Business Process Design Of An Efficient And Effective (Literature Review)

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Abstract: The objective of this articleis to design business processesan organization efficiently and effectively. Based on our literature review, the design of business processes that is best suitable for an organization belongs to Harrington (1992), namely the concept of Business Process Improvement (BPI), which is a systematic framework that helps organizations in making significant progress in the implementation of business processes. BPI provides a system that will simplify or streamline business processes, to provide an assurance that the internal and external customers of the organization will get a better output. One advantage of BPI concept suggested by Harrington is the continuous improvement, whereas the other authorsor experts of BPI have not recognize the idea of continuous improvement. With thisidea, the products / services offered by organization becomes more innovative.

Keywords: business processes, business process improvement, streamlining, efficient, and effective.

1. INTRODUCTION

The development of information technology today has changed the way companies do their business processes that were manually into a computerized system(computerize). As a result, companies must make an investment on a large scale to provide information technology infrastructure in the company. Allcompanies'efforts are done to win globalcompetition. In the field of service /customer service was already spoiled with online-based services (internet) which makes the world is no longer limited by time and space. Companies that are not ready with the development of information technology try to oppose by doing a demonstration or protest to the government. It is as happened in the case of Go-Jek and Uber Taxi in Indonesia in 22 and March 23, 2016 in Jakarta. Taxi drivers held a demonstration to protest the presence of Go-Jek and Uber Taxi (liputan6.com), because the both of online-based transportation services is seemed to detrimental to the conventional transport services which are already exist for customers. Technological developments now requires companies to always follow / adopt the new technology. However, there are still many companies which do not adopt this new technology industry to still exist up now. An example of this is the batik industry, which is still done manually. Although several batik companies are now using the machine or technology, but the batik industry still exist.This condition is because certain customers are still happy with the product of batik. In the culinary field, it is still seemed that the conventional cook are still most favored than ones using technology (such as heating from electricity). However, it does not mean that the advancement of thecompany's technology becomes more successful and developed, it all depends on the output of the company, either in the form of products or services (services).

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Customers now want their products more quality, cheap, and has added value. Therefore, these three concepts become fundamental and a priority for the company to produce a product / service. Harrington (1991) states that .It is not the quality of their cars that is bringing Ford and General Motors to their knees. (Yes, the Japanese-cars have better quality, with 1.19 problems per vehicle compared to 1.63 for American cars, according to J. D. Power & Associates' initial quality survey in 1989. The phenomenon in America apparently also occurred in Indonesia, some companies will go bankrupt in Indonesia,namely Ford Motor Indonesia (FMI) and General Motors Indonesia (GMI), which manufacture Chevrolet cars in 2016 will also shutdown their plant in Indonesia, where the company continues to experience losses because their products can not compete with the same products / cars made by their competitors, such as Japanese ones. Bouraq, Sempati Air and Water Bativia are companies engaged in airline industries also continues to suffer losses due to their debts continues to accumulate that ultimately must be bankrupted (Koran Sindo, February 17, 2016). Competition among industriescan not be avoided, and therefore, the company should be able to provide added value to their product or service. Besides the products, the quality and price also is very noticed by customers. The magnitude of the cost of a product is determined by various factors. And one of them is the business processes factor. Process is any activity or group of activities that takes an input, adds value to it, and provides an output to an internal or external customer. Processes use an organization's resources to provide definitive results (Harrington, 1991: 9). The longer the business processes of an organization is, the greater the cost and time required to produce the output of that business. Harrington (1991) said, there is no product and/or service without a process. Likewise, there is no process without a product or service. Based on the previous phenomenon, it shows that besidesprice and quality of products, services providedare also an importantones that determine the continuity of companies. Quality is defined as a measure of excellence or circumstances that are free from defects or deficiencies (d ictionary.com). Quality means the ability of a product (including service) to meet or exceed customer expectation Stair and Reynolds (2010: 57). Quality is not only concerned with products and

services, information also determine the company's success in the face of competition. The quality of the information used within an organization will affect the quality of the interactions or synergies of all parts of organization (AzharSusanto, 2013: 2). Information received by the company will influence the actions to be undertaken by the company in the face of competitors. One of the information received by the company is the information about the types of products or services required by the customer.

