

Report On
ERP, an integration tool of SCM
A case study on Bitopi Group

By

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A report submitted to the BIGD in partial fulfillment of the requirements for the degree of
“Masters in Procurement and Supply Management”

BRAC Institute of Governance and Development (BIGD)
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Declaration

It is hereby declared that

1. The internship report submitted is my own original work while completing degree at Brac University.
2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I have acknowledged all main sources of help.

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Letter of Transmittal

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Subject: Submission of report for MPSM.

Dear Sir,

This is my pleasure to submit report on “ERP, an integration tool of SCM, a case study on Bitopi Group” which was assigned to me to prepare as the partial requirement of the degree of Master of Procurement and Supply Management.

I hope that this report will fulfill the requirement of the degree and you will consider this work for evaluation.

Sincerely yours,

Md. Aftab Uddin

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Date: September 29, 2020

Executive Summary

This report is prepared addressing ERP as an integration tool of SCM based on Bitopi group. Integration of P2P cycle of procurement and others functions of organization through ERP can ensure efficiency and effective not only SCM but also whole organization.

ERP uses central database and ensures data sharing, data security and privacy, data validation, removes repetition of work, provides report for strategic decisions, accelerates activities, reduces total cost, increases overall efficiency and effectiveness of the organization.

Development, implementation and maintenance of ERP are costly but organization can reduce cost through development of internal team. Careful analysis of business need and total cost of ownership is precondition of success. ERP development team must have up-to-date knowledge about latest technology, tools and methodology available. Uses of back-dated technology can cause obsolescence of ERP within short time.

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List of Acronyms

ERP	Enterprise resource planning
GUI	Graphical user interface
SCM	Supply chain management
P2P	Procure to pay
VFM	Value for money
WLC	Whole life costing
TCO	Total cost of ownership
PR	Purchase requisition / request
PO	Purchase order
WO	Work order
RFQ	Request for quotation

Chapter 1

ERP

1.1 What is ERP?

ERP stands for Enterprise Resource Planning. ERP is one kind of software which integrates business processes almost in real time. Business organizations use this software to collect, store and interpret data from its business activities. A true ERP integrates at least core business process of the organization and shares data between ERP modules. ERP module represents business process such as Production, Finance & Accounts, Supply Chain, Commercial, so on. It collects organization's transactional data from different sources and eliminate data duplication and increase data accuracy.

World renowned ERP developer SAP defined ERP as, "Think about all the core processes needed to run a company: finance, HR, manufacturing, supply chain, services, procurement, and others. At its most basic level, ERP integrates these processes into a single system."

ERP is basically a software base platform which is produced by programmer. Programmers use different types of programming language to create GUI which is called front end usually. It has three basic part. These are -

- ✓ Front end (GUI): This is the interface which ERP users use to insert data and generate different types of reports.
- ✓ Back end (Database): Data entered by users are stored and managed by database software. Programmers use different types of SQL query to save and retrieve data into database.

- ✓ Report: Users and management of the organization required different types of analytical reports. ERP has different types of such reports those are developed and viewed by different types of reporting software.

1.2 Evolution of ERP

Today's ERP was initially started with "Inventory control packages" in 1960. Evolution of ERP occurred in a timely manner and it gradually developed to "Extended ERP".

