

## Implementation Of E-Business Information System In Indonesia : Prospects And Challenges

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### Abstract

Today, advances in information and communication technology have had a huge influence on many parts of life, particularly in the corporate world. An e-business, or electronic business, is one of the new concepts available. Through Electronic Data Interchange (EDI), e-mail, electronic bulletin boards, electronic cash transfers, and other network-based technology, this business model promotes the flow of information and paperless corporate transactions. An e-business information system (EBIS) is a device, technique, or set of business processes that use technological hardware, software, networks, and brainware to communicate, transact, and manage a range of business operations throughout an organisation without regard to time or location. The use of e-business information systems has become a critical component for businesses to attain national and global commercial success. Indonesia is regarded as a prospective state with the quickest e-business or e-commerce development. Despite this, businesses have not completely tapped into the benefits of e-business.

**Keywords :** Information Systems, E-Commerce and E-Business, Prospects and Challenges.

### 1. Introduction

The growth of information and communication technology has had a huge influence on many parts of life today, particularly in the business world. E-business, or electronic business, is one of the innovative concepts provided. Every company and business professional has faced new opportunities and problems as a result of the adoption of e-business.

Changes in business practises are also a trend in Indonesia, as they are in other areas of the world. These modifications are aimed primarily at addressing the demands of



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information and large-scale network systems, allowing for quicker and more flexible access. The most practical type of internet-based computer technology, particularly portable computers, is rapidly evolving. The world of trade, particularly in Indonesia, is no longer constrained by distance or time. Because of the high level of human mobility, the world of business must be able to supply services and commodities on demand. To address this issue, new transactions are emerging that connect producers and consumers over the Internet. Transactions via the Internet are better known as e-commerce and e-business.

According to Diana (2001), the main characteristic of today's global business is e-business (electronic business). Through Electronic Data Interchange (EDI), e-mail, electronic bulletin boards, electronic cash transfers, and other network-based technologies, this business model stresses the paperless flow of information and business activities. Three key elements contribute to the popularity of e-business: (2) social and environmental factors such as changes in workforce characteristics, government deregulation, awareness and demand for ethical practises, awareness of corporate social responsibility, and political changes; (3) increasingly intense competition, global economy, regional trade agreements, and growing consumer power; and (4) social and environmental factors such as changes in workforce characteristics, government deregulation, awareness and demand for ethical practises, awareness of corporate social responsibility, and political changes; and (3) technological factors, including the short life cycle of products and technology, innovations that appear almost all the time, information overload, and reduced risk of technology costs on performance.

E-business, according to Oetomo (2001), is a business system based on electronic media such as radio and television. Because the general public is more familiar with the e-business system when the internet is utilised as an electronic medium, the general public thinks that e-business is an internet-based business. With the introduction of mobile devices such as smartphones and tablets, the evolution of e-business continues to evolve. Internet access can be done wirelessly (wireless) on a mobile phone or tablet system, which supports the development of new protocols such as the Wireless Application Protocol (WAP), which is an internet application that does not require cables, allowing users to access the internet whenever and wherever they are using a cell phone or tablet.

## **2. Discussion**

### *Definition and Scope*

The definition of e-business information systems is first defined before the application of e-business information systems is discussed. According to professional opinion, several definitions of Information Systems (Information Systems) are as follows:

Laudon and Laudon (2012): "Technically, information systems are a collection of interconnected components that gather (or retrieve), analyse, store, and disseminate data to aid decision-making and control in an organisation. Information systems may aid managers and employees in analysing issues, visualising complicated subjects, and developing new products, in addition to aiding decision making, coordination, and control."

O'Brien and Marakas (2011): "Any structured mix of people, technology, software, communications networks, data resources, and rules and procedures that stores, retrieves, transforms, and disseminates information in an organisation is referred to as an information system (IS). People connect with one another utilising a range of physical devices (hardware), information processing instructions and processes (software), communications routes (networks), and stored data through modern information systems (data resources)."

Gordon B Davis (2005): "The terms information systems, management information systems, and information management are all used interchangeably in organisations to refer to the systems that deliver an organization's information and communication services, as well as the organisation function that plans, develops, and manages the information systems."

Based on the foregoing, it can be concluded that the Information System is a collection of interconnected elements that function as a single entity to integrate data, process and store information, and distribute information; or a combination of people, hardware, software, communication networks, data sources, policies, and procedures for storing, transforming, and distributing information in the organisation. IS assists managers and organisational personnel in analysing issues, visualising the findings through graphs, and enabling the development of new goods and services.

Hardware (hardware), software (devices) software), brainware (human resources), and network are the primary components of organisational information systems (network). All of these elements work together to boost productivity, efficiency, and effectiveness while also supporting the organization's goals, vision, and mission.