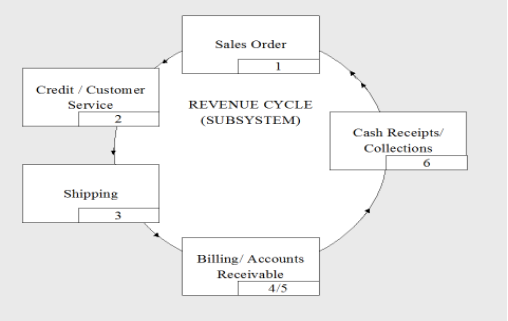
2. THEORETICAL FRAMEWORK (Review of Literature)

2.1. The Business Process

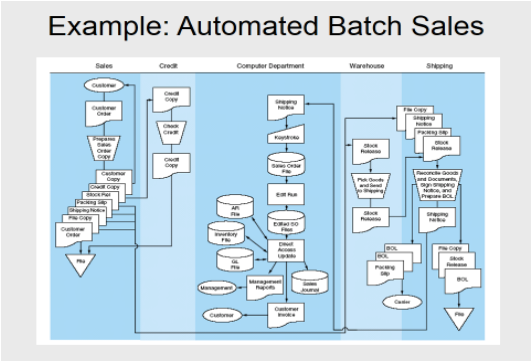
According to Harrington (1991), Business Process are all service processes and processes that support production processes (e.g., order process, engineering change process, process payroll, manufacturing process design). A business process consists of a group of logically related tasks that use the resources of the organization to provide defined results in support of the organization's objectives. In line with this, Loudon and Loudon (2014) argue that Business processesrefer to the set of logically related tasks and behaviors that organizations develop over time to produce specific business results and the unique manner in which these activities are organized and coordinated. Meanwhile, according to Bagranoff at all (2010),Abusiness processis a collection of activities and work flows in an organization that creates value. An AIS collects and reports data related to an organization's business processes. The nature and type of business processes might vary from industry to industry, but most businesses and government agencies have some common core processes. Based on these explanations, it can be concluded that the business process is a set of activities and work streams or logical processes in an organization in order to creates value. The process view is applicable to a variety of organizations. It can represent a manufacturing process that transforms raw materials into finished products as well as services performed by accounts receivable departments, product design teams, computer rental companies, and hospitals. The process view is also a convenient tool for representing cross-functional processes within an organization, including production, finance, and marketing-related functions and supplier relationships. By incorporating buffers, we also account for handoffs or interfaces between different people or activities—typically the areas where most improvements can be made (Anupindiet all, 2012: 6). The steps of activities within the company is more decided on the management itself, particularly, the extent to which managerwants to keep thesesteps can be continuously monitored and supervised. In term of affectivity, the business process can be associated with standard operating procedure(SOP). Therefore, business processes within an organization are determined by policy within the organization. According to Anderson (2007), To create a foundation for developing methods for self-assessmentand benchmarking, a framework of business processes was developed.In line with the thinking of Porter's value chain, the processes were divided intoprimary and support processes:

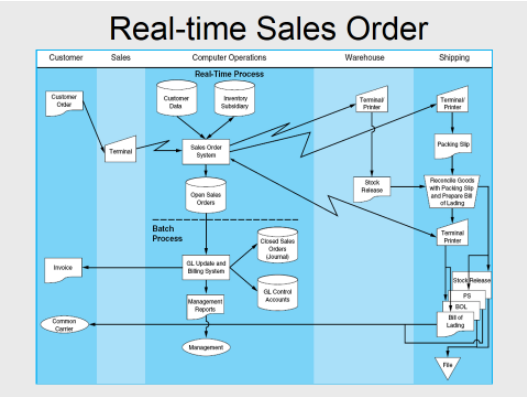
- Primary processes are the central and value-creating processes of the enterprise. They run straight through the company, from receiving supplies from vendors to activities on the customer side.
- Support processes are not value-creating processes directly, but rather activities needed to support the primary processes. They include activities like financial and personnel management.

