

# Capability Model Structure of Enterprise Process Map under Business Process Management in IT Industry

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## ABSTRACT

Enterprise Process Mapping is an activity carried out as a part of Business Process Management in the IT industry. Enterprise Process Maps (EPM) aids to visualize the capabilities of an organization with the different interlinkages and orders of arrangements of the Business Processes. EPM can act as a digital library and be a single source of truth for the different capability of an organization containing individual departments under these capabilities. This research aims to showcase the importance of EPM in the IT industry and create a standardized model of the capabilities in the IT industry. The capability modelling of the IT industry was structured after telephonic interview with IT managers and executives from different IT companies. The research provides a holistic view of the subpart of the capabilities and the factors considered while modelling the same.

## Keywords

Enterprise Process Mapping, Business Process Management, Capability Model, IT Industry, Digital Library

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## 1. Introduction

The IT industry is very competitive as there are many players in the same product/service offering segments and new emerging tools and technologies are innovated quite frequently by different companies. To cope up with it, organizations have built different capabilities which are responsible for performing particular operations. So, there is an untold need for connecting these capabilities and structuring them under Enterprise Process Maps (EPM) for the smooth functioning of the organization.

There are studies conducted in different industries related to Business Process Mapping like the cosmetic product industry, food industry, manufacturing industry but there was a research gap identified which shows the needs of the EPM in the IT industry and modelling of the same.

The EPM can be broadly classified into two levels i.e. the high level and the low-level structure mapping. The high-level structure is the generic representation of the various departments under each capability without going much in details. However, the low-level mapping structure shows the sub-processes inside them. The main aim of this study is to model the key capabilities of the IT industry and place department under it. This will help to map the AS-IS state of each department and analyze it for process improvements to keep

up with the industry standards by automating the repetitive processes reducing the human error, manual work, saving time and cost thereby streamlining operational efficiencies. The study also focused on using standard guidelines and attributes to have a standardized model of representing the capabilities.

The result of this study is expected to a holistic view of all the business capabilities and departments in an IT industry and various process mapping methodologies used by companies to create a central repository of the business functions containing documents, artefacts and policies.

The scope of the research was limited to the IT industry with a focusing boundary of IT product and service-based companies. The paper starts by understanding the importance of process mapping of an organization, the various frameworks and techniques used and then generic conclusions are drawn for the model.

## 2. Literature Review

Every organization has a specific vision, mission and laid out strategies for its companies success. Specific strategies should be mapped to individual capability of the organization to be able to adapt to business's internal and external needs and coherently run its operation. The identified Key

Performing Indicators(KPI) , EPM and the capability strategies leads to a more efficient business processes. In (Shamsaei, 2010) , the author has proposed methods using the KPIs to measure where the business process is complaint to the level measure by stated guidelines and policies or not.

The seven key knowledge areas (Brennan, 2009) focusing on changing business demands and delivering added values for the stakeholders has been identified by “The Business Analysis Body of Knowledge” developed by the International

Institute of Business Analysis (IIBA) . These knowledge areas comprises of processes, set of tasks, skills required and activities to efficiently execute its respective operation in order to achieve its goal.

The knowledge areas in Table 1 facilitates transition from the AS-IS state of an organization to the desired TO-BE state which ultimately helps in analyzing the current state and improving it to meet the competitors in the market.

Table 1: Seven Knowledge Areas defined by IIBA

Knowledge Areas	Objective
1. Business Planning, Analysis & Monitoring	Plan Goal, Structure functional areas
2. Ownership	Identify stakeholders and their needs
3. Managements of Requirements & Communication	Effective communication with all stakeholders about business requirements and propose solutions
4. Capability Structure Analysis	To identify business need and define scope
5. Requirement Analysis	To define, prioritize and analyze key requirements
6. Define Competencies	Ensure performance by appropriate analysis of skills and knowledge
7. Assessment & Solution Validation	Suggest necessary corrective measure after identifying shortcomings in business solution

In order to manage the organization better it is necessary to have a structured view of the complete business capabilities and the various departments aligning with respect to their function. The approach has helped organizations design and document their business processes and also monitor them and control specific operations in case of any bottleneck identified as defined by The Approach of Business Process Management Professionals(ABPMP). This helps in remaining consistent and achieving their target result after implementing all the strategies (ABPMP, 2009)

