CHAPTER II
THEOROTICAL FOUNDATION

2.1.**GENERAL CONCEPTS:**

2.1.1. BUSINESS PROCESS

Business Process is the series of actions in order to achieve a particular goal with proper motive. An Input will give and output after a process. By Jeston and Nelis (2014) definition, business process is the combination of activities that are arranged to specifically achieve a goal for a company.

2.1.2. SYSTEM

According to Arnold and Wade (2015) system is groups of interrelated, interdependent or interacting elements form a collective entity that are organized to fulfill a purpose.

A system has three components:

i.   Input that capture and assemble various elements of data into the system for processing.
ii. Processing data that are captured from input and transform it into an output.
iii. Output that involves the transfer of the result of the processing into the final storage.

2.1.3. FLOWCHART

Flowchart is a graphical representation that depicts decisions and the results shown in a diagram. Flowchart provide step by step diagram mapping on processes to show data.

2.1.4. OBSERVATION

Observation is the act of observing something or someone to gain data to have information on the target. According to Suen and Ary (2014) in order to do observation, one must know what to observe, whom to observe and when to observe. All three questions correspondent to different samplings. What to observe directly related to behavior sampling. Whom to observer correlated

with subject sampling. When to observe related to the time sampling of the target.

2.2. THEORITICAL FRAMEWORK

2.2.1. BUSINESS PROCESS MANAGEMENT

Jeston and Nelis (2014) defines Business Process Management (BPM) as the discipline on utilizing business processes as tools to achieve organization's objectives through constant improvement, performance management and governance on the essential business processes.

According to Van der Aalst, Rosa and Santoro (2016) these are BPM areas where progress has been made effectively:

i. Automatic execution of business process models through BPM systems.
ii. Evaluation of processes for adapting and reacting to unexpected exceptions on the fly.
iii. Process models from raw data produced by information systems in an organization.

Phases of BPM:

i. Organization Foundation

The organization foundation is how the organization itself is build. Organizational structures and hierarchy are mapped out in a diagram to see how the position in the company is shown. Finding the drivers of the company to see the foundation pillar of the organization. Setting up a proper foundation for the organization members to understand the strategy, vision, strategic goals of the company

Defining the mission and vision of the company to know the strategical stand of the company. Putting the mission and vision in the company's profile to ensuring that both mission and vision are being fulfilled throughout the business.

SWOT analysis on the organization to see where the organization currently stands on. Strength and weakness will cover the internal aspect of the company while opportunity and threat represents the external aspect.

Competition and environmental impacts that the company facing are considered to be an external aspect that needs to be kept in check. To measure the both internal and external factors, a balanced score card is used to see the standing of the factors and mapping the factors to see where the factors are currently standing. Which of the factors defined are Strength, Weakness, Opportunities or Threat.

ii. Process foundation

Ensuring the process of the company are aligned with the strategy and objectives using constant monitoring. Making use the IT architecture and applications effectively to have a more efficient business process. A process guidelines and process models are defined for the organization members to see how a process are done.

The process guidelines consist

i. Products and Services
ii. Customers
iii. Pricing and Discounting
iv. Partners

In order to obtain the information necessary, see the current organization structures, define and mapping it into a graphical model for a clear and consistent guideline. The financial plans, marketing plans and budgets are key data to fulfill the information of the guidelines regarding the pricing of the organization. Dividing the core and supporting processes with each division to organize and integrate with each other.

List an end to end process to validate the process to the divisions to see the data models, platform and the network are correctly aligned with the business process.

iii. Technology Foundation

IT architecture are a part of the technology foundation. Creating the architectural view and blue print of the enterprise architecture that are going to implemented. Aligning the business process with the enterprise architecture and creating an architectural view. Identifying a key person is necessary to have an IT development in a company. The key person will be leading the middleware solution of the company. A middleware solution is the most important part of a system as it integrates the business process and automates business process. The system will receive information from the company and run the business process automatically using the enterprise architecture.