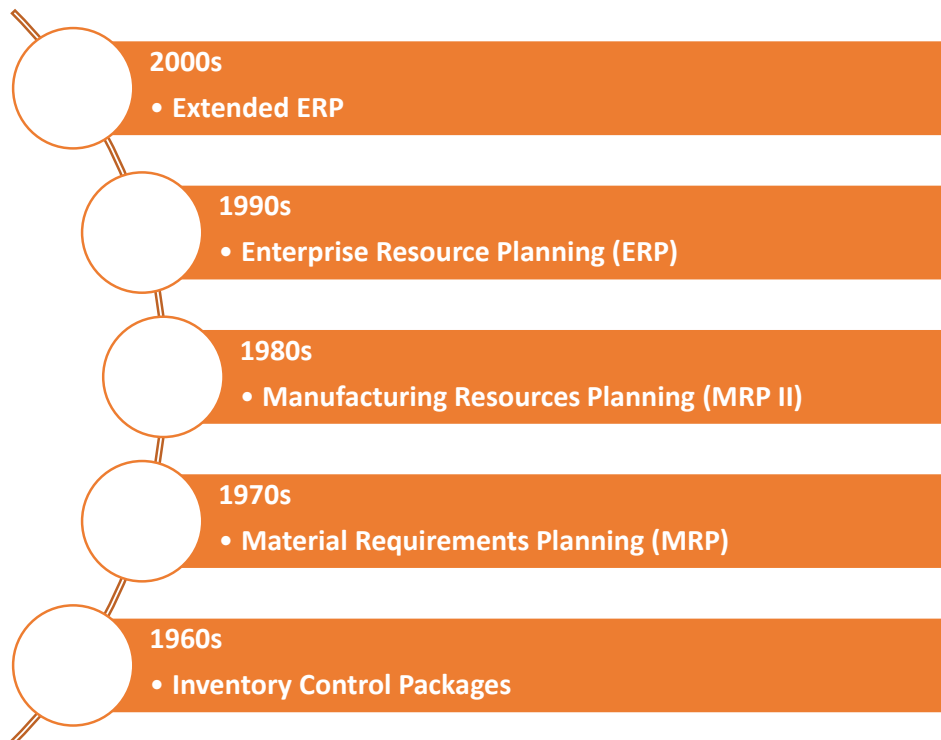


Figure 1: Evolution of ERP

1.3 Software used to develop ERP

Wide range of programming languages are used to develop ERP based on its platform. ERP can be only for desktop or laptop; some ERP are cloud based while some of them are

used in tab and smart phone as well. However, according to IEEE Spectrum language ranking 2019, Top ten trending programming languages are –

Language Ranking: Trending			
Rank	Language	Type	Score
1	Python	  	100.0
2	Java	  	94.9
3	C	  	91.4
4	C++	  	87.5
5	JavaScript		74.9
6	C#	   	74.1
7	Go	 	69.3
8	R		68.8
9	Ruby	 	67.1
10	Dart	 	67.1

Figure 2: Top ten trending programming languages

Above mentioned software are used to develop GUI and make coordination between database software and reporting software.

Renowned database management software used to develop ERP are Oracle RDBMS, Microsoft SQL Server, SAP Sybase ASE, MySQL. Popular reporting software are Seagate crystal report and SAP crystal report.

1.4 Typical ERP modules

ERP modules are nothing but business processes of an organization. Different ERP developer offers different types of modules based of their expertise. Addition module incurs additional cost. However, Typical ERP modules are Finance, Supply chain management, Manufacturing, Human resources management, and Sales (Business).



Figure 3: Typical ERP modules

1.5 Renowned ERP software

Based on popularity and market share some renowned ERP software are-

- ✓ SAP
- ✓ Oracle
- ✓ Microsoft Dynamics 365
- ✓ NetSuite
- ✓ Workday

1.6 Characteristics of ERP

ERP is perfect solution for data analysis and automation due to its unique characteristics. Following are the typical ERP characteristics-

- ✓ Enterprise-wide integrated system
- ✓ Almost real time operation
- ✓ Central database and information sharing
- ✓ Data validation
- ✓ Data security

1.7 Benefits of ERP

Benefit of ERP depends on choosing appropriate ERP software, technical expertise of ERP implementation company, proper implementation and more over positive attitude of the ERP acquisition organization. However, an organization can enjoy following benefit-

- ✓ Automation of core business process helps organization to reduce resource consumption and maximize productivity.
- ✓ ERP's visualize business activities and centralized data sharing makes easier and quicker management decision.
- ✓ Faster allocation and tracing of inventory and maximize visibility of supply chain management.
- ✓ Ensures standardization of processes.
- ✓ Maintain confidentiality and data security through access privilege.
- ✓ Maximize customer satisfaction by delivery of right product at right time at right place.

- ✓ Real time data analysis and reporting assist management to response changing environment in proactive manner rather than reactive.
- ✓ Helps organization to be more agile to grab new opportunity.
- ✓ Helps to ensure lean manufacturing process.

1.8 Disadvantages of ERP

Improper selection of ERP software, implementation, mishandling of ERP, etc. can fade away advantages of ERP and lead to following bitter experience-

- ✓ Large amount of money is required for purchasing ERP software, customization, configuration, testing, license renewal, IT equipment purchasing to run ERP and implementation & maintenance cost.
- ✓ Time and cost of training ERP user.
- ✓ It takes time for employees to be use to with the ERP which can lead to lower productivity.
- ✓ Fully functional ERP deployment is time consuming and challenging.
- ✓ ERP is a complex software and its implementation required professional efficiency. Failure to implement ERP properly costs a lot.
- ✓ It is difficult to measure realized benefit.
- ✓ Once ERP is purchased from a vendor, purchasing organization become in locked-in position for further negotiation in case of customization, upgradation, annual maintenance, license renewal, etc.

