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Digital Economy and Blockchain Technology Using the SWOT Analysis Model

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Abstract:- This study is aimed to see the opportunities for the development of the digital economy in the future. The Industrial Revolution 4.0 has brought changes to human life. Not only in technological advancements but also in changing mindsets/paradigms and bringing economic, business and digital investment opportunities. Change is inevitable, sooner or later the development of science and technology (science and technology) will occur, humans must adapt to changing times. The development of the digital economy is not only based on things that are visible to the naked eye, but also things related to the metaverse and based on big data, artificial intelligence (AI), cloud computing, and advanced robotics. This study also uses a SWOT analysis as an analytical tool to obtain comprehensive results regarding the opportunities of the digital economy in the future. The method used in this research is a qualitative method using a descriptive approach and literature study. The results of the study show that the digital economy will continue to develop along with the times. Various aspects related to the digital economy will continue to develop, such as banking laws and policies. In time, it is possible that digital currency (cryptocurrency) will be used as a medium of exchange in trade.

Keywords:- *Technology, digital economy, industry 4.0, Indonesian economy blockchain.*

I.INTRODUCTION

We have entered the 4.0 industrial revolution, and some countries such as Japan have even begun to enter the 5.0 industrial revolution, which is marked by radical changes in the global economy. There is an adage that those who adapt quickly will survive and those who will not be left behind. This is a reality that is faced by all of humanity. (Edi Wahyu, 2018)

In the history of industrial development, various technological advances and innovations have made human work and the production of goods/products more sophisticated and efficient. The invention of the steam engine by James Watt (1776) is believed to be a fundamental change in the production process from what was previously a hand-based *production method* to a machine-based *production method*. This is the industrial revolution 1.0 where human and animal power are replaced by machines.

Afterwards, it developed towards the industrial revolution 2.0 in the 20th century which was marked by the discovery of electrical energy. The production process of goods is increasingly sophisticated, efficient and of higher quality thanks to the discovery of the *assembly line method* using *conveyor belt*. Furthermore, in the 3.0 industrial revolution, humans no longer play a significant role and were replaced by the sophistication of computers and robots and became familiar with the work contract system. Currently the world is entering the industrial revolution 4.0 which combines automation and cyber technology. This includes innovations and technologies of big data, cloud computing, Internet of Things (IoT), artificial intelligence/AI, and advanced robotics. (Edi Wahyu, 2018)

Everything related to technology becomes a weapon for – say the industrial revolution 4.0. The revolution assumes a change in the traditional way of human existence to the modern one. Modern referred to here of course refers to the combination of *artificial intelligence*, technology, and *big data*. In short, everything we do today is highly dependent on technology and its respective algorithms. The current technological sophistication in its application to almost all lines of life has been able to recommend almost all of our desires through habits that are recorded algorithmically into the highway data through the screen of our device without us knowing it. (Allen, 2006)

Everyone is required to be proficient in using technology. But unfortunately, these suggestions have an impact and have a somewhat masochistic tendency: studying the hard way about their use and then leaving our lives completely to the technology itself. Many people assume that they have lived through the industrial revolution 4.0 just because they use social media, *live streaming video*, email, and other supporting applications. In fact, using it is not enough. Because there is something that we forgot: ourselves. What does it mean? When we use any such application, we submit our personal data to the network, and it is clearly recorded. So that through a certain algorithm, the machine will be able to classify and finally recommend to us in the future what we want, from the music we want to play, the food we want to order, to the artist we want to watch.

Who we are, is clearly recorded in the raya data. This is what is called the death of privacy, and this is precisely where the crisis of identity as a whole person originates. Human identity as a whole is torn apart by digital technology that grips our lives tightly and pulls them into a world where we can't just go back to how we used to be. It doesn't stop there, the habits of posting everything also form a digital cultural identity. Digital

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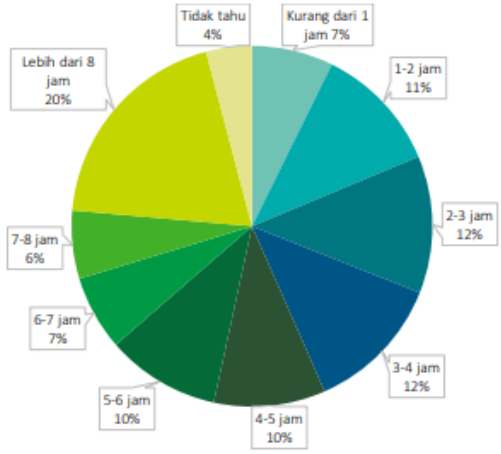
cultural identity is nothing but identity-less human identity: Machines know us better than we know ourselves. We are sucked in by a digital culture that lulls us to sleep and ultimately shackles us. We become a person who is completely different from reality. We want an identity completely different from ourselves.