Adopting a standard accordingly to the business process and selecting the best vendor that are aligned with the business process. Data conversion, technical capabilities and finding bottlenecks that might exist are also mapped out in the blueprint.

Improving existing legacy applications that can be externalized in order to be integrated with the process management system. If the legacy system are not applicable to be integrated, the life span of the system should be reconsidered. Integration should be conducted in a standardized manner with an agile model of implementation in order to have an easier implementation when it is reiterated.

Defining the data that are gathered to be inputted to the system as one data model. The data need to be converted to the appropriate format in order the system to perceive it and process it into an information. Mapping of the data sources with proper documentation with modeling.

iv. BPM foundation

Defining the stakeholders that are involved with the project of implementing the business process management system. The engagement and the commitment of the stakeholders regarding the project itself. The project scope, team members, expectations and the goals to be defined before the project started. Communication channel between the stakeholders and the project team are outlined as the project scope may change throughout the

project phase. It provides the necessary steps to establish the project success which includes:

i.   Project Scope
ii. Project Team selection
iii. Stakeholder expectations
iv. Establishment of initial process goals

A good communication among the team must be done throughout the phase. The entire project and project scope will be refined with each improvement. Make the person in charge held accountable for the task and responsible for the communications.

Determining the improvement needed in the business process and or the organization. What needs to be change inside the business process are defined in this phase. Small improvement in the business process or redesigning existing process to make better and efficient process.

The goal need to follow the SMART goal setting.

a) Specific
b) Measureable
c) Achievable
d) Realistic
e) Timely

Using a business case to provide the necessary information allowing decision making. During the project, business case will ensure that the project is aligned with the business. Evaluation of the project can be done using the business case provided by the company. It uses scenarios to have evaluations and presents the benefits and risk that the project might possess if implemented into the business process. Drafting of the project plan with, initial communication plan, risk analysis and the scope document of the project are defined in a project management form.

v.   Improvement

Making the processes within the scope of the project as efficient as possible to meet the expectations of the company. Constant communication with the company are needed in the improvement phase. What the company wants needed to be aligned with the project scope and not out of the boundary that are set in the initial project plan.

Improvement phase will address the timeframes, process goals, automation and the outcome. Outline what the scope are with the processes and realigned processes or redesign the processes that are out of the scope. Performance indicators stated to see the process that are performing well and must be retained while implemented. A cost and benefit analysis on what could be improved. Realigning the business case with the improved process.

vi. People and technology development

People are the members of the company that will drive the success of a process. In order a process to function effectively and efficiently a good people in the project is needed whether it is automated. While technology is the assisting support of the process that can enable a process into more efficient and effective. Without good technology system, the people that doing the process will not function effectively as well since a good performance will not work without a good system.

Proper team training, role redesign and strategize with the human resource to have good company employees. Redesign role and goals of the company employee with the new processes that are aligned with the activities of the worker. Plan out the tasks that enable the company to transform from the current process to the new one. Detailing the business requirements and aligning the new process with the employees.

New software and application that are bought out for the project with the specifications and designs sorted out in a document. Configure the software aligned with the development and scope of the project. Planning the implementation and testing the software with test cases and scripts whether it is running accordingly to the test and running according to the scopes.

vii. Elaboration

Understand and elaborate the current process to be mapped out for the user to translate into work activities.

viii. Deployment

Maintaining a good communication with the users to ensure a proper feedback and suggestions from the user on what is already implemented. Deploying the project system with either Big Bang, Parallel, Relay and or Combination of the strategies. Test the competencies of the user to see whether the deployed system can be utilizing by the people efficiently and effectively. Train the users according to the training developed in the people and technology phase. Make on the job training or formal courses for mentoring and coaching during the deployment of the system.

