

BUILDING AN EFFECTIVE BUSINESS INTELLIGENCE SYSTEM TO SUPPORT STRATEGIC DECISION MAKING AT PT SHOPEE INTERNATIONAL INDONESIA

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Submitted 14 Juni 2024	Accepted 17 Juni 2024	Published 27 Juni 2024

ABSTRACT

In today's digital age, data is a crucial asset for companies to enhance performance and support strategic decision-making. PT Shopee International Indonesia, as one of the leading e-commerce companies in Indonesia, requires an effective business intelligence system to process and analyze complex and abundant data. This system must be able to provide relevant and accurate information to stakeholders to support sound strategic decision-making that positively impacts the company. This journal discusses the design and implementation of an effective business intelligence system for PT Shopee International Indonesia. The system is built using the Business Intelligence Lifecycle (BIL).

Keywords: Business Intelligence, Strategic Decision Making, PT Shope International Indonesian, Business Intelligence Lifecycle (BIL).

1. Background

In the current digital era, data has become a crucial asset for companies to enhance performance and support strategic decision-making (Ponnurangka, 2018). Companies that can effectively utilize data will have a competitive advantage over those that cannot (Gartner, 2021).

PT Shopee International Indonesia, as one of the largest e-commerce companies in Indonesia, generates large and complex volumes of data. This data comes from various sources, including customer transactions, user activities, and logistics data. Processing and analyzing this complex data requires a reliable and integrated system. Business intelligence (BI) systems provide a solution to meet these needs (Turban, et al., 2018).

The Importance of Business Intelligence Systems

BI systems can help companies process and analyze data into relevant and accurate information. This information can then be used to support precise strategic decision-making, positively impacting the company.

Some benefits of implementing BI systems for companies include:

- Increasing operational efficiency: BI systems can help companies identify and resolve operational issues more quickly and effectively.
- Enhancing customer satisfaction: BI systems can help companies better understand customer needs and provide more personalized services.
- Boosting profitability: BI systems can help companies identify new business opportunities and increase revenue.

The Need for a BI System at PT Shopee International Indonesia

PT Shopee International Indonesia has a significant need for a BI system. This is due to several factors, including:

- PT Shopee International Indonesia generates large and complex volumes of data.
- PT Shopee International Indonesia requires fast and accurate information to support strategic decision-making.
- PT Shopee International Indonesia faces intense competition in the e-commerce industry.

2. Basic Concepts of Business Intelligence (BI)

Business Intelligence (BI) is a process, technology, and tool used to transform raw data into useful information that can be acted upon by decision-makers. BI provides a platform to access, analyze, and visualize data from various sources. This enables decision-makers to understand trends, patterns, and anomalies in the data (Ponnurangka, 2018).

2.1 Benefits of Implementing Business Intelligence (BI) Systems

Implementing BI systems can provide various benefits for companies, including::

- BI systems can help companies identify and resolve operational issues more quickly and effectively.

Business Intelligence (BI) plays a crucial role in assisting companies to identify and resolve operational issues more quickly and effectively. Here are some ways:

1. BI gathers data from various internal and external sources such as sales, finance, manufacturing, and logistics.
 2. BI enables real-time monitoring of operational performance.
 3. Advanced BI analytics tools allow companies to delve deeper and identify the root causes of operational issues.
 4. BI helps companies simulate various scenarios and solutions to solve operational problems.
 5. With information and insights obtained from BI, companies can make more accurate operational decisions based on data.
- BI systems can help companies better understand customer needs and provide more personalized services.

Business Intelligence (BI) can assist companies in better understanding customer needs and providing more personalized services in various ways, including:

1. BI can collect and analyze customer data from various sources such as purchase transactions, social media interactions, and surveys.
 2. By analyzing customer data, companies can build detailed profiles for each customer.
 3. BI can be used to target marketing campaigns to the most appropriate customer segments.
 4. BI can improve customer service by identifying common issues and trends.
 5. BI can be used to develop new products and services that meet customer needs.
- BI systems can help companies identify new business opportunities and increase revenue.

Business Intelligence (BI) can be a valuable tool for companies to identify new business opportunities and increase revenue in various ways, including:

1. Better understanding customers, BI systems can help companies analyze customer data from various sources such as purchases, social media interactions, and loyalty programs. This allows companies to better understand customer behavior,

preferences, and needs.

2. **Optimizing Sales and Marketing**, BI systems can help companies analyze sales trends to identify products, regions, and sales channels that are performing well and those that are not.
3. **Improving Operational Efficiency**, BI systems can help companies identify inefficiencies in their operations, such as waste, duplication, and long wait times.
4. **Developing New Products and Services**, BI systems can help companies understand market trends and unmet customer needs.
 - BI systems can help decision-makers understand complex information and make more accurate and strategic decisions

Business Intelligence (BI) plays a crucial role in assisting decision-makers in understanding complex information and making more accurate and strategic decisions. Here are some ways:

1. BI gathers data from various sources, such as sales transactions, customer data, and social media, and processes it into structured and easily understandable information..
2. BI systems allow decision-makers to access the information they need anytime and anywhere, through desktops, laptops, or mobile devices.
3. Advanced BI tools can be used to analyze historical data and current trends to predict future outcomes.
4. BI platforms provide a centralized platform for sharing data and insights with the entire team.
5. BI tools enable decision-makers to monitor business performance in real-time and identify areas needing improvement.