The American Productivity and Quality Center(APQC) provided valuable insights by proposing the Process Classification Framework

(PCF), a cross industry business processes model giving an exhaustive structure of the capabilities. The process framework has been upgraded a number of times to improve the quality of the initially proposed framework by industry leaders, academician & practitioners (Kaplan RB, 1991) from fourteen different industries namely IT, banking, Healthcare, Retail, Telecommunication, etc. (An evaluation of conceptual business process modelling languages, 2006)  
The enterprise processes could be further sub-divided into thirteen enterprise-level categories: the strategic planning group, the operating group and the supporting internal functions as stated in (APCQ – PCF) as shown in Table 2.

Table 2: Process Classification Framework by APQC

Name of Processes
<ol style="list-style-type: none"> <li>1. Develop Vision and Strategy</li> <li>2. Develop and Manage Products and Services</li> <li>3. Market and Sell Products and Services</li> <li>4. Deliver Physical Products</li> <li>5. Deliver Services</li> <li>6. Manage Customer Service</li> <li>7. Develop and Manage Human Capital</li> <li>8. Manage Information Technology (IT)</li> <li>9. Manage Financial Resources</li> <li>10. Acquire, Construct, and Manage Assets</li> <li>11. Manage Enterprise Risk, Compliance, Remediation, and Resiliency</li> <li>12. Manage External Relationships</li> </ol>

The Table 2 highlights the difference processes involved in the functioning of an organization and the supported functions to manage them.

Irrespective of the business process frameworks and models, the enterprise process maps helps in current state design, analysis and mapping activities to streamlining operational efficiencies and keep up with the changing business need.

The companies have developed their own frameworks and approaches keeping the APQC guideline in mind to build their enterprise process maps which have essentially become a part of business process management. This was done to achieve competitive excellence with process oriented view which is designed specifically for different stages and at different levels of the organizational development (Bucher T, 2010).

Therefore, regardless of the business process frameworks and models, the business process management maps help supports the process analysis, design and modelling activities, being a basis on which to build the enterprise value chain.

### 3. Research Methodologies

The visibility & transparency of an IT organization is obtained if the end to end business model of the organization is laid out in a structured manner. This can have generic capability model structure which can be used to do strategic planning for an organization. The departments then can be structured inside them and can have key details in them. These can be used for tactical and various operational planning as the current state is made ready to be analyzed and we can identify gaps in the individual departments.

In order to structure the model, either Top-down approach i.e. structure the maps after having conference with the senior management or the leadership team and then create the business capability framework, or the Bottom- Up approach from the individual project team level and moving up to the business processes. Here, the Top-down approach has been used to create the framework for the IT organization.

Table 3: Top-Down Approach for structure business model was used

Six Major Steps
<p>Step I: Conduct meeting with the Senior Leadership of the Organization</p> <p>Step II : Prepare a Questionnaire about the business model and goal of the company</p> <p>Step III : Classify the Business Process into 3 major segments: Offerings, Execution, Support</p> <p>Step IV : Define Ownership of each segments, capability and departments</p> <p>Step V : Develop a the model as per the inputs and conduct a review session</p> <p>Step V : Align Individual Projects with the sub-processes</p>

According to APQC, the structure could be classified into five levels of the Enterprise Process Map namely:

Level 1 – Capability  
 Level 2 – Departments  
 Level 3 – Process  
 Level 4 – Activity  
 Level 5 – Task

Defining the Five Levels:

