

Presents a model for Performance Evaluation of Business Process Management

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Abstract:: In the present study a mathematical model has been presented to evaluate the Business process management (BPM) in the inspection departments of Iran MelliBank. In the bank units BPMs are used in order to manage the operations of users and to offer related reports to relevant managers.

There are some indicators in the organization that can evaluate BPM Performance. Beside these factors, we will see the effective indicators which can assess the BPM. We will focus on Input and output variables for discussing them according to bankerpoint of view by using Data Envelopment Analysis.

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1. Introduction

Enhancement of efficiency in the banking system strongly effects on the dynamics of the economy, reducing inflation, unemployment, social turmoil and etc. Banking system reform and implementation of useful systems is one of the best ways for improving economic sphere.

Data is needed to evaluate the business processes management in various organizations and agencies, until to be done action on it and the results obtained. In the banking system and especially in the field of inspection, due to the importance of the subject and the classification of information, researchers need to focus on the basis of qualitative data. DEA method would be an appropriate method to solve the above issue. After the introduction, the second section reviews previous studies. This section presents the critical success factors of BPM, maturity models and effective indicators. The third part sets the input and output and criterions for assessment of the business processes Management, the fourth part uses DEA method to measure the efficiency units of Iran Melli Bank, and finally the result will be expressed.

2. Review literature

2-1- The core elements for the success of business processes

Many researchers have found that Strategic Alignment, Governance, Methods, functions, technology, People, and Culture are the Critical Success Factors of BPM [1,2,3].

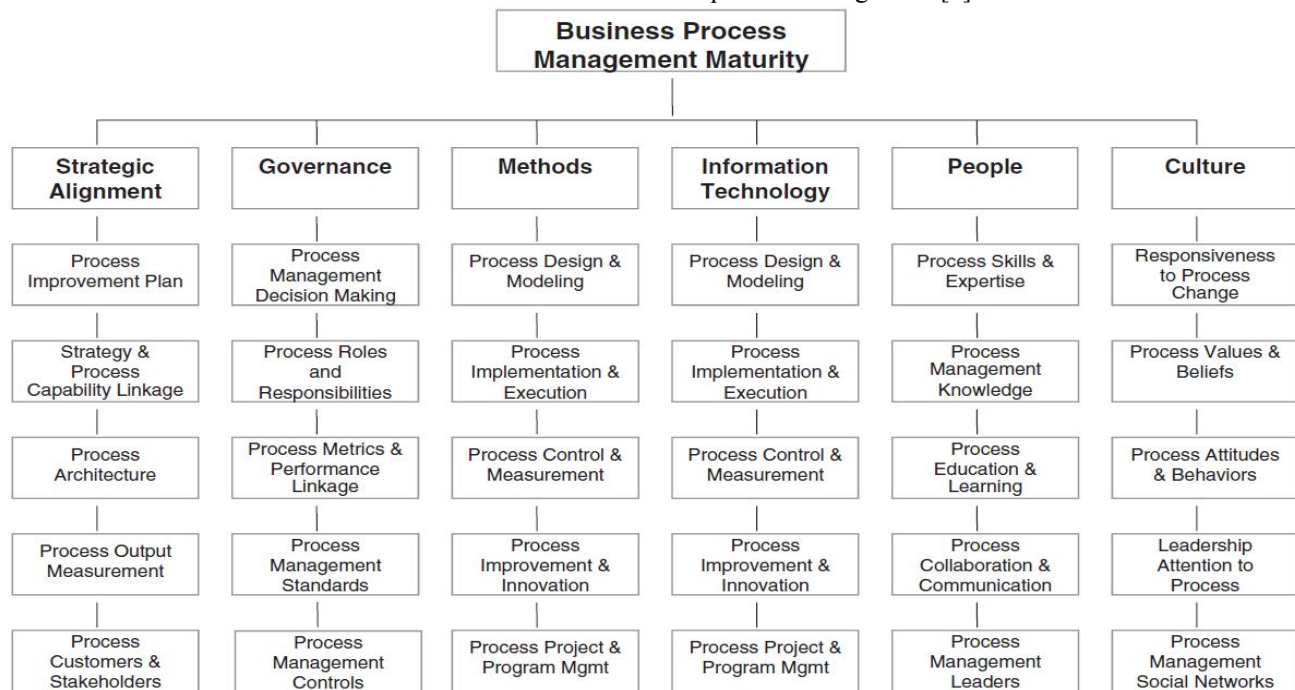
Rosemann¹ and De Bruin² are presented framework of the Business Process Management Maturity (BPMM) in 2006. This framework considers BPM ability, also shows the progression of the BPM in the organization. New features are added by improvement BPM, in this framework, business process management capability of the organization be evaluated. The maturity framework shows the progress of Business process management. By promotion of BPM new features are added to it, even it can show the profile and number of People who required to the business processes management [4].

