The Future Of Information Technology

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Abstract: This article discusses the role of information technology which is a combination of computer technology and communication technology needed in the information age. One form of information technology is the emergence of the internet which is an information network that has a large and wide reach and the existence of e-commerce business which is another alternative for business people. Besides that, the development of information technology in Indonesia, its obstacles and expectations.

Index Terms: Future Technology, Information Technology, Robotics Technology, Computer, Communication Technology, Sophisticated Technology .

1 INTRODUCTION

Information technology changes things quickly. Information technology, which is a combination of computer technology and telecommunications, replaces the in-industrial paradigm to be a post-industrial paradigm, which also means changing the behavior of business or business people, which means that information technology gets business relationships with customers, because this shortens the distance and time so that it will reduce the gap in the distance and time of consumer demand and fulfillment of its needs. With the changes in this business environment, it will cause changes in the form of management decision making which means that the structure of the organization with the existence of information technology requires a structure that is quickly formed and re-formed as a result of rapid changes. The history of economic development is divided into three eras namely the agricultural era (agricultural era), industrial era (industrial era), and information era (information era) (Robert K. Elliot, 1992). Before 8000 BC, people lived from hunting, gathering, fishing, so they ate from what they got and moved (nomads). Then 10,000 years later until 1650, began an era called the agricultural era with the start of living and planting land dan Informasi Information Technology and Development (Mildawati Point) 101 agriculture. Beginning in 1650 the industrial era began with the discovery of steam engines which helped manpower in factories that transform raw materials into raw materials, the growth of cities where factories were located, the expansion of industrial markets. In 1955 found transistors and the installation of the first commercial computer (although the first computers used vacuum tubes that combined computers with semi-conductors) began the information age. In the information age, the system activists are not as enthusiastic as the era of agriculture or machinery in the industrial era, but information. The accounting system in the industrial era only considers tangible assets, focuses on products, accounting is recorded when it occurs, and organizations are in the hierarchy. While the third era accounting system is focused on changing resources and processes. Because the manager of the information age must change the shape of the organization that facilitates the implementation of resources and processes. Resources and obligations measured in the third era system must also change, so that the third era accounting system must allow the form of organization that is a form of organization which allows members to move quickly, large and eventually disappear.

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The resource that moves the company in the third era is information that is an asset, as well as other assets, namely research and development, human, knowledge, data, and capacity for innovation. This asset is not seen in the balance sheet of the second era. The third-era accounting system must present information in real time in the business by not waiting until a new event occurs and then recording it. In practice, many companies all use integrated factory computers which are continuous process activities. This extraordinary value added, is being able to see the goods in the process that are in the shoop floor (production site) per week or per month without the calculation of security items and by stopping all activities. As we know at this time, we have come across a variety of sophisticated technology tools that can make it easier for us to complete our daily work/needs. This is now difficult for us to avoid, as the industry uses robotics technology to make producers more efficient and effective, we use smartphones and several other gadgets. To deal with the rapid changes in society, you must combine whatever you have learned in the subsequent chapters with an understanding of the past and then apply the combination of knowledge to know and understand the latest developments. A review of the past is needed to understand how various factors are related. This helps you anticipate how changes in these factors can affect the future. Anticipating the future can help you get ready for changes in your work and personal life. This gives you a better opportunity to control changes that will affect your life, and provide a basis for taking decisions related to direction and ethical actions that you need to make when needed. The transformation of the technology field that is so absurd and very fast indeed forces experts from various countries to continually innovate. Because if they don't, they will be eliminated in the competitive world of technology. Principles: the unique and temporarily exploratory will be the one who will winner. You know what else experts and technology experts are preparing to develop in future computer technology? Maybe you will be stunned while muttering to yourself. Is that true or even unimaginable at all because it's so difficult to imagine. Establishing an intelligent society based on information and communication technology is not as easy as turning the palm of the hand. But that is the challenge that Fujitsu is trying to overcome, a leader in Japanese-based information and communication technology business solutions providers. With modern technology it is hoped that businesses and communities will transform towards a better, more efficient and effective direction. Technological developments continue to occur, this meets human needs as if it never stops and continues to grow, we see this from the development of computer technology that has existed since the first time it appeared until now. The operating system can run faster again and the development of

