

# Business Performance Management: An Implementation Model

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## **Abstrak**

*Dalam era informasi dewasa ini, membuat persaingan dalam dunia usaha menjadi semakin ketat. Maka dari itu, diperlukan sebuah sistem yang mudah untuk digunakan dan dapat memberikan informasi secara cepat dan jelas. Karena itu juga, perusahaan yang menggunakan sistem informasi konvensional, dan belum atau tidak memiliki suatu perencanaan strategi sistem informasi, dapat dipastikan akan tertinggal dari perusahaan pesaingnya yang telah memanfaatkan sistem informasi dalam kegiatan usaha perusahaan. Dewasa ini, strategi perusahaan tidaklah dapat dipisahkan dengan ICT. Dalam tulisan ini dibahas mengenai bagaimana hubungan strategi perusahaan dengan penerapan ICT yang digunakan sebagai pengetahuan yang pada akhirnya untuk pengambilan keputusan. Hasil dari tulisan ini berupa model kerja Business Performance Management dimana sumber data berdasarkan studi kepustakaan dan wawancara. Business Performance Management digunakan dari waktu ke waktu untuk memantau kinerja pada area-area fungsi perusahaan dan menampilkan informasi secara ringkas untuk mencapai tujuan dan sasaran perusahaan. Business Performance Management menyediakan Key Performance Indicator yang membantu perusahaan memonitor kinerja dan diringkas ke dalam bentuk informasi yang dapat dilihat melalui berbagai dimensi.*

**Kata kunci**—Business Performance Management, Digital Dashboard, Strategi

## **Abstract**

*An information age nowadays, make competition in industries are very intense. Because of that, a system that can easily use, quickly and clearly can provide the information needed. Therefore, companies that use conventional information systems, and do not or do not have information strategic planning, will of course be left behind from companies that have utilized information systems in their business activities. In recent times, ICT is a part of the company's strategy. This paper discusses the relation of the company's strategies and their ICT implementation, which used to create knowledge for decision-making. Based on the literature research and interview that have been done so far, a Business Performance Management if formulated into a model can easily monitor the achievement of the company. Business Performance Management is used from time to time to monitor performance in company function areas and present information briefly to achieve company's goals and objectives. Business Performance Management provides Key Performance Indicators that help companies monitor performance and are summarized in a form of information that can be viewed through various dimensions.*

**Keywords**—Business Performance Management, Digital Dashboard, Strategy

## 1. INTRODUCTION

In the era of Information, where information and technology growth and developed increasingly and also influence human activity in every field [1], especially business. So that companies that use the Conventional Information System and doesn't has an Information System Strategy Plan believable to be left behind from the competitors who already used information system as their business support.

Information System strategy is needed to adjust the movement of the company with the support of information system and technology that have been customized with the company's rhythm to meet the vision, mission, and goals in the future [2]. The important thing is that the company can grow and compete in the era of globalization.

Today, ICT implementation has creates the rapid growth of the organization [3]. This growth mostly caused by the role of the leader, the information technology development itself and fast moving external environment [3, 4, 5]. However, if ICT is not used in accordance with the needs and strategic direction of the company, the ICT is ultimately only as a mere tool to support the process.

As an enterprise, vision is the important thing as a goal and needed to be planned well. To be achieved that vision has to be drill down to some of missions. Goals than be built using the missions. To measure the goals, the targets are created. Business Performance Management (BPM) is a solution to show that kind of information.

BPM is used to monitor the performance of the company from time to time and can be implemented on some of the functional areas of the company. It also can show efficient information briefly so it can help the executive to decide strategic movement to achieve the goals and targets of the company. BPM provide Key Performance Indicator that helps company to monitor the performance towards the targets. BPM can process all the performance information to a simpler form and can be viewed dimensionally.

## 2. RESEARCH METHODOLOGY

### 2.1 Framework



Figure 1 Research Framework

Refer to the framework above (Figure 1), this research has three phases:

- a. Defining the research's purpose  
This research start with defining the research's purpose also the direction of the research
- b. Collection of data.  
The methods used to collect the data are: 1) looking for article and paper from journals, websites and books. 2) Do a survey and interview on middle-up manager from some companies. This to get what hope they have when actualized company's strategy.
- c. Construct the model.  
Refer to some early researches and concepts from journal and textbook; construct a model how to develop BPM.