Six core elements of BPM and the amount of its abilities are listed in Table 1 [5]. The results of the studies are obtained by others in the field of BPM maturity [6,7,8,9,10].

1Rosemann, Michael

2De Bruin, Tonia

Table 1: Six elements of business process management [5]



The Six critical success factors are as follows [4]:

1. Strategic Alignment: The continual tight linkage of organizational priorities and enterprise processes, enabling the achievement of business goals.
2. Culture and leadership: The collective values and beliefs that shape process-related attitudes and behaviors.
3. People: The individuals and groups who continually enhance and apply their process related expertise and knowledge.

4. Governance: Relevant and transparent accountability, decision making and reward processes to guide actions.

5. Methods: The approaches and techniques that support and enable consistent process actions and outcomes.

6. Information Technology: The software, hardware and information management systems that enable and support process activities.

The core elements of BPM are presented by Rosemann and De Bruin [11]. The underlying model in Figure 1 shows process success and business success factors.

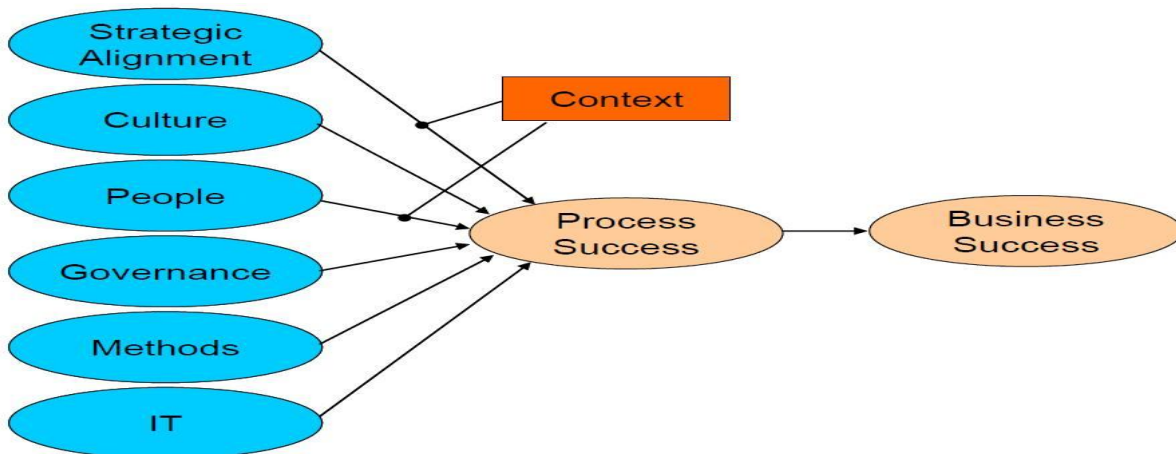


Figure 1: The underlying model [11]

2-2- Gartner Business Process Management Maturity Model

Nowadays, there are several models of the BPM Maturity. An example is the maturity model of economic institutions and processes that formed by Hammer [1,12,13].