this computer continues to be carried out until the third, fourth type of computer, and comes to the fifth generation of computers that exist at this time. Since the ordinary computer era has begun to gradually be abandoned, the world community has switched to flexible laptops or computers that can be carried everywhere, but with the discovery of new technologies that are much easier and more sophisticated, many laptops will leave. All of this always happens not only in computer technology but in all types of technology that exist. For example, telephones or mobile phones, from time to time always experience the development of becoming more sophisticated and more able to help humans fulfill their needs. We see how computer development was discovered from the start. Computer at the beginning of the period found certainly does not have the smallest size. At the beginning of making a computer for one computer, a place with a size of 500 square meters was needed to be able to accommodate only one computer unit. Then this very large form was attempted to be reduced to second generation computers. From each generation each computer has increased in everything that is in it, starting from the size of the computer itself, the need for electricity, the software that is owned, the memory capacity in it, and the ability of computers to be able to communicate. Changes to the current system of desktop computers have changed dramatically, but monitors, keyboards and mice haven't changed much in the last 20 years, replacing the monitor is changing from a CRT to a flat panel, but newer ideas are being developed. One method is to install a small screen on a pair of glass with a lens that makes the screen appear to float in the air in front of us. Another method is to make the screen appear to float in front of us by using a lowpower laser to project images directly to the retina behind the eyeball**.**

2 LITERATURE REVIEW

Information technology is needed in the third era, so that the accounting system can be run. Information technology enables companies in the third era to collect, analyze, report and disseminate new types of information: (Robert Elliott, 1992) Automated Data Capture: This is a big advantage offered by information technology, the opportunity to design customer interfaces, employees, suppliers by interacting the captured data automatically. Constantaneous Access and Processing: This is an advantage of the time dimension of information technology. The third accounting system must allow to analyze and react to market data in real time or real time. Data and analysis must be accessed by users or users immediately. Geographical Freedom: This is a space dimension of the benefits of information technology. The third accounting system must be aimed at all aspects of the company without overcoming remote areas which means that information from anywhere in the company can be accessed by managers immediately. Full Versatile Analysis and Reporting: Information technology enables the third-era accounting system to carry out new analyzes and report new formats such as those needed. Third-generation company managers must have the data reported in the requested manner, also if the report has never been requested before. Capacity For Additional Data Types: Information technology allows managers to add new information to new information systems without redesigning the entire structure. Access To External Data Bases: Information technology can enable the third-era accounting system to open an external base data. A lot of information is needed in the third accounting system regarding competitors and other market descriptions. Also information will be used from the community database and must be arranged at the request of management.

The Past Forms the Present

In the 1970s, the spread of personal computers and network connectivity was difficult to predict. At this time mainframe computers are still dominating. In the 1970s and early 1980s, Japan controlled the US manufacturing market share with high-quality products and business models that coordinated various businesses with government, banks and manufacturing. Many people think this model is far more efficient than the US business model. In 1982 the Ministry of Trade and Industry Japan (MITI) announced a plan to become a world leader in the field of supercomputing. Some people predicted that the glory of the US as a world leader in manufacturing and computing would end. However, a variety of new factors have begun to play a role, some of which are unique to the United States. To see the development and use of information technology we can see it from the use of the Internet in the world. Internet stands for Interconnection Networking, which can simply be interpreted as a global network of computer networks (Randal and Latulipe, 1995). Today, the internet has experienced extraordinary developments in various parts of the world. Internet users have doubled from day to day like quantum leaps in numbers. This also happened in Indonesia. Houghton recorded internet users around the world around 3 million in 1994, surging to around 60 million in 1996, and 100 million in 1998. And now internet users have reached 1,093,430,359 people. . What an extraordinary improvement.

3 DISCUSSION

In developing the Future of Information Technology, experts continue to innovate and expand in Europe and developing countries. After successfully creating the K Supercomputer, the fastest computer in the world today, Fujitsu is now trying to face three main challenges in the digital world: Big Data (a wave of information big ones that are often forgotten), Cloud Computing, and Human Centric Intelligent Society — a better future life, where people can feel peace and security by applying information and communication technology in various aspects of life. That is the picture of life in the future that is already in sight, from changes in the orientation of the company, digital ecosystems, to an interconnected world based on information and communication technology. "That is a radical change from life that we must immediately face,". Moreover, analyst from the United States, Vernon Turner, said that in 2020 the world will be crowded with around 30 billion (some estimate around 50 billion) connected digital devices. That is why, since now forming a smart society needs to be done immediately. By 2030, the world will be inhabited by around 8 billion people, 60 percent of whom are in urban areas, as predicted by the United Nations. When a variety of digital devices are interconnected and shared, new values in society are formed. When that happens, company brands can no longer only depend on one product. True that attaching company logos to a smart phone, for example, is an interaction of direct communication with consumers. But, in an interconnected world, hardware can no longer stand alone and must be supported by software. It becomes very important to build a new society. For example, if someone is injured in a

traffic accident. In one community connected to a data center, rescue workers, ambulances, police and doctors have access to the database in real time. They quickly find out how the traffic conditions at the scene, what symptoms the patient is experiencing, which hospital has the most adequate medical equipment for this case, and so on. The goal is of course to cut time so that it is not wasted, also costs, and especially in providing the best service to save the lives of victims. That is just an example of how technology is applied in one aspect of life. All that will not happen without Big Data. "We are aware of what concerns people, especially privacy," Yamamoto said. "But the future is like that. You will share almost all the information that is available. If companies want to stay competitive in the future, they must focus on things like this. And we at Fujitsu want to put humans at the center of these technological innovations.

