
**IMPLEMENTATION OF ENTERPRISE RESOURCE PLANNING (ERP) AT KAKA
HALWAI SWEET CENTRE, PUNE - A SMART CITY INITIATIVE**

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ABSTRACT:

A smart city is an urban development vision to integrate information through Enterprise resource planning (ERP) solutions in a secure fashion to manage a city's assets – the city's assets include, but not limited to, local departments information systems, schools, libraries, transportation systems, hospitals, power plants, water supply networks, waste management, law enforcement, and other community services. The goal of building a smart city is to improve quality of life by using technology to improve the efficiency of services and meet residents' needs. This paper discusses issues concerning the implementation of Enterprise Resource Planning (ERP) software specifically at Kaka Halwai Sweet Centre, Pune. The paper looks at various examples of implementation and identifies several common traits that are present amongst all successful attempts. For any ERP implementation, a business needs to conduct a thorough analysis of its own core operations. This process helps the company to prioritize areas for improvement as well as determining what the ERP should be used for. A risk assessment is then made surrounding the ERP. If the benefits of implementation outweigh the cost, the next step of the implementation cycles should be preceded. Realistic benchmarks and achievable goals need to be clearly defined and discussed with the management. The progress and budget of the ERP project should be closely monitored. Often failing implementation examples have shown us that project teams lose focus and go off in tangent. It is then management's responsibility to disregard the sunk costs and assess whether the project should be continue. Lastly, other factors such as post implementation issues and involvement of external parties are the major concern in ERP implementation as an initiative of smart city.

Keyword: Enterprise Resource Planning (ERP)

INTRODUCTION TO ERP

ERP is an industry term for the broad set of activities supported by multi-module application software that helps a manufacturer or other business, manage the important parts of its business, including product planning, parts purchasing, maintaining inventories, interacting with suppliers, providing customer service, and tracking orders, ERP can also include application modules for the human resources aspects of a business. Typically, an ERP system uses or is integrated with rational database system.

ERP is a term coined in the 1990's. It began as a group of applications or software focused on combining multiple systems in to one integrated system where data could be shares across the enterprise, presumably reducing redundant data entry and processes. The initials ERP originated as an extension of MRP (material requirements planning; later manufacturing resource planning). It was introduced by research and analysis firm Gartner in 1990. ERP systems now attempts to cover all core functions of an enterprise, regardless of the organization's business or charter. These systems can now

be found in non-manufacturing businesses, non-profit organizations and governments. To be considered an ERP system, a software package must provide the function of at least two systems. For example, a software package that provides both payroll and accounting functions could technically be considered an ERP software package.

Almost any discussion of enterprise resource planning starts with material requirement planning. In the manufacturing environment, the ability to produce the product was the focus. As manufacturing evolved over time, the number of difficult questions increased. Such questions largely focused on the areas of component procurement for the finished product and on strong the material necessary to make the products. Organizations were trying to understand both the finished manufacturing totals and how to get to the finished product.

Today, ERP has gone beyond its original limits to evolve into 'extended ERP'. Extended ERP includes Customer Relation Management and Supply Chain Management applications.

Although there is huge focus on the technological aspects of an ERP deployment, there must be an equal focus on changing the way an organization functions. While the benefits of ERP an impressive, deploying an ERP systems is a major undertaking for any organization.

ERP sits between all the systems and users regardless of where they are in a pipeline. It knows all the different data collection points, and it must interface with all the different formats of the particular data. It also intelligently routes the order and appropriate department at the appropriate time; reducing the number of times a human has to enter data, which in turn reduces errors.

Ideally, ERP delivers a single database that contains all data for the software modules, which would include:

- ❖ **MANUFACTURING-** Engineering, bills of materials, scheduling, workflow management, quality control, cost management, manufacturing process, manufacturing projects, manufacturing flow.
- ❖ **SUPPLY CHAIN MANAGEMENT-** Order to cash, inventory, order entry, purchasing, product configuration, supply chain planning, supplier scheduling, inspection of goods, claim processing, commission calculation.
- ❖ **FINANCIALS-** General Ledger, cash management, accounts payable, accounts receivables, fixed assets.
- ❖ **PROJECT MANAGEMENT-** Costing, billing, time and expense, performance units, activity management.
- ❖ **HUMAN RESOURCES-** Payroll, training, time and attendance, benefits.
- ❖ **CUSTOMER RELATIONSHIP MANAGEMENT-** Sales and marketing, commissions, service, customer contact and call center support.
- ❖ **DATA WAREHOUSE-** Data warehouse and various self- service interface for customers, suppliers, and employees.
- ❖ **ACCESS CONTROL-** User privilege as per authority level for process execution
- ❖ **CUSTOMIZATION-** To meet the extension, addition, changes in process flow.