Indeed, in reality the 4.0 industry has given rise to various kinds of new technologies which are said to affect human activities in various fields of life. Not just in the field of technology, but also in other fields such as economics, social, and politics. (Rudi Hardiansyah, 2019) In the economic sector, it has been seen how the transportation service sector is affected by technology from the presence of online taxis and online motorcycle taxis. The same is true in the social and political fields. Social interaction becomes unlimited, because of the ease of access to the internet and technology. The same is true in the political field. Through the ease of digital access, people's behavior has shifted. But behind the conveniences offered, the Industrial Revolution 4.0 has various negative impacts, including the threat of unemployment due to automation, natural damage due to industrial exploitation, and the rise of hoaxes due to the easy dissemination of information.

Reporting from https://www.bkpm.go.id, the Central Statistics Agency (BPS) reported that Indonesia's economic growth in the second quarter of 2021 had increased to 7.07 percent on an annual basis (*year on year/yoy*). Furthermore, the Indonesian economy in the second quarter of 2021 grew by 3.31 percent (*quarter-to-quarter*) from the previous quarter. The improvement in Indonesia's economy in the second quarter of 2021 was mainly driven by increased performance in exports, household consumption, investment, and government consumption. This improvement in the economy is indeed a good sign, but it is still important to ensure that there will not be another decline in the next quarter. One of the things that plays a significant role in Indonesia's economic growth is investment. Investment performance as one of the growth engines began to increase as much as 7.54% (*year on year/yoy*). Since the enactment of the Job Creation Act No. 11 of 2020 and its operational guidelines, namely PP No. 5 of 2021 concerning the Implementation of Risk-Based Business Licensing, investors have given positive sentiments to continue to realize their investments, whether they are in the preparation, construction or production period. In the April-June 2021 period, investment went so well that several large companies went through *groundbreaking*.

One of the fastest growing forms of investment is digital investment. Home to 268 million people, Indonesia has around 185 million internet users, which is the fourth largest in the world. Millennial consumers and Generation Z – the young group as *digital natives* who grew up in today's technological era – account for the majority of Indonesia's internet user population, and are increasingly becoming the main drivers of Indonesia's digital economy growth. According to the National Socio-Economic Survey (SUSENAS), millennials and Generation Z are estimated to account for around 34 percent and 29 percent, respectively, of Indonesia's total population. At the same time, Indonesian consumers also seem very fond of using the internet. One study, for example, revealed that about 58 percent of users spend between two and eight hours on the internet, and nearly one-fifth or 20 percent of them spend eight hours or more on the internet each day. The following describes internet usage in Indonesia.



Sumber: Asosiasi Penyelenggara Jasa Internet Indonesia (APJII), 2020.

Fig. 1: Graph of Internet Usage in Indonesia

Economic growth in Indonesia is currently reaching an uncertain threshold. This means that economic growth can no longer be seen only based on visible assets, but must be seen from a lens that transcends all of them, or currently known as the metaverse. The term metaverse was used by Neal Stephenson in 1992 in the science fiction novel Snow Crash. This idea has also been applied in various games with the help of virtual reality.

If the economy in the past was viewed macro or micro, now it can no longer be viewed on a macro or micro black and white basis. Macroeconomics or macro-economics itself is the study of the economy as a whole. Macroeconomics describes economic changes that affect households, capitalized firms, and the market in general. Macroeconomics can usually be used to analyze the best way to influence policy targets such as economic growth, price stability, employment and to achieve a sustainable balance sheet. (Anascavage, 2018)

The technological innovation that is currently being discussed is blockchain. In economic activity, goods/services need to be certified through NFT, then traded in cryptocurrencies. Cryptocurrency is a certification of the technology mining process as a guarantee of its value. All these activities are authentically recorded in a decentralized open network called blockchain. Blockchain can also be understood as a technology development with a digital system that makes data storage integrated with each other. This system has become popular lately because this system is considered to be able to be used in various business sectors and tends to be more secure than the previous system. (Haryatmoko, 2022)