ix. Monitor and Benefit Realization

Monitoring and seeing whether the system is beneficial for the company or not. Making a benefit summary plan with a milestone to see if the project is beneficial for the company or not. Benchmarking from the previous process to the new process implemented across the business organizations and or with competitors. Factors that can be used for benchmarking are the time, costs, profitability, and customer satisfactions. Making a rubric of success to be use as a baseline and ensuring the business case are aligned with the baseline of the project.

x. Continues Improvement

Importance of constant monitoring and mapping the customer, stakeholders and employee satisfactions. Managing, controlling and reporting the process within the organization to ensuring the process are under control and properly administered

2.2.2. BUSINESS PROCESS REENGINEERING

According to Tønnessen (2014) Business process reengineering is the fundamental of rethinking and radical redesign of business process to achieve improvement in measures of performance such as cost, quality, service and speed. In business process reengineering, the organization must ask the

question on how the company operate its business. The fundamental basic of operation should be considered in engineering.

Redesign the processes should be radically done by throwing away the old processes and redesign to the roots of the processes. Disregarding the existing structures and procedure, and redesign the business process with completely new structure and reinvent the business processes.

2.2.3.   COMPETITIVE FORCE

According to Porter (2011) competitive force is model use to analyze the competitive environment in which a company and industry works.
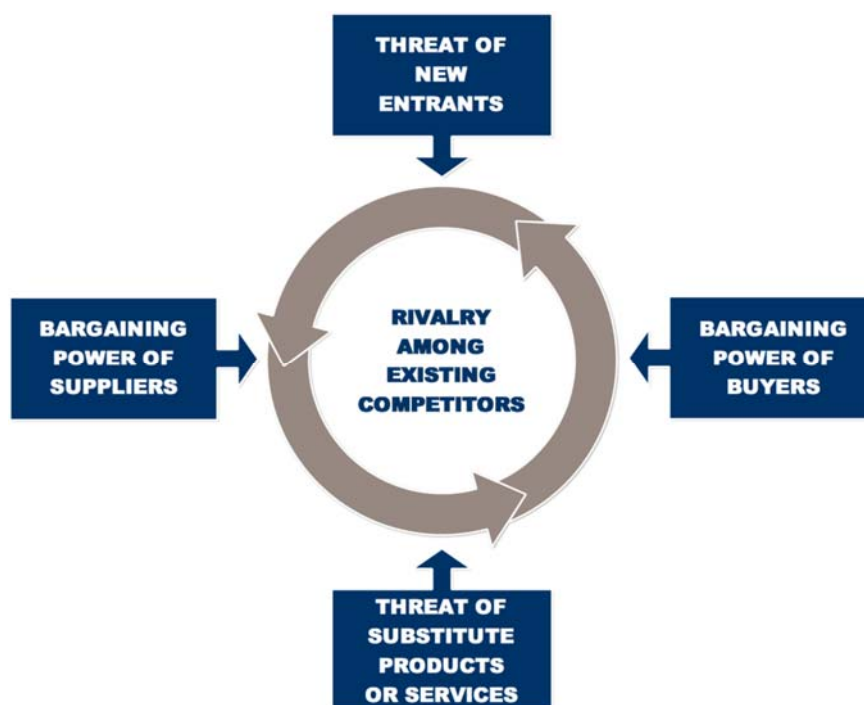
Figure 1 Porter's Competitive Force (Porter, 2011)

i.   Threat of new entrants are the competitors that can enter from any industry

ii.   Supplier power is how high the power of the suppliers is in the industry. It is how an action done by the suppliers can affect the costs, supplies and development of the products.

iii.   Buyer power is how many buyers are there in the market. If there are many buyers, sellers could manipulate the market by not supplying to specific target as other buyers will come in.

iv. Can other product or service substitute the product that the company are selling.

v. All four forces can be combined resulting the competitive rivalry.

2.2.4. VALUE CHAIN

According Pathak and Pathak (2010) value chain is the analysis of processes to create a competitive advantage. The framework is to capture the chain of activities being performed in an organization and how to identify the relation of these activities. According to Porter (2011) there are five primary activities in a value chain and four supporting activities.