Best practices are incorporated into most ERP vendor’s software packages. When implementing an ERP system, organizations can choose between customizing the software and modifying their business processes to the ‘best practice’ function delivered in the ‘out-of-the-box’ version of the software.

Prior to ERP, software was developed to fit the processes of an individual business. Due to the complexities of most ERP systems and the negative consequences of a failed ERP implementation, most vendors have included ‘best practices’ into their software.

ABOUT KAKA HALWAI SWEET CENTRE

Kaka Halwai is a name synonymous with the sweetness of Pune, its culture, its people, its flavor and taste for the sixth generation. They are an Indian Mithai specialty brand producing and serving top quality fresh Mithai and Namkeens in and around Pune and now soon will be all over the world. They have top class international standard manufacturing facilities with 18 sales outlets including the HO at Tilak Road in Pune. With a staff of well over 100 including people who are working with them for the past 3 decades and 3 generations of families involved with the various aspects of this business they are able to bring the best of quality, products, service and hygiene to give a fulfilling experience to our customers as they realize enjoying the delicious products that they produce is a part of the

culture, the tradition and most importantly it is a A PART OF THEIR CUSTOMERS LIFE. It is the part of the joy and happiness, a part of the memories and Kaka Halwai is humbled by this thought and it is this realization that fuels their passion to serve and serve the best for generations.

MISSION AND VISION- While understanding the customer demand, Kaka Halwai Sweet Centre strives to maintain quality, hygiene and service. Their responsibility lies in standing true to the patrons, and hence they do not compromise on quality. Commitment, ethics and the faith in what they do, instills self-belief to give back to the society what is expected the most. Business for them has meant the people who they’ve consistently seen walking in their outlets for years. Value for them has been sharing our every little occasion.

COMPETITOR in Pune- Chitale Bandhu Mithaiwale, Pune
PRODUCT RANGE- Pedhe, Barfi-Khawa, Barfi- Malai, Driedfruit Mithai, Traditional Mithai, Bengali Mithai, Ladoo, Snacks, Farsan/ Namkeens, Chivda

OBJECTIVES

- ❖ Integration of financial data
- ❖ Standardization of human resource information.
- ❖ Enhance productivity and flexibility.
- ❖ Eliminates cost and inefficiencies

SCOPE OF ERP

Dimension	Sub-dimension	Explanation
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Operational	<ol style="list-style-type: none"> 1. Cost reduction 2. Cycle time reduction 3. Productivity improvement 4. Quality improvement 5. Customer services improvement 	Because ERP systems automate business processes and enable process changes, one would expect ERP systems to offer all of these benefits.
Managerial	<ol style="list-style-type: none"> 1. Better resource management 2. Improved decision making and planning 3. Performance improvement 	With a centralized database and built in data analysis capabilities, it seems likely that ERP systems will provide informational benefits to management.
Strategic	<ol style="list-style-type: none"> 1. Support business growth 2. Support business alliance 3. Build business innovations 4. Build cost leadership 5. Generate product differentiation 6. Build external linkages 7. Worldwide expansion 	ERP systems, with their large-scale business environment and internal and external integration capabilities, could assist in achieving these strategic benefits.
IT Infrastructure	<ol style="list-style-type: none"> 1. Build business flexibility for current and future changes 2. IT cost reduction 3. Increased IT infrastructure capability. 	ERP systems, with their integrated and standard application architecture, provide an infrastructure that could support this dimension.
Organizational	<ol style="list-style-type: none"> 1. Support organizational changes 2. Facilitates business learning 3. Empowerment 4. Build common visions 5. Change employee behavior 6. Better employee morale and satisfaction 	The integrated information processing capabilities of ERP systems could affect the establishment of organizational capabilities.