Gartner business process management maturity model are presented in six steps. These stages include six phases of business process management maturity. These phases show organization conditions with CSF in the framework of BPM maturity [1].

Phase 0: Acknowledge Operational Inefficiencies

Phase 1: Become Process Aware

Phase 2: Establish Intraprocess Automation and Control

Phase 3: Establish Interprocess Automation and Control (Between processes)

Phase 4: Establish Enterprise Valuation Control

Phase 5: Create an Agile Business Structure

Business process management maturity model depends on trust senior management to achieve effective business structure in the organization. Each new phase is created by previous phase, and each phase causes the growth of the previous phase. Generally, there are other important aspects of maturity in six phases, so that they should make a balance between and within phases. Figure 2 shows the six Critical Success Factors that an organization is involved in each phase.

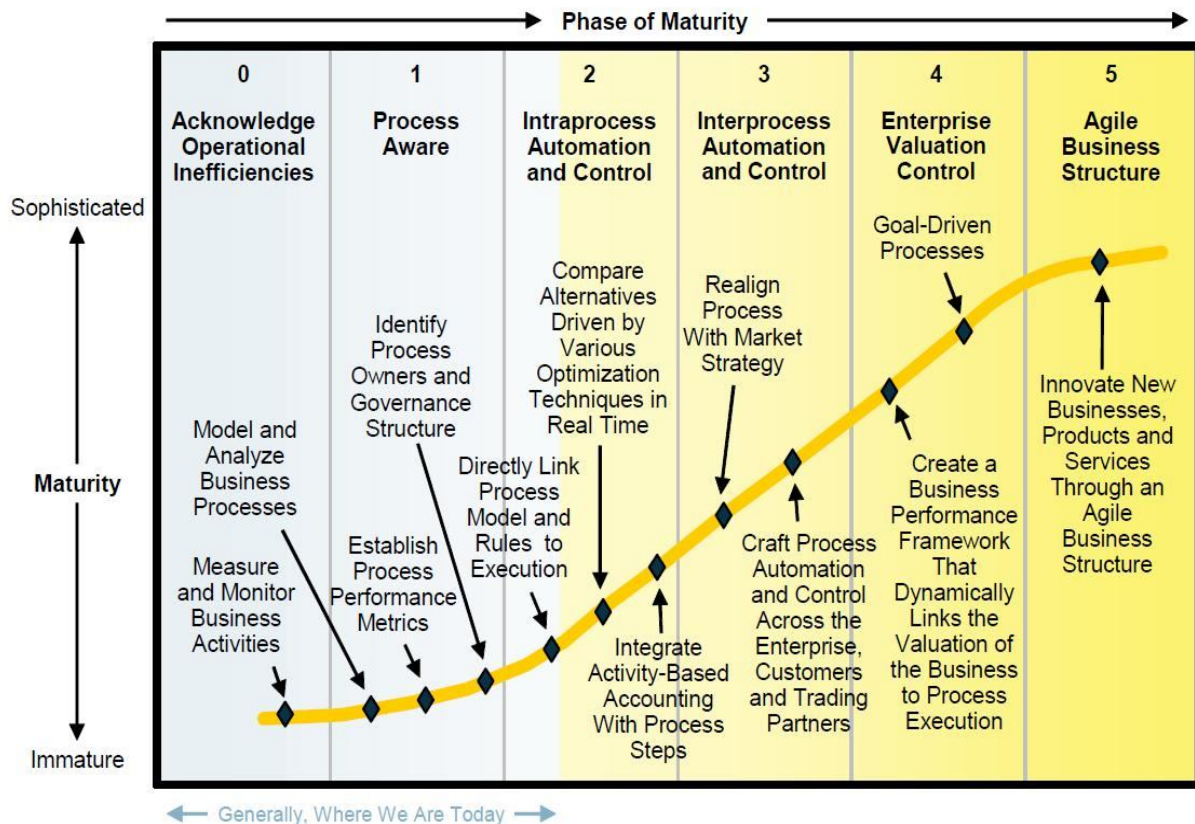


Figure 2: Six phases of business process management maturity [1]