## 2.2 Literature Review

It is important for IS developers to consider about managerial levels, because the sources of information and how that information is presented can affect the system. The manager at the strategic planning level is more prioritize information from the environment different rather than the lower managerial level, and so as manager on operational controlling only deal with internal information as the most important in the execution of his duties. As said by [6], manager at strategic planning level only choose information in summary form, while operational control level manager prefer more detailed information. matters related to the executive, or rather employees who need to make decision in carrying out its functions within company, requiring equipment that is able to support the quality of the decision. Today, the equipment is better known as the Business Intelligence (BI).

The purpose of BI is to enable interactive access (often real-time) to the data, manipulate data, and provide the ability for managers and business analysts to do a proper analysis [2][7]. By analyzing the data, the situation, and the performance that is historical and actual, decision-making will be more valuable to allow them, the decision makers to make better decisions.

Figure 2 below, is a process from BI based on the transformation from data into information, then into a decision, and ultimate into action [8][9].

The Business Intelligence Framework clearly illustrates the flow from the process of gathering data to its processing. Broadly speaking, the BI process is divided into four groups, namely:

- The BI process begins with data collection on the Online Transactional Processing System and external data.
- From the data that has been collected, it will be processed with ETL tools in accordance with the metadata that has been prepared in accordance with the needs of the data model, and stored in a data warehouse.
- Data stored in the data warehouse is in accordance with the data mart that is formed following the model of the data warehouse.
- Here are available BI tools that have the ability to retrieve data that will be displayed according to user needs.
- The fifth group is available analytical tools that have a function to display information needed by the user, in the form of tables, graphs, and others.

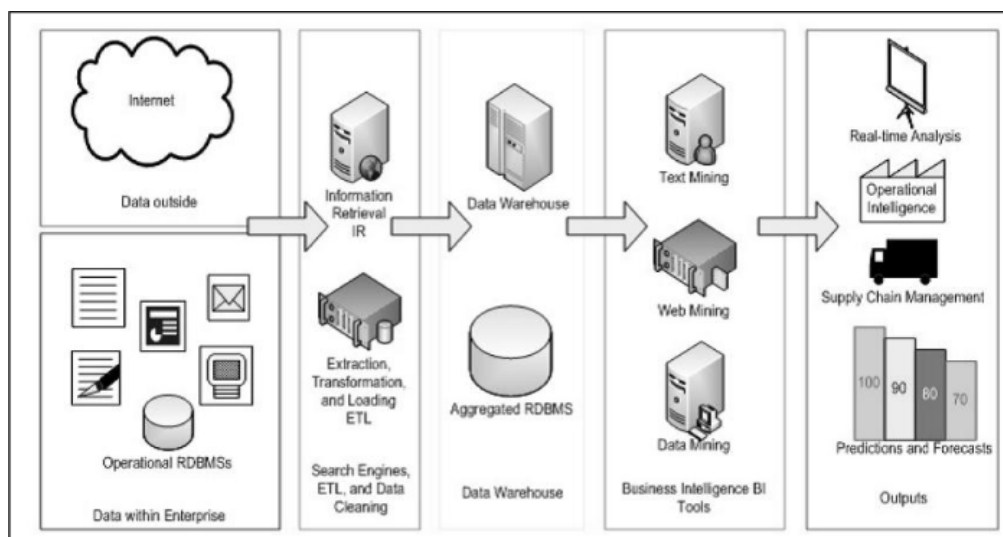


Figure 2 Business Intelligence Framework [10]

Business Intelligence (BI) has turned into a technological advantage that can predict business conditions for the past few years [10]. Today, businesses around the world have understood BI's financial competitive advantage. One of the ways of management in business analysis is BPM, that is a top-down approach to help management to understand the processes required to achieve strategic goals and then measure the effectiveness of these processes to achieve desired results [11,12]. BPM has advantages in the field of meeting the needs of the company's strategy by measuring the company's processes. BPM is a real-time system that gives messages to executives about potential opportunities, problems and future threats, and supports executives to act through models and collaboration.