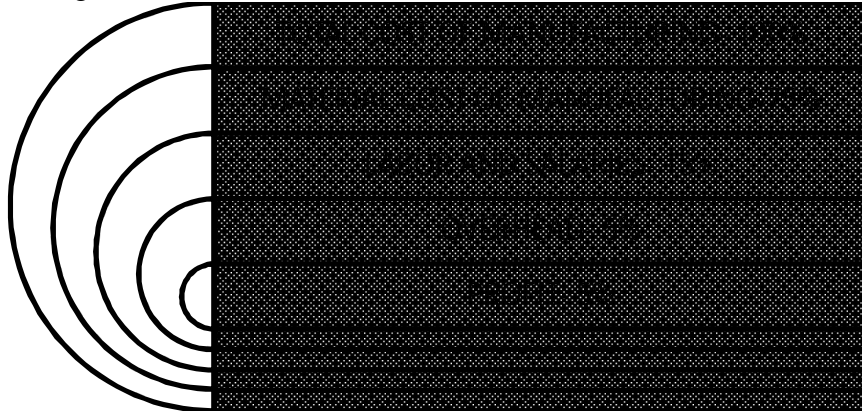
ANALYSIS OF DATA

The primary purpose of implementing ERP is to run the business far better than before, in a rapidly changing and highly competitive

environment. In a manufacturing enterprise like Kaka Halwai, change is not simply a possibility or even a probability. It's a

certainty, the only constant, the only sure thing.

This includes high levels of customer service, productivity, cost reduction and inventory turnover, and it provides the foundation for effective supply chain management and e-commerce.



This shows the significance of materials in the overall cost of manufacturing. To illustrate the point further, a 1% savings in the cost of materials in the above example leads to a 15% increase in profit. Conversely, an addition of 1% to the cost of materials means a reduction in profits of 15%, and hence, the importance of the contribution of materials and inventory control for business performance is clear.

The cost of materials includes not only the purchase price but also the cost of physical loss of material, mishandling and over handling, purchasing too much, transport costs, storage, etc. And this is a result of inefficient scheduling and purchasing management. This complexity, coupled with the scope for significant benefits if improved can be made in the efficiency of the purchase and use of materials, prompted organizations to acquire computer systems that can support better managerial practices in this domain. This is the source of the movement towards implementation of the ERP systems.

Primary objective of implementing ERP in Kaka Halwai was to increase control of the operations and inventory management.

An example of the costs for a Kaka Halwai product is as follows:

So whether you are a manufacturer like Kaka Halwai, wholesaler or retailer, management of your inventory is critical to controlling your costs and ensuring the smooth operations of your business.

ERP software gives you real time information on current stock levels and values including stock on order, raw materials, work in progress and finished goods.

ERP helped with all aspects of inventory management. They are:

- I) Extensive reporting features: You can customize any one of the existing standard reports in ERP software in hundreds of different ways. These reports can then be saved and viewed any time. Any piece of data that is displayed to any of these reports can be simply drilled into, this will give you an extensive detail of what makes up the value displayed.
- II) Instant reporting features: You no longer have to wait for the end of the month rollovers or batch updating

anymore, ERP makes it possible to update your reports to the millisecond.

- III) **Product Discounting:** Set up each individual customer, to have either a one off discount, specific product discount, grouped discount, permanent discount or volume sales discount. ERP lets you choose over a dozen different ways to structure discount and pricing options from customers to retailers.
- IV) **Barcode Picking:** This is an undoubtedly good warehouse feature around, as it virtually removes human error in the warehouse. ERP software allows orders to be places in the office, the warehouse then completed the order without touching the computer by scanning their employee barcodes. This makes the picking slip to be generated. The software then tracks the time it takes to pick up the goods, and then how long it takes to pack those goods. In addition it counts the cartons or packages and used in the packing, with a complete record of what goods are present in what carton. After confirmation of the correct number of goods in the correct cartons, it then generates the completed invoice.
- V) **Multiple Stores:** ERP automatically tracks stock levels, changes and updates across multiple stores. These updates can be run real time or any set period you choose i.e. every hour, twice a day, end of day or even once a week.
- VI) **Multiple Warehouses:** This helps with analyzing the level of stock in every warehouse. It tells you what is

where, and what is selling from a certain location.

ERP IMPLEMENTATION LIFE CYCLE

ERP lifecycle is in which highlights the different stages in implementation of an ERP.

- 1. Pre evaluation Screening**
- 2. Evaluation Package**
- 3. Project Planning**
- 4. GAP analysis**
- 5. Reengineering**
- 6. Team training**
- 7. Testing**
- 8. Post implementation**

RETURN ON INVESTMENT

When a proposal is put forward for implementing an ERP system, two questions are invariably asked

i) How much it is going to cost ii) What is the pay back period. It is always preferable to have a cost benefit analysis before embarking on ERP project. A properly done ROI analysis builds a business case for the project. The organization is in a better position to make a decision, set goals and deadlines. This analysis will also create a base that can be used to measure future performance of the system.