Chapter 2

SCM & Integration

2.1 What is SCM?

Supply chain is a term covering all activities associated with the flow of goods and services from the raw materials stage through to the end user. Supply chain management is the art of integrating these activities through improved supply chain relationships in order to obtain sustainable competitive advantages.

Simply, SCM is the management of backward linkage and forward linkage relationship with suppliers and customers. It encompasses supplier of lowest level tiering to after sales services and reverse logistics to ensure superior customer value. SCM is an umbrella under which different functional activities are took places. Core supply chain functions are-

- ✓ Demand management
- ✓ Purchasing
- ✓ Inventory management
- ✓ Logistic and distribution
- ✓ Operations

2.2 Evolution of SCM

The concept of SCM derives from the shipyards of Japan in the early 1950s and was gradually developed in the car manufacturing industry, in specially by Toyota.

The evolution of supply chain management has been characterized by an increasing degree of integration of isolated tasks. Supply chain management has become a complex sequence of activities aiming at value capture and competitiveness.

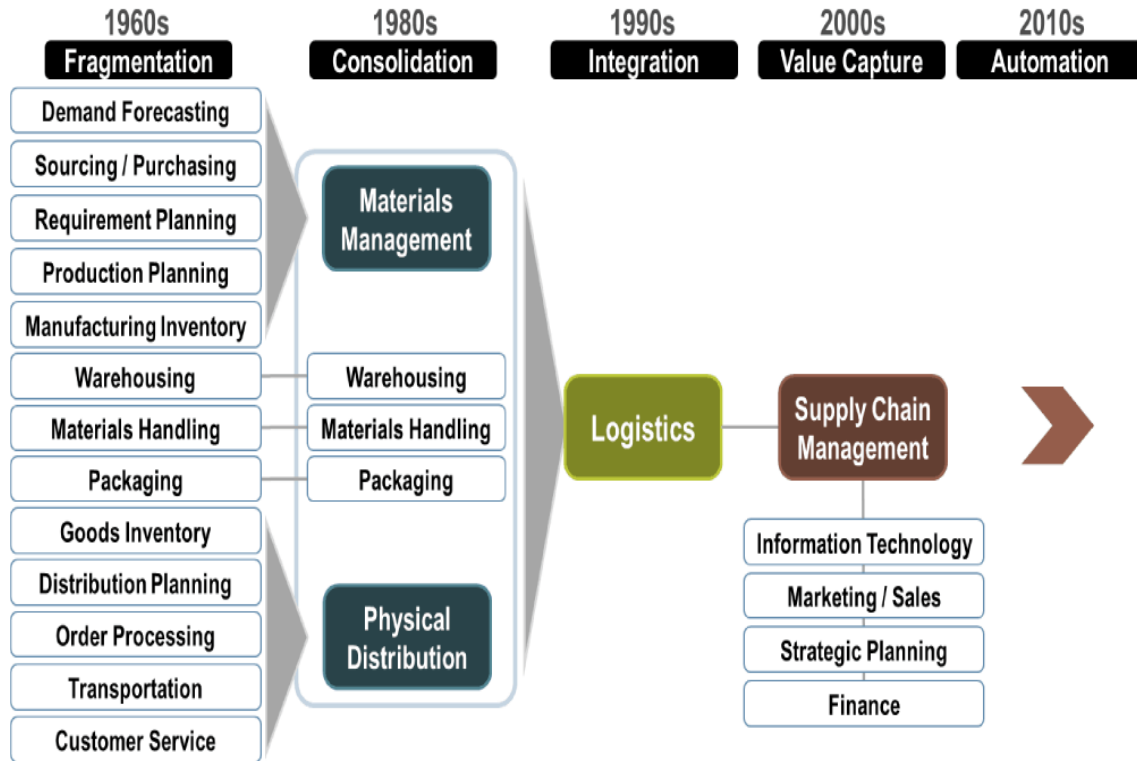


Figure 4: Evolution of SCM

2.3 P2P Cycle

Procurement to payment cycle is the pictorial presentation of interrelated procedures of tasks an organization perform for acquisition of goods and services.