First introduced by **Satoshi Nakamoto** in 2008, Blockchain is simply a digital ledger that records crypto transactions. (Anascavage, 2018) Blockchain keeps a record of virtual currency stored in a database. Each individual transaction record, which is often called a block, is then linked together in a list called a chain by cryptographic principles. These two words eventually formed a term called blockchain. So, why is

blockchain special and considered secure? Because the network in it does not have a central authority. This means that each individual has the same facilities in accessing the blockchain network. In addition, blockchain is also a system that is safe and protected from malicious hands such as hackers. Each new block is linked to all previous blocks in the cryptographic chain, making it nearly impossible to tamper with.

This research focuses on the digital economy, where in the digital economy there is blockchain technology which over time gets a portion and space to continue to grow in every aspect of the existing business. Blockchain is essentially the antithesis of conventional business standards that put forward only physical evidence. Day by day, human thought, culture, and intelligence continue to develop, so that humans give birth to ways to innovate in order to maintain their existence on this earth. One of the latest pieces of evidence of human innovation is the emergence of blockchain technology.

II. LITERATURE REVIEW

A. *Industry 4.0*

The term industrial revolution 4.0 is a term for an idea based on the fourth industrial revolution. The term industry emerged in Germany in 2011 when the Hannover Fair was held (Andre, 2018). Where this German country has a great interest in this. Germany aims to be able to always be at the forefront of the manufacturing world. This industrial revolution is one part of its development plan policy, in which the development policy is called the High-Tech Strategy 2020. (Erreveles, 2016) Several countries also took part in realizing the concept of this revolution. Although with different designations or terms, the goal remains the same, namely to be able to increase industrial competitiveness in each country in facing a global market that is so dynamic. In other countries, this revolution has different designations or terms, some of which mention Smart Factories, Industrial Internet of Things, Smart Industry, advanced manufacturing. (Erreveles, 2016)

In another reference, the 21st century or the trend called the 4.0 era is known as the era of knowledge. In this era, all alternative efforts to meet the needs of life in various contexts are more based on knowledge. Both in the fields of education, economy, society and industry. This was triggered by the birth of computer science and technology. In addition, in this era there are also several impacts, including information available anywhere that can be accessed at any time, faster computing, automation that replaces routine work and communication that can be done from anywhere and anytime. In a journal, several opinions were presented about this 4.0 revolution, some of which are according to Angelia Merkel who argues that this 4.0 revolution is a complete change from all aspects of industrial production through the merger of digital technology and the internet with conventional industry. Meanwhile, according to Schlechtendahl, the 4.0 revolution is an era that emphasizes the speed element of the availability of information where in an industrial environment one is always able to connect and share information with one another. (Andre, 2018) In other literature, it is also explained that the 4.0 industrial revolution is a term used in an era which has special characteristics in the form of strong usage of digitalization technology and artificial intelligence in various aspects of human life, including aspects of human life and even education. In a journal it is also explained in it that Hoyles and Lagrange emphasize that this digital technology is something that is able to offer extraordinary attraction in learning related to the effectiveness and efficiency of the education system in the world. From some of these explanations, it can be concluded that the industrial revolution 4.0 is an era of change from various sectors of life which is marked by rapid developments in the field of technology that accelerates the spread of information or better known as the era of digitization.

B. *Digital Economy*

The concept of the digital economy was first introduced by Tapscott (1998), describing a socio political and economic system that has characteristics as an intelligence space, including information, various access to information instruments and information processing and communication capacity. The components of the digital economy that were identified for the first time were the ICT industry, e-commerce activities between companies and individuals, digital distribution of goods and services, support for the sale of goods, especially systems and services that use the internet. (Hayness, 2018)