Economic enterprises, both for-profit and not-forprofit, generate revenues through business processes that constitute their revenue cycle. In its simplest form, the revenue cycle is the direct exchange of finished goods or services for cash in a single transaction between a seller and a buyer (Hall, 2011: 153).And the business process of how sales occur (from the beginning until the end) can be seen from the sales cycle. This cycle will be presented several examples in sales transaction (sales cycle) in a business unit with various models (Hall, 2011)



Hall (2011) also explains that in the transaction processing can be done manually and by computer (computerize). Within the computerized process, itmight be divided into system processes with bath(bath system) and the system in real time (real time system),meanwhile the process with the manual system shows that all the activities are started from inputs in to outputs done manually.





From the previous examples, it can be seen that real time system is the most feasible than the other systems. However, the model which willbe chosen by companies also need to consider the cost and benefit among these two models. Hall (2011) describes Hall (2011) explain that the following advantages make this approach an attractive option for many organizations:

1) Real-time processing greatly shortens the cash cycle of the firm. Lags inherent in batch systems can cause delays of several days between taking an order and billing the customer. A real-time system with remote terminals reduces or eliminates these lags. An order received in the morning may be shipped by early afternoon, thus permitting same-day billing of the customer.
2) Real-time processing can give the firm a competitive advantage in the marketplace. By maintaining current inventory information, salesstaff can determine immediately whether the inventories are on hand. This enhances the firm's ability to maximize customer satisfaction, which translates into increased sales. In contrast, batch systems do not provide salespeople with current information. As a result, a portion of the order must sometimes be back-ordered, causing uncertainty for the customer.
3) Manual procedures tend to produce clerical errors, such as incorrect account numbers, invalid inventory numbers, and price–quantity extension miscalculations. These errors may go undetected in batch systems until the source documents reach data processing, by which time the damage may have already been done. For example, the firm may find that it has shipped goods to the wrong address, shipped the wrong goods, or promised goods to a customer at the wrong price. Real-time editing permits the identification of many kinds of errors as they occur and greatly improves the efficiency and the effectiveness of operations. Finally, real-time processing reduces the amount of paper documents in a system. Hard-copy documents are expensive to produce and clutter the system. The permanent storage of these documents can become a financial and operational burden. Documents in digital form are efficient, effective, and adequate for audit trail purposes.

2.2. Efficient and Effective Business Process

According to Anupindi at all (2012), What determines the effectiveness of a process? Any reasonable answer to this question must be based on two factors:

1. Evaluation and measurement of the firm's current and past performance
2. Future goals as expressed by the firm's strategy

In order to assess and improve the performance of a business process, we must measure it in quantifiable terms. In this section, we identify several quantifiable measures of process performance—financial, external, and internal. Harrington (1991) differentiates between the notion of efficiency and effective. Requirements for efficiency focus on the use ofmoney, time, and other resources. Typical efficiency measurements are:

- Processing time
- Resources expended per unit of output
- Value-added cost per unit of output
- Percentage of value-added time
- Poor-quality cost
- Wait time per unit

Another measure of efficiency is output versus input (e.g., miles pergallon). Meanwhile to ensure that the process is effective, you must define the customer needs and expectations and then meet~ those needs and expectations. Customer needs and expectations typically relate to products and/or services: a) Appearance, b) Timeliness, c) Accuracy, d) Performance, e) Reliability, f) Usability, g) Serviceability, h) Durability, i) Costs, j) Responsiveness, k) Adaptability, and l) Dependability. Thus, in order to get the business processes efficiently and effectively, one of the methods that companies should adopt continuous improvements in it'sbusiness processes (it is called Business Process Improvement).