Generally, in generic nature, it starts with defining business need and assessment of need which is presented by purchase requisition and ends with vendor payment. Organizations should carefully make analysis of its needs and should mention proper and complete specification in purchase requisition to ensure VFM. WLC should be considered for vendor evaluation.

WLC includes all costs incur at the time purchase and owning, operating and maintenance over the expected life of the purchase item which even includes disposal and re-sale. Its another name is total cost of ownership.

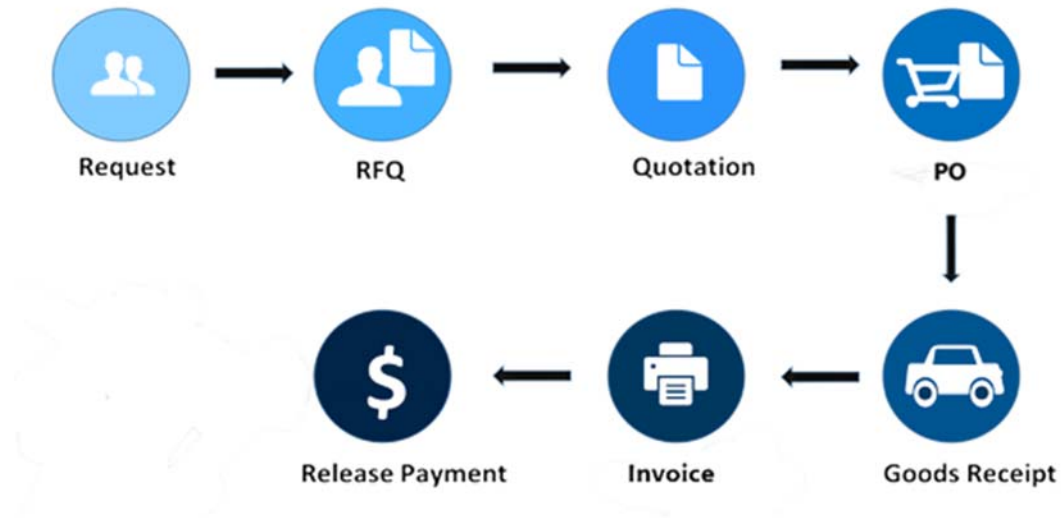


Figure 5: Generic P2P cycle

2.4 Importance of SCM

In the era of 21st century, it is said that one organization does not compete with another organization, rather supply chain of an organization compete with supply chain of another organization. It means competition among supply chains to get competitive advantage and customer satisfaction by providing superior value. SCM is the integral part of an organization's success. However, importance of SCM can be summarized as below-

- ✓ Increase customer satisfaction by providing-
 - Right quality of product
 - Right quantity
 - Product at right location
 - Right time
 - Right price
 - Desired packaging
 - Right after sales support
- ✓ Decrease procurement cost

- ✓ Decrease production cost
- ✓ Decrease total supply chain cost
- ✓ Sustainable procure helps to reduce energy consumption
- ✓ Decrease pollution
- ✓ Integrated SCM can reduce lead time significantly
- ✓ Increase inventory turnover rate
- ✓ Reduce inventory cost
- ✓ Helps to implement JIT, lean and agile production

2.5 Integration and Advantage

In business world, integration is the process of interconnecting different business functions as a whole. Concept of integration refers to integration among different business functions of the business organization like HR, inventory management, production, commercial, procurement, logistics and distribution, sales, engineering, etc. Such integration enables organization data sharing and automation of business activities. For example, integration among procurement, inventory management, production, finance, sales, etc can ensure following advantages-

- ✓ Requisition issuer can have current status of PR.
- ✓ Procurement can be notified of having a PR.
- ✓ PO and WO can be issued using data of PR.
- ✓ Delivery follow-up can be automated by notification of pop-up or email.
- ✓ Approved PO and WO can be shared with finance for fund allocation.
- ✓ Inventory management can share PO and WO for issuance of goods and service receiving report.

- ✓ Issued and approved goods and service receiving report can be shared with accounts for payment release or adjustment.
- ✓ Sales data can be captured by operation for production schedule.
- ✓ Procurement planning for raw-materials can be automated from sales data.
- ✓ Logistics and distribution can arrange delivery planning according to production schedule.
- ✓ Moreover, it ensures automated P2P cycle.