Internet technology has been a hot topic for experts and practitioners in tandem with the development of corporate information systems. Various commercial opportunities arose as a result of this. The company's operations appear to never cease since the internet was employed as a commercial tool in the 1990s. Virtual stores are available 24 hours a day, 7 days a week to facilitate the interchange of information and transactions.

The application of information systems and internet technology by business organizations has given birth to e-business. According to Mohan Sawhney (in Indrajit, 2002), e-business is: "The application of electronic networks and related technologies to allow, improve, enhance, change, or develop a business process or business system in order to provide greater value to existing or future consumers." This concept, in theory, demonstrates how electronic and digital technology may be used to create business processes and systems (exchange of products and services) that are far superior than traditional techniques, particularly in terms of the advantages that can be realised by people who are interested (stakeholders).

E-business, according to Oetomo (2001), is a word used to describe commercial operations conducted through the internet. E-marketing, e-tailing, e-commerce, e-promotion, e-PR, e-banking, e-market, e-product, and a slew of other names arose in the meanwhile. These phrases imply that the actions that go along with these commercial operations make use of internet technology as well.

The phrases e-business and e-commerce are frequently used interchangeably to describe the same activity. The two, however, have distinct meanings. The prefix "e" stands for "electronic," which refers to operations or transactions carried out without the use of money or physical touch. Transactions are now conducted electronically or digitally, thanks to the fast advancement of digital communication. E-commerce refers to internet-based commercial transactions in which the parties involved make sales or purchases. The transfer or handing over of ownership and rights to items or services is at the heart of e-commerce transactions. E-commerce is technically a subset of e-business since e-business encompasses all online company activities, including direct sales to customers (e-commerce), transactions with manufacturers and suppliers, and contacts with business partners. In e-commerce, information is exchanged via a centralised database as well. Technology resources are limited when it comes to business activities. In theory, e-commerce entails the exchange of money in transactions. Because it is so wide, e-business encompasses more than just monetary transactions; it also encompasses marketing, product creation, management supply, and so on.

As a result, an e-business information system is a technology-based device, technique, or business approach. Hardware, software, networks, and brainware are used to engage, transact, and carry out numerous commercial operations across businesses without regard for time or location. Implementing e-business information systems has become a critical component for businesses to attain national and global commercial success.

#### *E-Business Information Systems*

Electronic information systems, according to Jogiyanto (2005), are required to support existing business operations (e-business). Accounting, production, marketing, finance, and human resources are some of these functions. Accounting information systems, manufacturing information systems, and marketing information systems are examples of business information systems. information system), financial information system (financial information system), and human resources information system are examples of business information systems. Each corporate information system will be explored in more detail below, according to its role (Akil, 2013).

An accounting information system (AIS) is a computer-based system that tracks and reports business activities, money movements within a company, and generates financial reports. The three major goals of SIA are as follows: To assist in daily activities. TPS (Transaction Process Systems) is a component of the AIS system that converts transaction data into usable information for everyday operations. Support decision-making by employees who get checks, managers who provide daily sales, and consumers who receive purchase invoices (to support decision making by internal decision makers). Management needs information from the SIA as a foundation for making decisions. For example, upper management needs accounting information for planning, particularly sales information for cash flow planning; To fulfil obligations relating to stewardship. Company management needs to report its activities to stakeholders such as shareholders, creditors, and labour unions. Accounting information presents financial statements, profit and loss, and others required by stakeholders.

Creation Information System is a data framework that upholds the arranging, control, and consummation of the assembling system. Creation frameworks comprise of two sorts, to be specific: actual creation frameworks and data frameworks. The actual creation framework is an actual framework for controlling the method for creation which is ordinarily called a creation control framework or Production Control System (PCS). The PCS framework is at the working level or the lower level. Laptops comprise Computer Aided Design (CAD); Computer Assisted Manufacturing (CAM); Robot; and Computer Integrated Manufacturing (CIM). While the creation data framework produces data to directors in the creation work. Production Information System inputs are: outer creation information, inside creation research information, and bookkeeping data frameworks. The model is a creation model. The yields are: creation measure data, stock, creation quality, and creation costs. The information base is creation.

A showcasing data framework (Marketing Information System) is a data framework that upholds the arranging, control, and exchange handling needed for the culmination of promoting exercises, like deals with the executives, publicizing, and advancement. Marketing Information System has similar parts as data frameworks by and large, however the thing that matters is that the part Marketing Information System is in an uncommon showcasing setting, specifically: promoting information input, advertising information model, promoting information yield, promoting data set data set, and the yield through advertising reports. Input Marketing Information System as outside showcasing information, inner showcasing information, and bookkeeping data frameworks. The model is a promoting model. The yields are: place data, items, advancements, costs, and promoting mix. The information base is advertising.