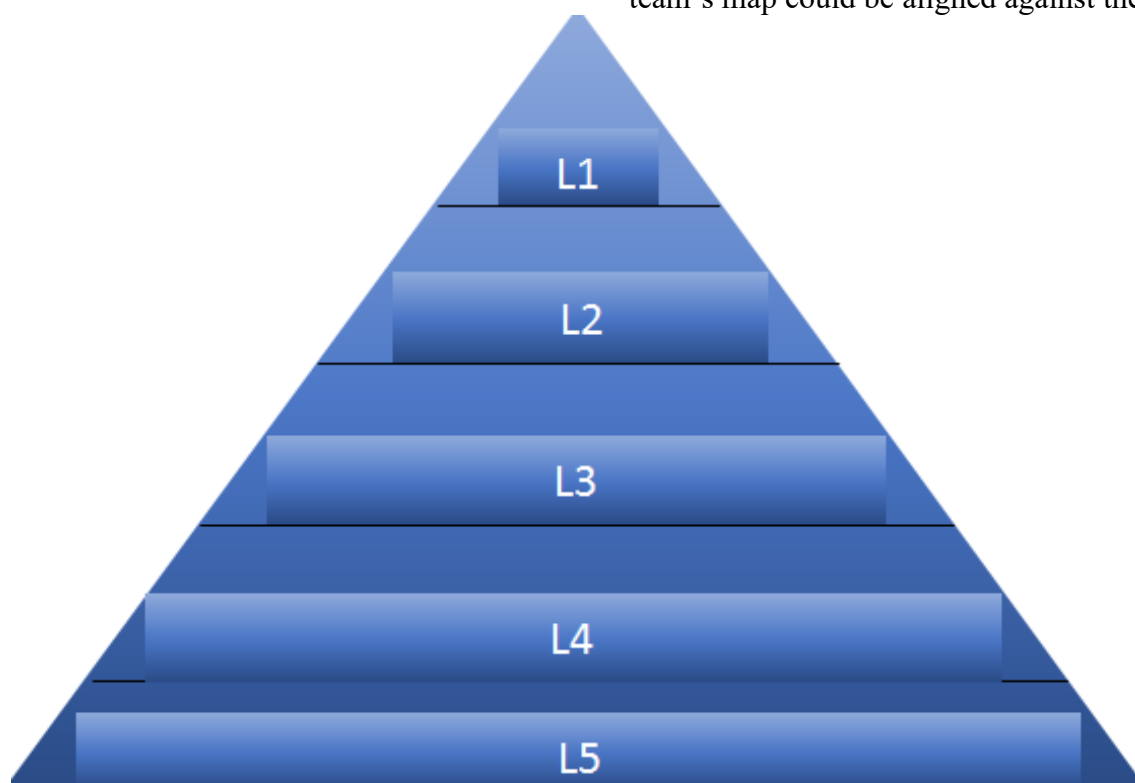
Capability (L1) – This could be defined as the main framework under which different departments are structured.

Departments (L2) – This are the various operation being carried out inside the capabilities

Processes (L3) – There processes of each departments are mapped in a process flow structure in the order of the operations being performed

Activity (L4) – This are the activities performed in the processes and includes details like cycle time, participants, flow of each sub-processes

Task (L5) – This are the individual tasks being carries out at the execution level and project team's map could be aligned against them



**Fig 1: Five Level of EPM**

In figure 2, the model is depicted for the entire mapping of an enterprise responsible for modelling the IT business processes. The model proposed by leadership team which aims at creating a value chain framework for all the departments like Planning, Executions and Support Involved. This pictorial view gives visibility of the entire organization and the current state could be mapped.

The proposed model, Enterprise Process Management map, creates a conceptual and graphical representation of the capabilities and departments that needs to be completed to deliver IT products and services to the market. This proposed framework is generic and can be redesigned and reengineered according to the goals of the organization.