Seen from the above explanation, that BPM is able to bridge the gap between strategy and implementation, where the BPM framework has four steps which are grouped into two (see Figure 3), namely:

- a. Strategize and plan describe the strategy.
- b. Monitor / analyze and act / adjust describe the implementation of the strategy.

The four steps of the BPM framework can be explained as follows:

- a. Strategize

The executives / leaders determine the main objectives of the business value and determine how to measure it. In this case, the executive / leader will determine the target and use the Key Performance Indicator (KPI) to produce information that shows the extent to which the department / division has succeeded in realizing the target set.



Figure 3 Framework of Business Performance Management [11]

- b. Plan

Groups within the organization develop plans to follow up on business strategies and allocate resources. This planning allows the creation of new initiatives, projects and processes, or improvements to existing initiatives, projects and processes.

- c. Monitor / Analyze

The most important element in BPM is a tool that allows users to monitor and analyze performance quickly and precisely. Thus, allowing users to take actions that can improve user performance, and ultimately be able to improve organizational

performance. Dashboard is one of the tools used to monitor performance. Therefore, BPM is also called a performance dashboard that functions to create reports, information analysis, infrastructure to collect and integrate data from various sources, store and model data, tools for monitoring and management.

d. Act / Adjust

Act / Adjust is the most important process in BPM. This process is a component of the implementation of the strategy. Performance dashboard is a tool that has an important role in the act / adjust process. Because this tool sends messages to users about potential problems, provides detailed information to users, and instructions to help users make quick and quality decisions.

BPM is widely used because BPM able to :

a. Improve Communication

BPM provides the executive and effective mechanism for communicating the strategy and expectations for managers and staffs at all levels of the organization through a model of planning and performance metrics linked to achieving corporate goals and objectives.

b. Improve Coordination

BPM also fosters two-way communication between the ideas and information, both vertical levels within an organization as well as horizontally between business units, departments, and workgroups.

c. Increase Control

BPM enables staffs to manage the plans continuously, it also repair or improve operation right on time by providing an up-to-date information about market condition and the status of the operational process.

BPM is basically what is commonly referred to as performance appraisal. Understanding performance management starts from the planning stage of achievement by determining what or what should be achieved, and what activities must be carried out to achieve it, and finally evaluation of the achievement itself. The performance management system itself has several focus that can be assessed, namely appraisal that focuses on employee individual, appraisal that focuses on the process of doing work, and appraisal that focuses on results or output.

BPM is usually visualized using a digital dashboard. Just like a car dashboard that provides critical information to operate the vehicle with ease. In this case the digital dashboard has a similar goal, well used to support strategic decisions or activities of daily operations. As presented by [13] The digital dashboard is a visual display of the most important information, which is necessary to achieve one or more goals, which are combined and arranged in a screen so the information can be accessed easily.

### 3. RESULT AND DISCUSSION

Performance measurement is one of the fundamental things in performance management. benefits as a basis for providing feedback, identifying points of strength to develop performance in the future, and identifying points of weakness as a means of correction and development. This step is in response to two main problems namely whether we have done the right thing and whether we have done it well. While the main problem in measuring performance is that we have measured strategic things and added value to the overall organizational strategy. Other problems to watch out for are too results-oriented and neglect of processes, remuneration systems that don't support performance, and measurements that are not based on the business structure team.

Based on Figure 3 above, it appears that BPM briefly describe the two sides, namely the strategy include strategize and plan, and the execution that includes monitor/analyze and act/adjust. Where the four steps if implemented, needs another components, so it can produce information quickly and with quality. For more details can be seen a general model of BPM depicted in Fig 4 in next page.

BPM general model depicted in Fig. 4 posted below, in general describes the BPM system is supported by a data warehouse and dashboard applications to achieve the strategies that have been implemented. The model can be grouped into:

### 3.1 Strategy

At this stage, strategy derived from vision to mission, mission derived to goals, goals become objectives, objectives become target and ultimately measured by Key Performance Indicator(KPI).

This strategy is the reference for the company to further develop. For that strategy must be supported by the power company to develop all the facilities and infrastructure so as to support the achievement of these strategies.