ROI in the context of an ERP project

A ROI for ERP project represents metric of completed due diligence and a time phased plan that define when money will be needed and what for it will be used. ROI calculation is made by dividing monetary gain by amount spent. While it is easier to calculate the expenditure for an ERP project, it is difficult to determine the gain, as several gains from the project are intangible and not quantifiable. Typically, ROI involves a pay back period, which is the length of time

taken for the cumulative expenditure equals cumulative cost of investment.

TANGIBLE AND INTANGIBLES BENEFITS OF ERP

Some of the quantifiable and tangible benefits of ERP system are mentioned below: Implementation of ERP, however, does not lead to headcount reduction (redundancies of few lower ended positions of payroll and accounts payable gets counterbalanced by additional higher paid IT staff).

- ❖ Reduced level of inventory, including raw material, work in progress and finished goods, through improved planning and control.
- ❖ Reduced materials cost through improved procurement and accounts payable practices, less obsolescence and wastage.
- ❖ Reduced labor cost through better allocation and reduction of overtime of workmen directly involved with production such as technicians and skilled workers.
- ❖ Improved production throughput through better scheduling of critical equipment and sub-contracting operations, thereby minimizing shortages, interruption and rework.
- ❖ Reduction in the cost of after sales services.
In addition to tangible benefits, following intangible benefits also occur:
- ❖ Integration of information resulting efficiency, transparency and effective MIS.
- ❖ Error reduction, accuracy of inventory record.
- ❖ Improved customer service, on time shipment, shorter order to shipment cycle.

- ❖ Establishment of standardized procedures.
- ❖ Improved accounting control and shorter sales to cash cycle.
- ❖ Legal and regulatory compliance.

Calculation of ROI

There is no standard method of calculation of ROI for an ERP project but a structured method of analysis is achievable. It may be too cumbersome and subjective to factor in intangible benefits. But these factors are important for creating an overall business case and in many instances, where ROI is not calculated, form a base line objective for the project.

First step is to determine cost of various components of the project such as consulting fees, license fees, modification and implementation cost, hardware cost etc. Maintenance fees for a pre determined period (say for three or five years) should be added to arrive at Total Cost of Ownership over the specified period. The estimated expenditure should be time phased over the period, used to calculate TCO. Next step is the more difficult part which is to estimate expected benefits over a period of time. For estimating these figures, there should be wide consultation and reference to statistics emanating from various survey reports. Benefits will largely occur from the reduction of inventory level, operation cost, labor cost and improved production. Whereas the last three elements will have a direct impact on profit and loss account, the reduction in inventory will cause release of additional cash which can be assigned to a yearly value of saving, based on organization's standard internal rate of return.

Relationship between time phased cost and benefit will project a time phased ROI, which will be negative at the outset and will turn positive over the payback period.

So basically, ROI is a bit problematic particularly in term of unquantifiable figures. But it offer a measure of success or otherwise of the project. ROI measurements help in many circumstances specially buy in from project stakeholders, which enhance chances of a successful completion of the project.

CONCLUSION

❖ ERP implementation costs are high- The average total cost of ownership increased to. When expressed as a percentage of revenue, the company spends an average of 10% of annual revenue on their implementation. These numbers include software licenses, consulting fees, technical integration, hardware upgrades, internal resource backfill costs and other costs required to fully deploy a new enterprise system. Study also reveals that Kaka Halwai got the implementations right the first time by investing in key critical success factors such as organizational change management and business process reengineering are spending less on their implementations in the long term.

❖ ERP software customization proved to be beneficiary-

Despite the increasing number of options among ERP vendors in the market, more companies are customizing their chosen ERP systems than previously. This year, Kaka Halwai too customized their software to some degree. Although they began their ERP initiatives with the expectation that they use the software as it is, the top management still made changes to the way the software was intended to be used.

❖ Post-implementation benefits and operational disruptions-

These benefits could not be seen immediately after the implementation. Unfortunately, benefits realization and simple operational stability after go-live are arguably the biggest challenges faced when implementing their new ERP systems.

Kaka Halwai, saw challenges like changes in ways of operating. This proved to be the biggest hurdle.

❖ Expert advice-

There are certainly lessons to be learned from this data. In addition, hiring the best qualified, focused and unbiased ERP consultants can make your organization's implementation more successful.

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