(Turban, et al., 2018).

2.2 Components of a Business Intelligence (BI) System

BI systems generally consist of several key components, including:

- Data warehouse is a centralized repository that stores data from various sources
- Data mining is the process of extracting valuable information from data
- Business analytics is the process of analyzing data to obtain actionable information
- BPM (Business Performance Management) is the process of monitoring and managing business performance.
- Data visualization is the process of visualizing data so it is easy to understand (Turban, et al., 2018).

2.3 Methodologies for Developing Business Intelligence Systems

There are several methodologies that can be used to develop BI systems, including:

- Waterfall Methodology

The Waterfall methodology is a linear and sequential system development methodology.

- Agile Methodology

The Agile methodology is an iterative system development methodology that focuses

on collaboration..

- DevOps Methodology

The DevOps methodology is a system methodology that combines development and operations (Gartner, 2021).

2.4 Challenges in Implementing Business Intelligence Systems

Implementing BI systems can face several challenges, including:

- Data quality: Poor data quality can hinder the effectiveness of the Business Intelligence system.
- Data integration: Integrating data from various sources can be a complex and expensive process.
- Skills and knowledge: Specialized skills and knowledge are required to operate and utilize the Business Intelligence system.
- Cultural change: Implementing BI systems may require cultural changes within the organization (Gartner, 2021).

2.5 Case Study of Business Intelligence System Implementation

There are many successful case studies of Business Intelligence System implementations across various industries, including the e-commerce industry. One example is Amazon, which uses BI systems to improve operational efficiency, enhance customer satisfaction, and increase profitability (Turban, et al., 2018).

2.6 Strategic Management

Strategic management is defined as the art and science of formulating, implementing, and evaluating cross-functional decisions that enable an organization to achieve its objectives (Finarsih, 2021). According to Wheelen and Hunger (2003), strategic management is a series of managerial decisions and actions that determine the long-term performance of a company.

In relation to the objectives that strategic management aims to achieve (Finarsih, 2021), it is stated that the goal of strategic management is to utilize and create various new and different opportunities for the future.

Strategic decisions are decisions aimed at responding to environmental challenges and changes, and they are usually long-term in nature. These decisions are made by top management. Strategic decisions have specific characteristics that distinguish them from other decisions (luthfia,2021).

The main objective of strategic decision-making is to choose alternative strategies to achieve long-term competitive advantage. The following are the specific characteristics of strategic decisions:

1. Rare: Strategic decisions are unique and specific, and cannot be replicated by other organizations, companies, or institutions.
2. Consequential: Strategic decisions involve significant resources and require a substantial commitment from the relevant parties.
3. Directive: Strategic decisions set guidelines that can be followed for the organization's future decisions and actions.

2.7 Comprehensive Strategic Management Model

The strategic management process can be easily studied and applied using a model, where each model illustrates a specific process (David, 2011).

According to David (2011), this model does not guarantee success but offers a clear and practical approach to formulating, implementing, and evaluating strategies.

The application of the strategic management process is usually more formal in larger and more established organizations. Companies with multiple divisions, products, markets, and technologies also tend to apply the strategic management process more formally.

2.8 Strategic Hierarchy

According to Thompson & Strickland (1998), the strategic hierarchy is divided into three parts:

a. Corporate Strategy

Determining the business areas or a series of business areas of interest and planning the basic strategy to lead in those areas is the main task. Corporate strategy is formulated by top management and is designed to achieve the organization's goals.

b. Business Strategy

Formulating business strategy involves decision-making at the business unit level. Business strategy refers to how a business unit plans to compete with other companies in the same industry. At this level, the focus is on how to compete.

c. Functional Strategy

Functional strategy is more technical, consisting of operational directions and guidelines. This strategy includes plans to achieve efficient, effective, and optimal use of resources in each function, in order to support the corporate and business strategies.

2.9 Strategic Decision-Making Process

According to Mintzberg and Theoret (2006), in the model of the strategic decision-making process by Mintzberg (1976), there are three stages that companies must go through:

1. Identification Phase: This includes the stage of recognition or acknowledgment and diagnosis.
2. Development Phase: The key to the decision-making process involves all activities aimed at developing one or more solutions to solve problems and crises, or to explore opportunities. This development phase is described with two general stages: search routine and design routine.
3. Selection Phase: This phase involves three ways to formulate choices: decision-makers assess options based on experience/intuition rather than logic, through rational and systematic analysis of alternatives, and through negotiation in the selection process involving decision-making groups and all political activities. The decision is then formally accepted, and authorization can be carried out. The selection phase is divided into three parts: selection, evaluation, and authorization.

3.1 Conclusion

In the context of Business Intelligence (BI), this process utilizes technology and tools to transform raw data into valuable information for decision-makers. BI enables access, analysis, and visualization of data from various sources, helping companies improve operational efficiency, understand customer needs, identify new business opportunities, and make more informed strategic decisions. This process consists of several key components such as data warehouse, data mining, business analytics, BPM, and data visualization. Despite facing challenges such as poor data quality and complex integration, BI remains a crucial tool in modern business strategies.

3.2 Recommendations

To address the challenge of data quality in the implementation of Business Intelligence systems, it is important to prioritize good data maintenance strategies and utilize data analysis tools that can clean and process data efficiently.

Regarding complex data integration, considering the use of BI platforms with strong integration capabilities or building a well-integrated data architecture can be a solution

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