Financial Management Information System is an information system supporting financial managers in management of corporate finance and financial resources. Financial Management Information System is a financial information system. Input in the form of

external financial data, internal financial information and accounting information systems is the Financial Management Information System component. The model is a model of finance. The results are: information on financial forecast, working capital, capital investment, financing, capital budget, budget and tax. Financial is the database.

HRIS is an information system that supports HR management tasks such as recruitment, hiring, placement, performance assessment, education and development for employees. Inputs for HR SIMs are external HR, internal HR and accounting systems. The model is HR, the output is: workforce planning, workforce processing, recruitment, benefits and working environment information. Data on human resource (HR) at the company are in the database.

The above business systems display effective information systems and their respective applications. These apps are applications for three management levels which determine the success of business managers with e-business information systems. Business actors profit from different advantages with the use of e-business information systems. There are five advantages of e-business (Indrajit, 2002) according to Charles Rieger (by IBM) and Mary P Donato (by Xerox).

1. Efficiency

Improving efficiency is the major advantage of professional companies that enter the e-business environment. Research suggests that almost 40% of the entire operational costs of the Company are committed to information development and transmission to different linked divisions. It will be possible to assess how the company might minimize its total operating cost by using information technology in several daily business series. E-mail, for instance, can lower expenses of communication and delivery of documents; websites can minimize marketing and public affairs costs.

2. Effectiveness

This benefit might be realized if important changes occur in the everyday operating behavior of the company (professional business organization). Companies, for example, may connect without interruption 7 days a week and 24 hours a day with their clients using Internet technology.

3. Reach

The next advantage to be gained from the corporation is the e-technology capability to increase the company's reach and space. With Internet connections, this means that the company has connected without being confined to time or place with hundreds of millions of potential clients throughout the world.

4. Structure The next

Because of the convergence of the structurally perceived as independent industrial sector, the advantage of e-business implementation is the production of numerous types of new products and services. See how a book can be sold at auction or a virtual bank that is also a financial counselor, or a holiday package with a comprehensive set of products (traffic, hotel and tourist websites) or a library, and so on.

5. Opportunity

The last advantage is that the new e-technology discovery from time to time offers businesspeople the opportunity to innovate to build new items or services. See how different types of fresh business ideas are always presented by different sites that grow swiftly on the internet. There have been virtual financial institutions such as e-banking, e-stock exchange

and e-insurance in the financial sector; developers of e-procurement, e-logistics, e-distribution and e-inventory enterprises have also been founded within the manufacturing industry.

Each business organization (firm) therefore requires a trustworthy e-business information system to assist achieve its goals and to survive increasingly tough business rivalry in the digital era. Managers have an obligation to implement proper business information systems in order to help them perform their functions in the professional management of the corporation.

#### *Prospects and Challenges of E-Business in Indonesia*

Together with the internet growth in the late 1990s, several online businesses have developed that offer products through websites that allow online transactions, and the word e-commerce has been created. In America, the value of online trading continues to grow. The value of online retail transactions in the first 3 (quarters) months of 2008 was USD 33 billion based on the information provided in the US Census Bureau. This figure is approximately 3.3 per cent of the overall retail value over that period. Compared with the end of the year 2000, the value of online retail transactions increased by only 1% of the entire retail value. The value of retail transactions carried out on the internet in Indonesia in comparison with the value of retail transactions as a whole is still quite tiny in quantity and %age. This is in line with the few Internet users in Indonesia, who only account for 8 % of the total population according to APJII data. Additionally, internet users who use the internet for many years may not need to transact via the internet due to usual problems or are uncertain of their safety. E-commerce is likely to grow rapidly in Indonesia. There are various elements supporting this, namely that Internet access gets cheaper and faster and hence the number of internet access users increases; Support from the banking sector providing internet banking and sms-banking services to speed up the transaction; Web hosting costs become less expensive; Building an e-commerce website is easier and cheaper to ensure that various open source software, such as osCommerce Magento and others, are available. In addition, the development of e-commerce needs to be supported in Indonesia by regulations that can protect consumers against losses due to fraud, credit card fraud and other potential losses. Thus consumers can shop online safely and comfortably.