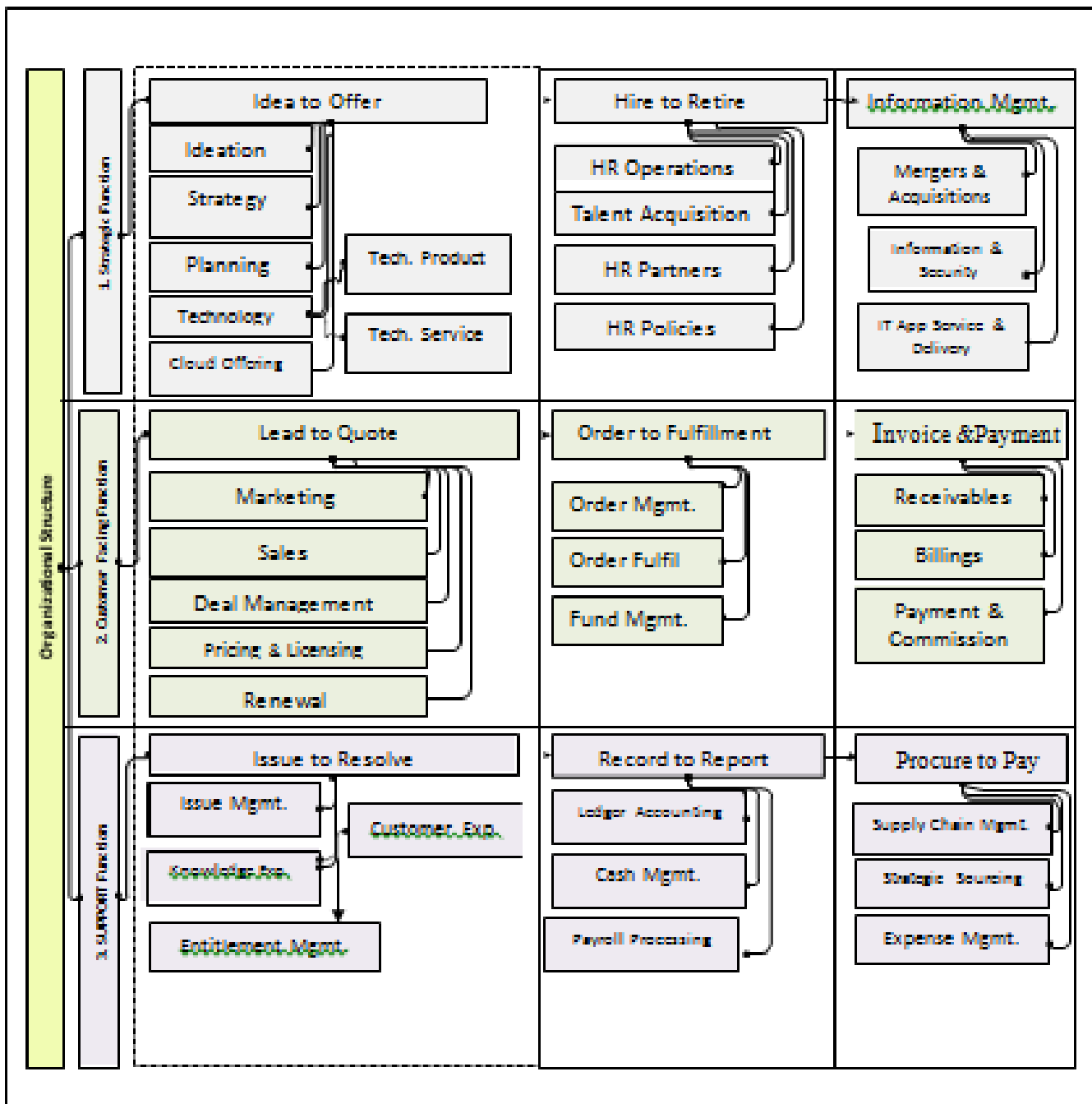


Fig 2: Enterprise Process Map of IT Industry

#### 4. Result

To remain highly competitive with the other IT industries a good understanding of the flow of operations and different departments is a necessity. The core business value chain of the IT industry could be classified in 3 major functions namely: I) Strategic II) Customer Facing functions III) Support Team.

I) The Strategic function could be segregated in 3 major capabilities namely

Idea to Offer

Hire to Retire

Information Management

i. Idea to Offer – This could have five major departments namely

Ideation - Responsible for generating creative ideas to enhance current business operations

Strategy – Strategies could be aligned to the goal of the business to improve the bottom-line of the company

Planning – Planning is an important part of any organization and it could have 3 processes i.e. Strategic Planning, Tactical Planning & Operational Planning

Technology Offerings - It could have physical product offering or Services based technology as an offering

Cloud Offering – It could have cloud service as an offering of the company

ii. Hire to Retire – This could have four major departments namely

HR Operations – This overlooks all the HR Operations in an organization like Resource Management, Resource Allocation, Employee Relations etc.