Meanwhile, another digital economy concept is the digitization of information and ICT infrastructure (Zimmerman, 2000). This concept is often used to explain the global impact of information and communication technology, not only on the internet, but also on the economy. This concept becomes a view of the interaction between the development of innovation and technological progress and their impact on macroeconomics and microeconomics. The digital economy is a sector of the economy that includes goods and services when their development, production, sale or supply depends on digital technology. A digital economy development cannot be separated from its characteristics, namely value creation, products in the form of distribution channel efficiency, and structures in the form of personal and desired services. In Indonesia, the Indonesian Bank real time gross settlement (RTGS) system is an electronic transfer system between participants in the rupiah currency whose settlement is carried out in real time, per individual transaction. The amount is quite significant, moving between Rp. 3 trillion to Rp. 4 trillion per month. This can be categorized as an e-banking transaction that is part of the digital economy. Similarly, e-banking transactions for ATM cards and debit cards per month in 2007 covered between Rp. 247 billion and Rp. 293 billion per month. The number of credit card transactions via the internet is also significant, moving between Rp. 38 trillion to Rp. 44 trillion per month.

C. *Blockchain*

Experts reveal that blockchain is a distributed digital transaction and data management system where all users of the system have a common consensus (Yli-Huumo et al., 2016, Iansiti and Lakhani, 2017, Crosby et al., 2016). By creating a dispersed system, blockchain eliminates the role of intermediaries and thus lowers transaction costs. Blockchain discussion cannot be separated from the Bitcoin phenomenon (Nakamoto, 2008, Yermack, 2015). The popularity of one of

these virtual currencies often makes the general public associate blockchain with Bitcoin (Crosby et al., 2016, Nakamoto, 2008). While that's not wrong, Bitcoin is in fact just one of the products based on the blockchain. Currently, blockchain has been utilized outside of finance or financial securities, such as food security, environmental governance, and urban planning (Anascavage and Davis, 2018). Based on the type of application, Swan (2015) states that blockchain has undergone its 3rd development (Blockchain 3.0). Even today, companies like Seele have put out products that are believed to be Blockchain based 4,016.

D. *SWOT Theory*

According to Daniel Start and Ingie Hovland SWOT analysis is a classic strategic planning instrument. Using a framework of strengths, weaknesses, external opportunities and threats. This instrument provides a simple way to estimate the best way to execute a strategy. This instrument provides an overview and helps planners to achieve a goal and identify things that need attention. SWOT stands for Strength (strength), Weakness (weakness), Opportunity (opportunity), Threats (threat).

SWOT analysis is a form of analysis used by the management of a company or organization that is systematic and can assist in the preparation of a mature plan to achieve the goals of a company or organization. Both long-term goals and short-term goals. There are two important factors in the SWOT analysis, namely, internal factors (internal factors) and external factors (external factors). Internal factors are divided into two types, namely SW- strength and weakness, while external factors are also divided into two types, namely OT- opportunities and threats. Below is an explanation of SWOT, among others: (1) Strength is a situation or condition that is a picture of the strength of an organization or company at this time. What must be done in using this analysis is that each organization/company needs to assess its strengths and weaknesses and then compare it with its competitors. (2) Weakness is a situation or condition that is a picture of the weakness of an organization or company at this time. Weakness is a way of analyzing the weaknesses that exist in an organization or company where these weaknesses can be a serious obstacle in the progress of a company or organization. (3) Opportunities are situations or conditions which are a picture of the opportunities that exist from the outside (external) of an organization or company and this picture can provide opportunities for the development of an organization or company in the future. Opportunity is an analysis used to find opportunities or breakthroughs that allow a company or organization to develop. Both now and in the future. (3) Threats is a condition that is a picture of the threat of a company or organization in running a business. Threats are a way of analyzing the challenges or threats that must be faced by a company or organization in the face of various kinds of unfavorable environmental factors. Which of these threats can cause the decline of a company or organization. If not addressed immediately, then the threat will be a barrier for a business to be run.

III. METHOD, DATA, AND ANALYSIS

This research was conducted by using the literature study method. The literature study method is a method that is carried out by seeking information from various scientific journals, literature, books, and expert opinions on relevant topics. This literature study method is intended to explore existing studies (secondary data) that discuss the development of the digital economy, blockchain and its opportunities in the future.

The process of exploring secondary data is done using internet media. Internet media is used because it is suitable for use in this study because of its advantages in finding sources more effectively and efficiently (Webster and Watson, 2002, Sekaran and Bougie, 2009). The first type of secondary data is published paper, either in the form of books, peer-reviewed journals, scientific articles, or reports from official organizations. After getting information from these sources, the researchers also enriched their knowledge by adding information from popular articles made in the mass media. Mass media is an important source of information considering that the four technologies we discuss in this study are still relatively new in Indonesia. In addition, the use of mass media as a source of data is also important to reduce bias in the selection of literature studies (Sekaran and Bougie, 2009).