Indonesia is regarded as the potential country with the rapidest development of e-business or e-commerce by technology consultant Redwing-Asia, "Indonesia's electricity business is a Big Bang waiting to happen." In Indonesia, according to Redwing, an estimated total revenue of around 3 billion dollars (lowest scenario) can be generated in 2015 to 10 billion dollars (highest scenario). With this potential aspect, major eCommerce players and a number of other players can draw attention to it. Investment organizations worldwide, in particular from China's standpoint as one of the key players in the fast-growing e-tailing sector over the last five years. Indonesia has very similar market connections and dynamic growth in this respect, depending on e-commerce growth in China. Indonesia also becomes a major email market because a number of foreign investors have immediately been given the attention of Chinese e-commerce growth, which affects email market conditions in Indonesia. In addition to e-commerce development, the number of Middle classes that has emerged from economic growth has increased and increased people's purchasing power. The middle class population is estimated to increase from 74 million in 2012 by 2020 to 140 million in the next 7 years! With an annual growth estimated at approximately 8-9 million. The fantastic growth occurs not only on the islands of Java, Sumatra and other parts of Indonesia (Jakarta,

Surabaya, Bandung, Medan) but also in several regions in Indonesia. In Indonesia, currently, there are about 25 regions with a population of 500,000 in the middle class, which is estimated to be doubled by 2020. In addition, Redwig recommends that Asia use this impulse to boost the growth of the e-commerce market in the short- or medium-term by additional public and private investments. A large US\$20 million investment from international e-tailing players is reported to be coming to Indonesia in the near future. However, companies have not taken full advantage of the huge opportunities offered by e-business.

Because these firms still seek to increase efficiency and business efficiency, most firms (67 %) are failing to take advantage of the e-business value. Only around 11% of companies have actually managed to improve the value offered by e-business while around 22% focus more on the task of expansion.

According to Wade (2005) quoted in <http://nafisahssi.blogspot.com> .co.id (2014), the success of e-business is determined by several factors, including:

- The expectations of the company are supported by funding available.
- Suitable schedule and time for implementation.
- Knowledge of e-Business system development business processes, competence and experience.
- Both functional and cross-functional communication.
- All parties involved are deeply committed.
- While the factors that cause e-business failure, among other things: management does not have a complete commitment.
- A process of change management is not followed by the implementation of e-business.
- Professional IT vendors who are corporate partners.
- Poor infrastructure of communication.
- The IT strategy does not conform to the strategy of the company.
- In transactions, there are security problems.
- Failure to provide funding.
- There are no rules to support and protect business parties (cyberlaw).
- Use of short-term objectives as a base for investments in e-business.

Through various studies on current e-business developments, there are at least 10 e-business prospects in Indonesia (<http://nafisahssi.blogspot.co.id>, 2016), namely:

- E-business type: E- and digital devices development as a communication and business relationship medium much more quickly than transactions purchase and sale.
- Community: The creation of demand for the younger generation is easier than the change in the old generation's lifestyle.
- Content: The internet is the company, not the end user, that most profits.
- Device Technology: PC technology is transformed into digital technology and microprocessors like PDA
- Channels of access: Access: The development of IT, such as the internet and websites offers companies interested in using these channels
- Regulation: e-business is intimately associated with financial profit-seeking activities. In the implementation of conducive e-business regulations the government will follow state developing countries.

- Organization: Cultural, educational, social and conduct factors play an important role for determining whether or not the use of information technology has been successful
- Change strategy: in developing countries, companies prefer evolutionary methods to revolution in e-Business implementation.
- Business process: Companies that can combine traditional concepts of the physical value chain with virtual value chains achieve successful results.
- System Approach: E-business can only develop if other components in the e-business system environment also grow and develop simultaneously.

In economics in particular, e-business is not now only used in the sector of marketing. It has now also penetrated other areas. Examples of e-business development include e-payment and e-partners. In Indonesia, e-business prospects and challenges are thus largely determined by how far business organisations in the country can take advantage of opportunities and overcome barriers to implement e-business in national, regional and global interactions and transactions.

### **3. Conclusion**

Progress in communications and IT has currently brought significant changes in various aspects of life, particularly in business. E-business is one of the new concepts (electronic-business). E-business implementation provides every organization and every business professional with new prospects and challenges. An electronic business information system is a device, method or business method which uses hardware, software, network, and brainware technology in order for different business activities between organizations to interact, transact and exercise without being restricted by time and place. In order to achieve business success on a national and global level, e-business information systems are an important component for organizations. In order to support the functions of companies, such as accounting, production, marketing, finance and human resources, electronic information systems are necessary. The information system consists of an accounting information system, a production information system, a marketing information system, a financial information system and an information system for human resources. E-Business presents five advantages, namely: efficiency (reduction in operational costs); efficiency (improvement in the quality of service); reach (expanding company scope and movement); structure (change in business form and type); and opportunity (opening opportunities for business people to innovate to create new products or services). Indonesia is regarded as a potential country with the fastest e-business or e-commerce development. According to Redwig, the overall estimated revenue for Indonesia in 2015 is estimated to reach US\$3 trillion (lower scenario) to US\$10 trillion. Business organizations have not fully utilized the opportunities offered by e-business. The majority of the companies (67 per 100), which still aim to increase efficiency and business efficiency, do not use the maximum value of e-business. E-business value has developed only around 11 % of companies while the mission of expanding business reach is focused more around 22 %.

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