Chapter 3

Bitopi Group

3.1 Company at a glance

Bitopi Group started its journey in 1968 with Bitopi Advertising Limited under the visionary leadership of Mr. Reza Ali. In 1984, company started its business in RMG sector by establishing Misami Garments Ltd. as a means of diversification strategy. It has 4 states of the art production facilities among 5 factories.

Significant milestone of the group-

1968 – Inception of “Bitopi Advertising Limited”

1984 – Starting journey in RMG sector by “Misami Garments Ltd.”

2004 – Commencement of “Tarasima Apparels Ltd.”

2012 – Inauguration of “Remi Holdings Ltd.”

2015 – Establishment of “Baridhi Garments Ltd.”

2017 – Starting of “Croydon Kowloon Designs Ltd”

2018 – Merger of “Bitopi Advertising Limited” with global advertising agency “Foote Cone and Belding (FCB)”

Group’s general information-

- Skilled manpower: 14,000 people
- Production capacity per month: 2,600,000 pieces
- Two LEED certified production facilities
- Product range: Skirt, Chino, Swimsuit, Trouser, Short, Outerwear, Jacket & Shirt
- Buyer: H&M, Kmart, Decathlon, Zara, Promod, VF, Inditex, Primark, Walmart, etc

Mission

Bitopi believes in bringing world class standards to its work environment, in every business that is engaged in and is dedicated to put Bangladesh on the world map as a destination of excellence and quality.

Vision

The vision is derived from its name “Bitopi”. Bitopi is a Bengali word, which means a large tree. Our vision is to nurture and grow every business that we are engaged in, in an organic sustainable manner, and to give back to society by not only creating better opportunities for people who are engaged with us but to improve the standard of operations and create centres of excellence.

Management

Its management is decentralized. All of its activities are controlled from its corporate office situated in Shewrapara, Mirpur, Dhaka. There are some foreign consultants who work

for production, marketing, industrial engineering, R&D, etc to maintain it operational excellence and superior customer service. Main motto of the management is to ensure “Customers are delighted”. Board-

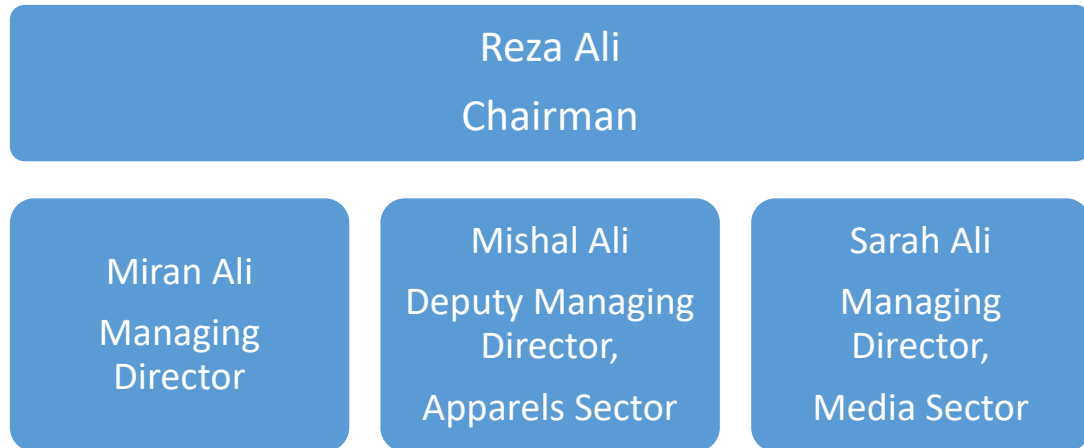


Figure 6: Bitopi Board

3.2 Significant achievement and award of the group

- Top advertising agency in Bangladesh
- H&M gold supplier in 2017
- Occupational health and safety good practice award 2017 from ministry and labour and employment, Bangladesh
- Number one green factory in the world in 2018
- LEED Platinum certified factories in 2018
- HSBC Export Excellence Awards 2017
- Implementation of Lean manufacturing system
- Specialization in denim and non-denim bottoms production
- In-house dry processing and wet processing facility
- Specialization in seam-sealing outdoor jacket, padded, quilted, synthetic fabrics and non-wash product