Talent Acquisition – It mainly focuses on acquiring new employee with required skillsets by the business

HR Partners – The HR operation could be outsourced to a third party for smooth management of HR related activities

HR Policies - These are the HR Policies created for the employee to follow a standardized set of instructions like leaves, contingencies, emergencies etc.

iii. Information Management – This could have three major departments namely

Mergers and Acquisitions – Looked over the various acquisition by companies or if the coming is partnering or merging with another organization  
Information & Security – Controls and looks over the information, central databases of the company and also prevent any cyber – security & hacking related threats

IT App Service & Delivery – Looks over the IT Applications of the organization, its proper delivery, monitoring and service

I) The Customer facing function could be segregated in 3 major capabilities namely

Lead to Quote

Order to Fulfil

Invoice & Payment

i. Lead to Quote – This could have five major departments namely

Marketing - Responsible for generating awareness about the product, strategically targeting desired market, lead generation from the market

Sales – The team is mainly responsible in selling the offering made by the company and generate revenue

Deal Management – The create the deal score of the lead to understand whether the lead generated are relevant and which ones could be filtered out

Pricing & Licensing - Mainly focuses on the Pricing of products and offerings and the license to be provided to the buyer/subscriber

Renewal – They are responsible for intimation to the Sales team for renewal of their offerings to their clients/customers before or after the expiry/valid date

ii. Order to Fulfil – This could have three major departments namely

Order Management – Responsible for lifecycle management for an order starting from order entry till after sales service

Order Fulfilment – It mainly focus to deliver the client's order on time and reduces the chance of delay, strictly following the Service Level Agreement

Fund Management – Responsible for managing the funds and assets i.e. the tangible and intangible asset

iii. Invoicing & Payment– This could have three major departments namely

Receivable – The team takes care of the payments and monetary assets received from the clients and the vendors

Billing – It mainly focuses generating proper invoicing for the client without any error and on time

Payment & Commission – Deals with payments and payments related issues and also commission(if any) to a third party or suppliers

III) The Support function could be segregated in 3 major capabilities namely

Issue to Resolve

Record to Report

Procure to Pay

i. Issue to Resolve – This could have three major departments namely

Issue Management – Many deals with the IT related issue

Knowledge Experience – It is the customer service of an organization which helps resolve the client's or a particular customer technical or generic issues with the product/service

Entitlement Management – This team mainly deals with giving rights, permissions and access to an employee of the organization or with the credentials or managing login related issues to the client/customer

ii. Record to Report – This could have three major departments namely

Ledger Accounting – It's responsibility is to record the monetary transactions of accounts, debited from or credited to the organization. Also, keeps a track of the beginning and the ending



monetary balance of every account in the organization

Cash Management – Mainly deals with collection of cash, handling the physical cash paid to the company and proper usage and depositing the cash

Payroll Processing – This team deals with the release of payments to the employees, staffs, board of directors and resolve any issues or queries related to payroll

iii. Procure to Pay – This could have three major departments namely

Supply Chain Management – They look at the complete supply chain from sourcing the goods/raw materials/product/services to payment, deals with the vendors, logistics and distribution related management

Strategic Sourcing – They are responsible for supplier selection to source the product/offering by their vendors at the lowest price according to the standard required

Expense Management – All the expense related to the vendors and the payments to the vendors are managed by the Expense Management team.

## 5. Conclusion

The contribution of this paper to the inquisitive IT company work-aspirants to give a big picture of the major capabilities in the IT companies, to provide a understanding of the generic business model and the various functions and departments that work synchronously to bring new innovations and technology to the world. The paper highlights how creating a business map helps the employees, managers and the leaders align to the bigger picture and help understand the common goal of the organization.

By creating this Enterprise process map and defining a model for the IT industry creates an added value to all the stakeholders who tries to have a holistic view of the business goal and the scope/boundaries of the organization. This generic framework of the IT industry help the young entrepreneur minds to kick start with the IT business model by the use of the enterprise map and the interlinkages between the departments. The overview is to have an original model covering all the aspects of the business which could be scaled up or scaled down according to the ever-changing customer demand mapping the current state and be future ready for any change.

## 6. Scope of Further Research

The study involves the generic capabilities and the department structure of the IT industry and understand their business model. The further levels inside the departments could be studied and create a detailed process map showing the various processes, sub-processes, activities and task within them.

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