DEVELOPMENT OF TECHNOLOGY THAT INFLUENCE IN THE FUTURE

Artificial Intelligence

Artificial intelligence or intelligence added to a system that can be arranged in a scientific context or Artificial Intelligence or simply abbreviated as AI) is defined as the intelligence of a scientific entity. This system is generally considered a computer. Intelligence is created and incorporated into a machine (computer) in order to be able to do work as human beings can. Several types of fields that use artificial intelligence include expert systems, computer games (games), fuzzy logic, artificial neural networks and robotics.

Future Information Technology

As usual towards the end of the year, many people will invent trends that will occur in the coming year. Just mention in the realm of information technology (IT), there are many trends that will be born. Technology is evolving so fast, so is innovation that is increasingly mushrooming. Overcoming the problem, Dave Evans as Chief Futuristic, Cisco IBSG Innovations Practice revealed the top 25 technological predictions that will be booming in the next few years.

[1]. In 2029, 11 petabytes of storage that can store DVD-quality videos to be played over 600 years without stopping 24 hours a day, will be available for $ 100.
[2]. In the next 10 years, we will witness an increase of 20 times the speed of home internet networks.
[3]. In 2013, wireless network traffic will reach 400 petabytes per month. Today, networks around the world transfer data to more than 9 exabytes per month.
[4]. At the end of 2010, there will be a ratio of one billion transistors per person - each transistor costs one tenth of a million cents.
[5]. The internet will evolve into a means of instant communication, regardless of distance.
[6]. The first commercial quantum computer will be available in mid-2020.
[7]. In 2020, a $ 1,000 PC will have the processing capability equivalent to the human brain.
[8]. In 2030, the ability to process a $ 1,000 PC will be balanced with the ability of a human brain.
[9]. In 2050 (assuming that the world's total population is 9 billion), the ability to process a $ 1,000 PC will be balanced with the overall brain capacity of humans on earth.
[10]. Today, we know 5% of what we will know in the next 50 years. In other words, in 50 years, 95% of what we will know is found in previous years.
[11]. Data in the world will increase sixfold in the next two years, while company data will increase fifty-fold.
[12]. In 2015, Google will index about 775 billion pages of content.
[13]. In 2015, we will create many things comparable to 92.5 million Libraries of Congress in a year.
[14]. By 2020 throughout the world, each person on average will save 130 terabytes of personal data (today an average of 128 gigabytes).
[15]. In 2015, downloading movies and peer-to-peer file sharing will increase to 100 exabytes, equivalent to 5 million Libraries of Congress.
[16]. In 2015, video communication will be far more prevalent, producing 400 exabytes of data traffic, equivalent to 20 million Libraries of Congress.
[17]. In 2015, traffic generated by telephone, web, e-mail, photos and music will explode, reaching 50 exabytes.
[18]. In two years, information on the internet will multiply every 11 hours.
[19]. In 2010, 35 billion devices will be connected to the internet (almost six devices per person in the world).
[20]. In 2020, there will be more devices online than humans.
[21]. With IPv6, there will be enough IP addresses for each star known in the entire universe to each have 4.8 trillion IP addresses.
[22]. By 2020, universal language translators will be common on every device.
[23]. In the next five years, any surface can be used as a display screen.
[24]. In 2025, teleportation at the particle level will begin to be realized.
[25]. In 2030, artificial brain planting can be done.

4 CONCLUSION

From the discussion described above, it can be concluded that information technology, which is a combination of computer technology and communication technology, is a necessity in the third era of the information age. One form of information technology is the emergence of the internet which is an information network that has a large and wide range that does not limit the time, place and users. And one form of internet that is in the business line is the existence of e-commerce business which is another method or tool that can be used by business people to market their business in addition to their traditional / mall business. Rapid advancement in information technology in developed countries is not accompanied by - rapid development in Indonesia. This obstacle is mainly due to the management philosophy that focuses more on efficiency and productivity than the need for information technology itself. But on the other hand, the development of information technology exists, this can be seen with the increasing number of companies engaged in the information technology business and the increasingly widespread information technology stocks on the stock exchange, indicating that the information technology business has begun to develop in Indonesia. information technology can be started from accountants as staff who help managers in decision making by increasing knowledge about the role of information technology.

ACKNOWLEDGMENT

The authors wish to thank to Padjadjaran University, Bandung Indonesia and Binus University, Jakarta, Indonesia.

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