Primary activities:

1. Inbound logistics: These are the process relate to what things are going inside the company. Receiving, storing and distributing internally. Supplier relationship is a key factor in creating value.
2. Operations: These are the transformation activities that transform an input to an output that are sold to the customers.
3. Outbound logistics: These activities delivers the product and services to the customer. These things are the storage of the finished product and distribution of the product to the customers.
4. Marketing and sales: These are the processes to persuade customers to purchase from the company instead of the competitors. It is how you offer the benefits of using the company's product and how to communicate it to the customer.
5. Service: These are the activities that maintain the value of your product service to the customer once it is sold.

Support activities:

1. Procurement: It is what the organization does to get its resource in order for operating its business.
2. Human resource management: This is how the company recruit, hires, trains, motivate and retain its workers. People are resources that are high value so a good HR can create a competitive edge.

3. Technological development: These activities relate to processing the information and managing the information as to staying with the current technological advances

4. Infrastructure: These are the company supports systems that allow the company to maintain its daily operations. Things to be maintain such as accounting, legality, and general management of the company.

Figure 2 Porter's Value Chain (2011)

2.2.5. SWOT ANALYSIS

According to Newton and Newton (2013) SWOT analysis is utilized for organization to see their Strength, Weakness, Opportunity and Threat of the organization. SWOT analysis are used to identify factors systematically to formulate business strategies.

i. Strength is the asset power of the organization internally.

ii. Weakness is the processes that are not working optimally and resources that are not available for the company.

iii. Opportunity is external factors that are positive for the organization. It gives external features that can be utilized for chance of expanding the business.

iv. Threat is the external factors which have negative impact for the organization. These factors may halt the development and the running of the business.

2.2.6. RACI MODEL

According to Cabanillas, Resinas and Ruiz (2011) RACI matrices are used to evaluate the individuals and groups of resources that are doing business activities. The functions, are the roles in RACI are indicated for each activity performed in an organization:

i. Responsible (R): it is the person who must perform the task and responsible for the activity until it is finished, approved and accountable.

ii. Accountable (A): it is the person who approved the work performed by the person who are responsible for the activity and the one becomes responsible after the approval. There must be only one person accountable.

iii. Consulted (C): it is the people whose opinions are sought out while carrying the work and it is done with two-way communication

iv. Informed (I): It is the person who kept up-to-date about the progress of activity, progress, and result of the work.

	Website Manager	Web Developer	Content Administrator		Web Administrator	Sales Manager
Project Planning	A	R	C		C	C
Website Construction	A	R	C		C	I
Content Review	I	C	A	R	I	I
Usability Testing	I	A	C		R	
Installation of Tracking Software	I	A			R	
Ongoing Review of Visitors		A			R	I
Sales Follow-up to Frequent Users					I	A R

Figure 3RACI matrix (McDonough, 2017)

2.2.7. PROCESS SELECTION MATRIX

Process selection matrix are a diagram which use certain criteria to choose the processes that are needed for a company. It is a strategic decision of selecting production process to have in a manufacturing plants. It's how the materials are being organize, flow and the customization of the volume of the materials.

Organizational Change—Process Selection

Date: xx/xx/xx Process Selection	Customer Impact	Implementation Feasibility	Employee Motivation	Organization's Competitiveness	Return on Investment	Total	Rank
Just-in-time (JIT) manufacturing	H	L	M	M	H	17	4.5
Integrated product development	H	H	H	H	M	23	①
Self-managed work teams	M	H	H	M	M	19	2.5
Hoshin planning system	L	M	L	L	L	7	6
ISO-9000 quality system	H	M	M	H	M	19	2.5
Business process reengineering	M	L	H	H	M	17	4.5

Notes: High = 5, medium = 3, low = 1
Ranking: Highest total is best choice, rank ①

Figure 4 Process Selection Matrix