2.3. Business Process Improvement

According to Page (2010),The ten simple steps to business process improvement;

- ✓ Step 1: Develop the Process Inventory,
- ✓ Step 2: Establish the Foundation,
- ✓ Step 3: Draw the Process Map,
- ✓ Step 4: Estimate Time and Cost,
- ✓ Step 5: Verify the Process Map,
- ✓ Step 6: Apply Improvement Techniques,
- ✓ Step 7: Create Internal Controls, Tools, and Metrics,
- ✓ Step 8: Test and Rework,
- ✓ Step 9: Implement the Change, and
- ✓ Step 10: Drive Continuous Improvement

Here is an explanation of each step (steps) that must be done (Page,; 8- 15);

Step 1 in the roadmap introduces the process inventory to help you decide where to start. The inventory lists the entire complement of business processes in a department or business area. The chapter describes how to:

- Identify the business processes.
- Create prioritization criteria.
- Apply the criteria to each business process in the inventory.
- Create a process prioritization table so that you can contrast
- a group of business processes to determine which business process you should address first.

At the end of this step, you have a list of the business processes and you understand the order of priority, so that you know where to start.

Step 2; Before starting a home improvement project, you should develop a plan so that you know the tools and materials you need. This is the role of the scope definition document, which includes the process boundaries, provides the baseline information about the business process you selected, and thus keeps you on track. At the end of this step, you have the basic information required to start the process improvement work, as well as specific boundaries to help you stay on track.

Step 3; Drawing the process map enables everyone involved to understand how the business process works and where handoffs occur between departments. The process map you create in this step provides the information you require for step 6, when you apply the improvement techniques, and it assists in setting improvement targets. This step gives everyone involved in the work a better understanding of how the process works from beginning to end by educating the project team on the end-to-end process. At the end of this step, you and the project team understand how the process works.

Step 4; To measure an accomplishment, you need to know where you started. After drawing the process map in step 3, you understand the activities involved in a business process; step 4 aids in identifying what the process costs today. This step helps you define the process cost and cycle time, parameters you can use to set improvement targets.

Step 5; Before adding a deck to your house, you would talk with your town's or county's code enforcement office and seek opinions from family members to ensure that you meet the town's setback requirements and keep family members happy. Similarly, you want to review the process map with the appropriate colleagues to validate that the map accurately reflects the existing process. By completing this step, you gain sponsor and stakeholder support, and you build a solid foundation on which to start the improvement work.

Step 6; The improvement technique wheel provides an organized approach to improving a business process by introducing key methods to use, including:

- Eliminating bureaucracy.
- Evaluating value-added activities.
- Eliminating duplication and redundancy.
- Simplifying the process, reports, and forms.
- Reducing cycle time.
- Applying automation tools.

You learn how important it is to apply the techniques in a specific order and how applying the six improvement techniques, one at a time, aids in evaluating the business process in a planned and thoughtful approach. By the end of this step, you have changed the business process so that it delivers business value.

Step 7; To bring the process to life—to move it beyond just creating a process map—you establish internal controls, you create tools to increase the effectiveness, efficiency, and adaptability of the business process, and you create metrics. Specifically:

- Internal controls identify points in the business process
- where mistakes can occur and explains how to prevent them.
- Creating tools to support the business process streamlines the process and assists in avoiding errors and training new employees on how to perform their jobs.
- Developing metrics shows you whether the process works as planned.

This step helps you to minimize potential errors, create tools to automate the business process, and identify process metrics.

Step 8; In this step you learn how to create a plan to test the new business process. The details included in the plan help to confirm that the new process and tools work as planned, and resolve any bugs before fully implementing the change. In creating a test plan, you answer questions like whom to involve in the testing, what items to test, what steps are involved, where you should conduct the testing, and when the best time is to conduct the test. Testing the business process evaluates how well the business process performs, so that you satisfy such project goals as increased productivity or minimizing errors. At the end of this step, you should feel comfortable that the business process, tools, and metrics work as planned.