2-3- Effective factors in performance evaluation

By reviewing of literature of IT, we can say IT can be the reason of changing process in the organizations. For convert multi-faceted approach to process improvement model, four factors (cycle time, Process limits, Cycle cost, Measure exploitation of resources) are considered [14].

In the process of measuring the activity level, several Cases would be considered. Applications are used in

specific Processes, and may not be used in other processes [15].

There are some components in the business processes management. By using these indicators, Performance Measure of business process management would be evaluated. Processes operating in the organization will be measured by time, cost, productivity, quality and capital indicators [16].

New indicators are used for performance evaluation of the process. These indicators are success factors of each process, provided, the average time taken to process determined by quantity [17].

Using expert opinions, the importance of these indicators were studied in inspection units of the Iran Melli Bank. In inspection units of the Iran Melli Bank the time, cost, productivity and quality indicators are more important, and are considered in the evaluation.

3. Determine the inputs and output criteria for measuring BPM

In this study, due to classification information of inspection units, we didn't use quantitative information, we used qualitative information instead. After getting advice and consulting with experts and those who involved in the inspection and IT field we called:

Inputs $x_1, x_2, x_3, x_4, x_5, x_6$ are considered as Governance, Strategic Alignment, Methods, IT, People and Culture, and outputs y_1, y_2, y_3, y_4 include Time, Quality, Cost and Efficiency are used. According to table 2 for obtaining total efficiency rate, we used 6 inputs and 4 outputs.

Table 2: Inputs and outputs to determine the Bank efficiency

Bank	Criteria		
	Inputs and outputs		
✓	Governance	x_1	Inputs
✓	Strategic Alignment	x_2	
✓	Methods	x_3	
✓	Information Technology	x_4	
✓	People	x_5	
✓	Culture	x_6	
✓	Time	y_1	Outputs
✓	Quality	y_2	
✓	Cost	y_3	
✓	Productivity	y_4	

4. Use of the DEA method for measure the efficiency of Iran Melli Bank units

Using data envelopment analysis, efficiency inspection units are analyzed in business process management system. Business Process Management System in inspection units has six Critical Success Factors (CSF) of BPM (Strategic Alignment, Governance, Methods, functions, technology, People, and Culture) and has four main elements (time, productivity, cost and quality) for evaluating BPM efficiency. To solve the model, we used the core elements of BPM as input and effective indicators in performance evaluation of BPM as output in DEA method. After solving the model, we must measure the super efficiency for evaluate the units. After that we do ranking the units until for each unit the suitable model found.

After solve the model, we can see the efficient and inefficient units according to bank's point of view. For each of the inefficient units, the units were specified that can be considered as a reference or an index. Each inefficient unit acts as reference units and inefficient unit can be converted to an efficient unit [18].

Conclusions

Effective factors in the performance evaluation of BPM and Critical Success Factors (CSF) of BPM identified by researchers, there are the same results in the units of Iran Melli Bank.

After getting advice and consulting with experts and those who involved in the inspection and information technology, Critical Success Factors (CSF) of BPM selected as input and Effective factors in the performance evaluation of BPM selected as output for evaluation Iran Melli Bank units. Each input and output is evaluated by experts in inspection units. The results of each evaluation will be determined and after evaluation of all units the overall evaluation be done.

Some bank units, due to being far from the center, limited resources, and having limited professional resources, as well as not having IT infrastructure, do not have enough sufficient performance as well as well organize units. But according to the area's facilities, the bank sees favorable results. The far units can cover the Bank's objectives, therefore those units can be considered such as effective units.

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