As a first step, the strategy derivation is based on the vision, mission, and corporate Strategy Map. Of all of them, can be arranged in a table (see table 1), so that the formulation of the strategi can be described clearly and focused. From table 1, can performed information needs analysis based on the information needs goals, problems, and information needs (see table 2). Only later, compiled the information needs of the application dashboard which data retrieved from the data warehouse(DWH).

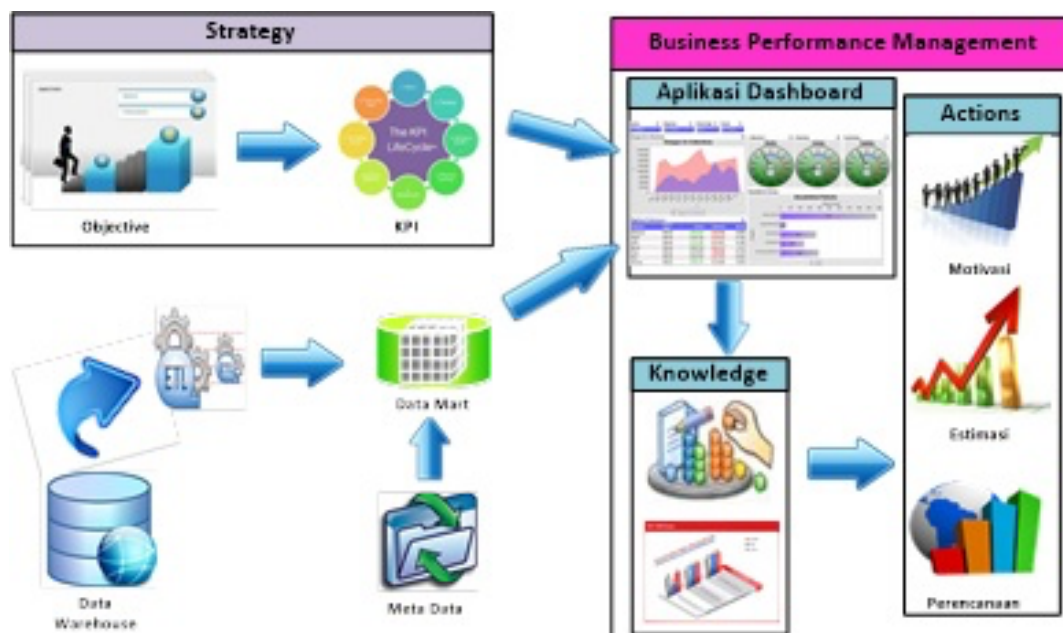


Figure 4 General Model of Business Performance Management

Table 1 Sample Table of Strategy Derivation

No.	Mission	Goal	Perspective	Size
1.	Host a continuing education program (continuing education center) supported by issues related to information technology, foreign language skills, communication, innovation and entrepreneurship.	The increase in revenue	Financial	The increase in revenue per year
		Realization of the budget in accordance with the planned	Financial	Budget variances
		Employee satisfaction	Learning and Growth	Employee satisfaction index
		Development of employee's competency	Learning and Growth	The number of studies per year

Tabel 2. Sample tabel of analysis of information needs

No.	Goal	Problem	Solution	Information Needs
1.	The increase in revenue	From year to year, the number of applicants has declined	Analysis of the causes of decline in students applying to BINUS University	<ul style="list-style-type: none"> <li>• Global Economic Conditions</li> <li>• Origin area of BINUS Students</li> <li>• Trend</li> </ul>

### 3.2 Data Warehouse (DWH)

DWH is a data storage place that has a large capacity which stored data from various sources and their use is focused to help make decisions. The data in the DWH derived from transactional data that draged as needed into DWH. Generally, the data in the DWH is a historical data that has been processed and adapted to the needs.

In this process, the data in the DWH will be processed and transformed into a data mart. The transformation process is known as the Extract, Transform, and Loading(ETL), where the process is about moving the data that suit the needs of the DWH to the datamart. At the time of the transfer process, it takes a list or data dictionary that contains data information retrieved from any table and will be processed and transferred to any table. This data dictionary is known as metadata..

Metadata illustrated with tables containing descriptions of tables in the data mart consisting of field names, data types, sizes, table and field sources, and the process of transformation as well as information of table and it's size briefly.In this case, the metadata is described description of each Dimension Table and Fact Table in the datamart.These data are also needed for the dashboard system application.