Step 9; When companies introduce a new product, they create a marketing plan that identifies the product price, customer base, distribution channels, and promotion strategies. Likewise, when you change a business process, you need to identify who has to know about the change, what they need to know, and how to communicate the right information to the right people. The implementation plan includes phases like design, development, and implementation and further organizes each phase into tracks. For example, the implementation phase can have these four tracks:

- ✓ Change management track:
- ✓ Testing track
- ✓ Communication track:
- ✓ Training track:

Step 10; Continuous improvement means achieving a new mindset by which ongoing improvement is the natural course of business instead of an event. The continuous improvement cycle wheel introduces four phases—evaluate, test, assess, and execute—to help you attain the new mindset. Each phase in the wheel provides you with a degree of structure to help you think through how to keep the business process up to date on an ongoing basis. Continuous improvement validates that the business process continually delivers effectiveness, efficiency, and adaptability to the organization. According to Harrington (1991), Despite cases like these, a functional organization has many benefits, and a strategy is available to take maximum advantage of its effectiveness, as well as ensure that the processes provide maximum benefit to the

company. That strategy is called business process improvement (BPI). Furthermore, Harrington (1991) explains that there are three main objectives of BPI, namely:

- Making processes effective-producing the desired results.
- Making processes efficient-minimizing the resources used.
- Making processes adaptable-being able to adapt to changing customer and business needs.

All of definition before, the business processes have some common characteristics (Harrington, 1991)::

- They have someone who is held accountable for how well the process performs (the process owner).
- They have well-defined boundaries (the process scope).
- They have well-defined internal interfaces and responsibilities.
- They have documented procedures, work tasks, and training requirements.
- They have measurement and feedback controls close to the point at which the activity is being performed.
- They have customer-related measurements and targets.
- They have known cycle times.
- They have formalized change procedures.
- They know how good they can be.

BPI ensures the effective and efficient use of resources-facilities, people, equipment, time, capital, and inventory (Harrington, 1991, 15). The main objective is to Ensure that the organization has business processes that: (Harrington, 1991: 21):

- Eliminate errors
- Minimize delays
- Maximize the use of assets
- Promote understanding
- Are easy to use
- Are customer friendly
- Are adaptable to customers' changing needs
- Provide the organization with a competitive advantage
- Reduce excess head count

Selection for improving the business processes is critical in business process improvement cycle. In general, choosing a process to be fixed are as follows (Harrington, 1991):

- Complaints or problems from customers
- Processes with high cost
- Processes with long-time cycle
- There is a better way or process
- The availability of new technology
- Rules for management to implement new methods

There are anumber of (false) beliefs that led management down this winding roadto ineffectiveness. These fallacies include (1991: 17-18);

- Ineffective business processes do not cost the organization much money. Wrong-Ineffective business processes are costing U.S. businesses billions of dollars every year.
- There is little to be gained by improving business processes. Wrong-We already talked about the dollars and customers you save, but in addition, business process improvement can have the biggest single positive impact on the culture of your organization.
- The organization can work around business processes. Wrong-The organization can work around your present business processes.
- Business processes cannot be controlled. Wrong-Not only can they be controlled, they must be controlled.
- Business processes are unimportant compared to production processes. Wrong-Customers are 5 times more apt to turn away from you because of poor business processes than poor products.

According to Harrington (1991) there are five phases of BPI Improvement, as follows:

- Organizing for improvement
- Understanding the process
- streamlining
- Measurements and control s
- continuous Improvement

The explanations of each phase are as follows (Harrington, 1991): Launching a BPI effort requires top management's support. By that, wedo not mean that you have to have the CEO's participation, but youmust, at a minimum, have the support of the head of the profit centerthat will be implementing the changes.

Objective: To ensure success by building leadership, understanding, andcommitment.

