the light of your knowledge of ERP systems during a merger or an acquisition. What are Zamil's information needs? Will the current ERP system meet those needs?

Exhibit 1

ERP at ACPL

The ERP package chosen by ACPL was ERP LN from SSA Global Technologies. This was originally iBaan from Baan Info Systems. SSA acquired Baan Info Systems India Private Ltd. in June 2003. This Mumbai based company, was rated as the Best Enterprise Application provider in India by Dataquest-IDC in 2003. After the acquisition, the ERP system from Baan was renamed as SSA ERP LN. This is one of the major applications offered by the company and is designed to meet the specific needs of companies in the defense, automotive, electronic, and aerospace sectors. Some of the customers using SSA ERP LN solutions were: Bharat Seats, Munjal Auto, Precision Pipes, TEI Electronics, Vijai Electricals, Sundaram Clayton, Anand Group, Fiat Auto Limited, Godrej & Boyce etc.

In May 2006, SSA was acquired by Infor Global Solutions. The ERP system was renamed as Infor LN.

Source: Wikipedia.com, *Software Companies – India*, 2010

Exhibit 2

ERP LN Modules Implemented

Module Name	Key Elements
Manufacturing	Master Production Scheduler (MPS), Material Requirement Planning (MRP), Shop Floor Control (SFC), Production Planning (PP) and Control Capacity Requirements (CCR)
Finance	General Ledger, Accounts Payable and Receivables, Costing, Budgeting, Fixed Receipts, Taxation
Distribution	Purchase, Control, Inventory functions, Sales functions, Marketing functions

Source: Networkmagazineindia.com

Exhibit 3

Hardware: Server-Assembled Intel-dual Xeon server with 1 GB RAM and 80 GB hard disk
Software: Network O.S.-Windows 2000 Professional; Database-SQL Server
Networking: VSAT-The company connected its different locations through VSAT; Cable, Modems & Switches

Source: Networkmagazineindia.com

Exhibit 4

	2005 (Pre-implementation)	2006 (Post implementation)
Sales Turnover (in Rs. crores)	31.51	61.6
PAT	0.9874	2.7756
ROCE	5.98%	13.84%

Source: Capitaline

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