- World class design studio, development and production under the same roof

3.3 Corporate social responsibility

- 30% water consumption reduction
- 50% carbon footprint reduction
- 40% power consumption reduction
- 40% waste reduction
- 100% waste recycling
- 0% harmful liquid discharge
- Plantation inside factory
- Solar power
- Incineration boiler
- Biogas plant
- Use of prismatic skylights
- Use of HVLS and energy efficient fan instead of conventional fan
- Effluent treatment plant
- Condensate Recovery System
- Thermal oil heater
- Water recycling
- Child care facility
- Well equipped medical center
- Free medicine
- Job facility for disable people
- Yearly sports and cultural program

Chapter 4

Bitopi SCM and Software

4.1 SCM at a glance

SCM of the company is centralized. All of its SCM activities are operated from its corporate office. Users of concern departments from different factories raise requisitions based on their requirement. Different factories are considered as cost center and all expenditures are charged based on specific cost center. SCM is not independent department here. It is divided in three sub groups. They are Opex, Capex and Raw materials team. Raw materials team works under marketing (merchandising) team while Opex team works under A&F team and Capex team works under HR-Administration team. Opex and raw materials team can take their own purchasing decision after consulting with their reporting supervisor but Capex team must take approval for each and every purchase from purchase committee due to large amount of money involvement. Purchase committee is consist of Executive director, Head of HR and Admin, Head of A&F, Opex team head, Audit manager, Capex team manager. For Capex approval, it requires at least signature of Executive director, Head of HR and Admin and Head of A&F. Notable that head of HR and Admin is also the head of Capex team while head of Opex team is DGM of A&F.

4.2 Procurement cycle of Bitopi

Bitopi's procure cycle starts with budget initiation which is the prerequisite of PR issuance. In case of Capex purchase, budget is replace with yearly Capex approval in board meeting and raw materials purchase is associated with its costing approval for each order and style. Most of the procurement activities are done with the help of its own software named BIS & BIMOB.