Activities:

1) Establish EIT
2) Appoint a BPI champion
3) Provide executive training
4) Develop an improvement model
5) Communicate goals to employees
6) Review business strategy and customer requirements
7) Select the critical processes
8) Appoint process owners
9) Select the PIT members

Understanding the process

According to Harrington (1991), Almost everything we do or are involved in is a process. There arehighly complex processes that involve thousands of people (for example, electing the president of the United States) and very simple processesthat require only seconds of your time (for example, filling outyour ballot).

Objective: To understand all the dimensions of the current businessprocess

Activities:

1) Define the process scope and mission
2) Define process boundaries
3) Provide team training
4) Develop a process overview
5) Define customer and business measurements and expectations
6) for the process
7) Flow diagram the process
8) Collect cost, time, and value data

9) 8: Perform process walkthroughs
10) Resolve differences ~
11) Update process documentation

Streamlining

Objective: To improve the efficiency, effectiveness, and adaptability ofthe business process

Activities:

1) Provide team training
2) Identify improvement opportunities:
a. Errors and rework
b. Poor quality
c. Backlog
d. High cost
e. Long time delays
3) Eliminate bureaucracy
4) Eliminate no-value-added activities
5) Simplify the process
6) Reduce process time
7) Error proof the process
8) Upgrade equipment
9) Standardize
10) Automate
11) Document the process
12) Select the employees
13) Train the employees

Measurements and controls

Objective:To implement a system to control the process for ongoing improvement

Activities:

1) Develop in-process measurements and targets
2) Establish a feedback system
3) Audit the process periodically
4) Establish a poor-quality cost system

Continuous Improvement

Objective: To implement a continuous improvement process

Activities:

1) Quality the process
2) Perform periodic qualification reviews
3) Define and eliminate. process problems
4) Evaluate the change impact on the business and on cuswmers
5) Benchmark the process
6) Provide advanced team training

Furthermore, to achieve the goal of improving service to customers, there are several steps and methods that must be followed (Harrington, 1991): Streamlining

Streamlining is an initialization of work process changes that will create new, simpler process with achieving the same and fixed goal. There are several ways or tools that can be taken to doe streamlining against existing process business in the company, namely:

1. Bureaucracy elimination (elimination of bureaucracy), which eliminates the task of administration, the use of unnecessary paper work.
2. Duplication elimination (elimination of duplication), which removes a similar activity that occurs in a different part of the process.
3. Value-Added Assessment (evaluation value added), ie evaluate each activity in the business process to determine their contribution to the needs of customers.
4. Simplification, which is to reduce the complexity of a process.
5. Process cycle time reduction (process turnaround time), which was to determine ways to reduce cycle time and minimize the cost of storage.
6. Error proofing (error prevention), which makes the condition so it is difficult to make a mistake.
7. Upgrading, which makes higher level of effectiveness in improving the performance of business processes.
8. Simple language (language simplification), which reduces the complexity of the ways of writing and speaking, making documents easier to understand by the wearer.
9. Standardization, choosing one way of standardization in their daily activities.
10. Supplier partnership (improving the quality of input), namely improving the quality of input, because the output process have a high dependence on the quality of the received input process.
11. Big picture improvement (global development), which is a technique that is used if the ten equipment simplification above do not give the desired results.

It is designed to help the management to find creative ways to change the process drastically.

12. Automation and / or mechanization (automation and / or mechanization), which is the application of computer equipment and the drudgery and routine, so that the activity is reduced in order to liberate the workers to do more creative activities.

CONCLUSION

Based on the description and discussion of BPI above, it can be concluded that there are some concepts BPI to design a good business processes, efficient, and effective; BPI concept is proposed by Harrington (1991) and the BPI concept proposed by Page (2010). From concept of BPI of both experts, it can be summarized that the concept of BPI suggested by Harrington (1991) is one concept that is very appropriate to be applied in an organization than the concept suggested by Page (2010), because the concept of BPI suggested by Harrington (1991) is already including the idea ofcontinuous improvement in producing a product.

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