### 3.3 Business Performance Management

Based on the strategies that have been derived and established data mart,the next step is to develop a dashboard application as an application that can support the achievement of the targets in the strategy.

In this case, the dashboard application can support to monitor the company performance.In addition, this application also helps the executive to make decisions, so decisions regarding service to the customer service issues can be quickly resolved, so that the achievement of a predefined strategy can be monitored either.

Basic thing of making the dashboard application is a derivation of the strategy that led to the revelation of the purpose of the company. To achieve these goals required the information into knowledge for interested parties as a reference for action to improve performance. In this case, it appears that the dashboard plays an important role to support digging process of that information needs.

Dashboard applications in the model above, connected to a data mart designed specifically for the data model in accordance with the KPI that will be measured. Periodically withdrawal data from the data warehouse to the data mart will be conducted in accordance with the provisions that have been agreed through the ETL process.

Digital dashboard is displayed in a display screen as interactive as possible, and the goal is to efficiently monitor the information necessary to achieve the goal[14]. Components inside could be the dashboard gauges, charts, and diagrams that related to the information displayed and the grid. Dashboard applications also need to provide drill-down features and pivoting. With the components and features provided by the dashboard application, users should be made to be easy to get the main knowledge that used to create useful actions for the company.

The following are some of the attributes that can support a digital dashboard in order to function effectively:

- a. *Digital dashboard has a small display mechanism, concise, clear and intuitive.*  
Digital dashboard Display Mechanism showing a clear message without requiring a lot of space, so that the whole set of information can be summarized into a screen. Components used on the digital dashboard to display the information should be in accordance with the needs of the types of information itself. These components may include fuel gauge, traffic signal, thermometers, etc.
- b. Digital dashboard is the result of an adjustment.  
Information on a digital dashboard should be designed specifically according to the needs of the individual, group, or function.

According to [15], the company designed a dashboard with the advantage to provide continuous motivation to the attachment of the ongoing operational processes. While [16], describes the advantages of the application dashboard are:

- a. Can be set to multiple management levels, there are some reports that contain too much or too little information for each role to complete their task. Dashboard can customize the generated data. For example, executives can see the trend of productivity, while the department manager can see more specific, and employees can view their own performance.
- b. Can provide drill feature. This is important when executives see a discrepancy in the summary, the executive be able to drill-down information to find out what is causing it.
- c. Able to see the trend, trending allows users to make decisions and react to threats before they become a problem, such as a call center manager can see the number of wait period getting up every week or month, then the manager can act before it become a problem.
- d. Presentation of data in real time, dashboard can show the state of the company in real time without have to wait the for the end of the year or month.

In carrying out its functions, knowledge becomes important for upper management. Based on this knowledge will be assessed an executive function. The success of the decision-making greatly based on knowledge that is owned by the executive. As presented by [17]



knowledge is the result of the data and / or information that has been processed and is used by management to make decisions that benefit the organization/company.

In developing BPM there are several requirements that must be met, for example quality management, Balanced Scorecard, Six Sigma and others. However, any tools used for implementing performance management must meet the following basic requirements:

- a. The company must have a clear strategy in an effort to realize its objectives.
- b. The company has key performance indicators "key performance indicators" that are measured quantitatively, have targets to be achieved and clear deadlines.
- c. There is a performance contract, where performance measures are outlined in the form of an agreement between subordinates and superiors.
- d. There is a standard performance management cycle that all elements of the company adhere to in the form of performance planning, implementation, supervision and evaluation.
- e. There are rewards and punishments that are constructive and consistent in the company.

## CONCLUSION

BPM can not be separated from the strategy and support of data, either directly from the OLTP and DWH. BPM application can be very useful facilitator for management to monitor the ongoing performance towards the targets.

The information displayed can be a reference for the management to monitor the performance of the current, which provides a summary in the form of Digital Dashboard, which contains a Key Performance Indicator (KPI) targets and plans. In addition, the detail of displayed information can support solution of problems that occur in every size.

Dashboard is a tool to make it easier. Reports are generated quickly and display summary information for making decisions quickly and accurately. Dashboard also helps to look at the performance by displaying desired summary of needs presented on only one window.

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