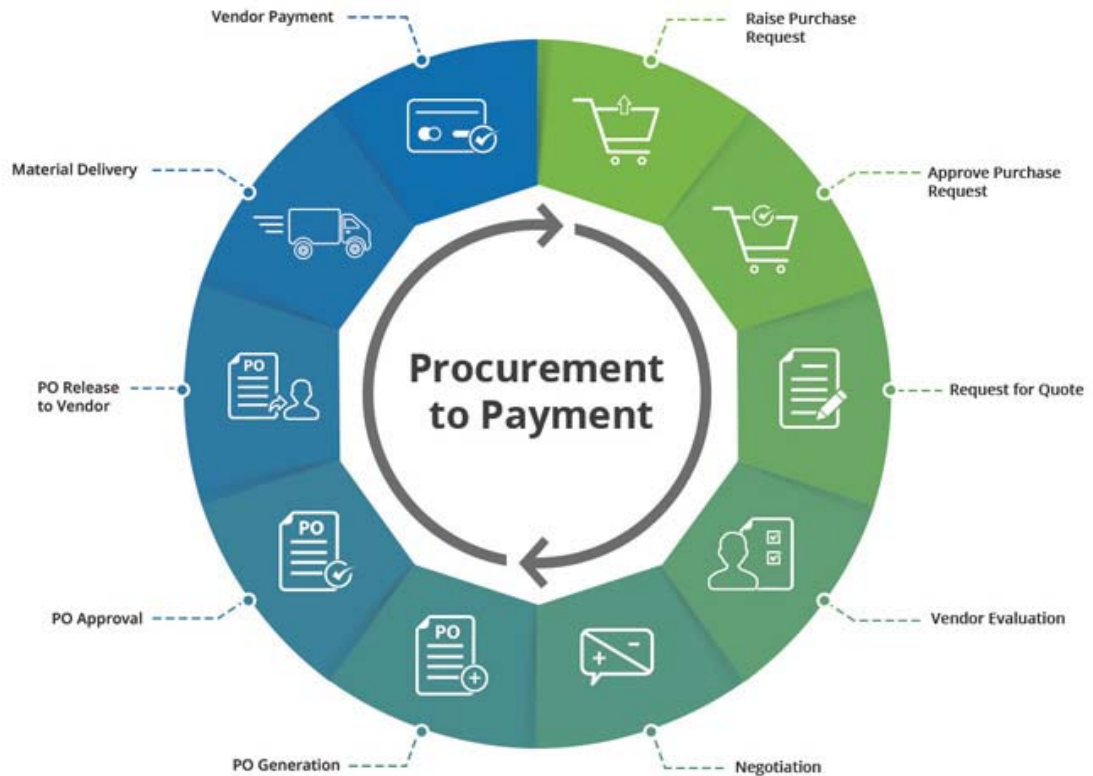


Figure 7: Bitopi procurement cycle

- Raising and approval of purchase request: Concern person from different functions raise their PR based on business needs and approval authority provide consent after making necessary analysis. PR are classified based on capex, and opex. Production materials are purchased based on approved BOQ and costing.
- Request for quotation: Capex team prepares and shares RFQ with shortlisted vendors to collect quotations case to case. Opex team and raw-materials purchaser usually don't collect quotation case to case. They do it for a fixed term like 3 months, 6 months etc.
- Vendor evaluation: Suppliers are evaluated based on quality, price and lead time mainly. In case of raw-materials and operational expenditure, supplier

evaluation is made by team head but it done by purchase committee based on comparative statement for capital expenditure.

- Negotiation: Negotiation does not merely focus on price negotiation. Suppliers are considers are business partners. Hence, negotiations with suppliers are done to make a win-win deal to grow and move together.
- PO generation, approval and releasing to vendor: While suppliers are selected based on comparative statement and negotiation, PO(s) are issued based on PR, BOQ and Capex form. Mentionable that production PO is issued for raw-materials while non-production PO is issued for Opex, Chemical (washing, water treatment and ETP) and Capex item. After approval of PO it is shared with respective supplier for delivery arrangement.
- Material delivery: According to PO or work order, supplier provides goods and services. PR issuer, receive goods and services and generate GRN for PO and job completion certificate for work order. Finally, these documents along with delivery challan, and invoice are sent to SCM for payment processing.
- Vendor payment: SCM release and submit supplier bill after 3-way matching. A&F and commercial department release payment after verifying by internal audit team. Payments are done usually by LC, TT, Pay order, cash, BFTN and account payee cheque. Sometimes suppliers are paid partial and full advance to ensure best value for money. In case of full advance, SCM needs to submit above mentioned documents for adjustment.

4.3 Bitopi software

Company has its own software development and supporting team in the name of MIS.

As a part of continuous development, MIS team has developed-

- I. BIS: BIS means Bitopi information system. This is the core part of Bitopi software. It encompasses all activities from production to shipment including human resource management, administration, compliance, merchandising, information technology, SCM, A&F, commercial, inventory management, internal auditing, research and development, etc. It integrates all of its strategic business units through its central database with user based access privilege to ensure data security and privacy.
- II. BIMOB: This is the browser supported limited version of Bitopi software to expedite and support BIS activities such as PO and work order approval, cash requisition, order wise GRN status of raw-materials, material import / export reconcile, supplier turnover, list of machineries, etc.
- III. Bitopi Mobile: This is the android version of limited edition of Bitopi software to support only approval issues such as PO, work order, cash requisition, leave, etc.

BIS plays main role of the information system while BIMOB and Bitopi Mobile accelerate the process of BIS.

Chapter 5

Conclusion and Recommendation

5.1 Conclusion

ERP plays an important role in integration of business processes to ensure central control and decision marking of each strategic business units. To get optimal benefit from

integration through ERP, organization needs careful analysis of its business needs and activities before ERP development and implementation. Moreover, activities of human resources behind the ERP development, implementation and maintenance must be efficient and effective. Organization should consider cost of IT infrastructure development needed to implement ERP. Total cost of ownership (TCO) approach should be used to determine and analyze cost.

ERP is a platform for business organization to record its economic activities. Organizational human resources related to ERP activities must have sufficient skills to operate it. It is better to make them familiar with ERP through training after gap analysis. ERP should have a user manual with latest development. ERP should have maximum data validation with minimum data input facility by using RDBMS (relational database management system). Organization can reduce total cost of ERP by developing ERP by its own team. It reduces implementation, maintenance and customization cost significantly.

ERP is blessing for business organization though it is costly. It can become nightmare due to improper analysis of ERP development, implementation and maintenance.

5.2 Recommendation

Don't fall in most common myth of ERP and procurement. If organization can analyze and address its economic activities properly alongside total cost of ERP, it will bring only success.

- ERP should ensure end to end integration.
- Organization should arrange training and development program for ERP user.
- Don't customize too much. Think twice before customization.
- Develop own ERP development and maintenance team.

- Develop or select ERP based on nature of organizational activities. One ERP does not suit all types of organization.
- Keep ERP always up-to-date to avoid obsolescence.
- Endure data security and privacy.
- ERP is not for small organization.

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