IV. RESULT AND DISCUSSION

A. *Results*

a) Digital Economy

Setiawan (2017) explained that the digital world not only offers great opportunities and benefits for the public and business interests. But it also challenges all areas of life to improve quality and efficiency in life. The use of various technologies is indeed very easy to live, but the digital lifestyle will increasingly depend on the use of mobile phones and computers. Whatever it is, we should be grateful that all this technology makes it easier, it's just that of course we have to control every usage. Because if we use this technology too much, we ourselves will be harmed, and maybe we will not be able to maximize it. The development of technology is so fast that it has penetrated all lines of people's social life, apparently not only changing the order of social life, society's culture but also political life. The sophistication of technology developed by humans is really used by politicians who want to gain sympathy and empathy from the wider community. To increase electability and popularity, it can be done with digital facilities such as a smartphone now by providing sophisticated features/applications that connect directly to social networks that are able to connect individuals with one another, between one group and another, even countries that provide great impact in modern politics.

In the socio-cultural field, the digital era also has positive and negative impacts that are challenging to improve. Moral decline among the community, especially teenagers and students, is one of the serious socio-cultural challenges. The pattern of interaction between people has changed with the presence of digital era technology such as computers, especially in the middle to upper economic class. A computer connected to a telephone has opened up opportunities for anyone to connect with the outside world without having to socialize directly.

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In the field of defense and security, the use of technology in the digital era plays a role in helping national defense and security. Military institutions, among others, have placed information technology as a weapon that supports the strength and unity of the organization. In line with the peculiarities of military organizations which always demand speed and accuracy of information before making a decision (strategy formulation), the application of digital technology strongly supports the program. Information technology has had an effect on changing military strategy. Challenges in the defense sector, such as facing external threats that are cyber in nature, for example hacker activities that can damage the Indonesian defense site system, are a serious concern.

Digital technology combined with other warfare technologies makes it possible to create a type of war that is qualitatively like the use of war robots. In the field of information technology itself, the real challenges in the digital era are increasingly complex because various fields of life carry influences that can make changes on every side. Information technology is a field of technology management that includes various (but not limited) areas such as processes, computer software, information systems, computer hardware, programming languages, and construction data. Any data, information or knowledge perceived in any visual format, through any multimedia distribution mechanism, is considered a part of information technology. Information technology facilitates business in four core sets of services to help execute business strategy: business process automation, providing information, connecting with customers, and productivity tools. There are many challenges in the field of information technology such as solving a problem, opening up creativity, increasing effectiveness and efficiency in doing work. The digital era must be taken seriously, mastering, and controlling the role of technology properly so that the digital era brings benefits to life.

Musafak (2012) explains that the digital economy is an economy based on electronic goods and services produced by electronic businesses and traded through electronic commerce. That means businesses with electronic production and management processes that interact with partners and customers and conduct transactions via the Internet and Web technologies. Musafak (2012) also explained that the definition of the Digital Economy version of the Encarta Dictionary is “Business transactions on the Internet: the marketplace that exists on the Internet”. Understanding the Digital Economy focuses more on transactions and markets that occur in the internet world. A broader understanding than just transactions or markets is the New Economy which according to PC Magazine is "The impact of information technology on the economy". The meaning is more focused on the application of information technology in the economic field. The digital economy is a sector of the economy that includes goods and services when their development, production, sale or supply depends on digital technology.

b) Blockchain

The implementation of blockchain in Indonesia is influenced by global blockchain developments. Initially, blockchain developed as one of the aspirations for an increasingly open world (Trujillo, 2017). The open world phenomenon has also penetrated other sectors, such as software (open source software) (Lakhani and Wolf, 2003, West and Gallagher, 2006), methods of innovation (open innovation) (Chesbrough, 2003), and open data. (Janssen et al., 2012).

The open world factor at the macro level then supports new cultural values that include transparency, efficiency, anti-centralization and, to a certain extent, anti-represif government (Janssen et al., 2012, Bertot et al., 2010, Best and Wade, 2009). , Hynes, 2018b), especially the millennials (Setiawan, 2017). Supported by the penetration of information and communication technology (ICT) which is growing, the open world landscape has encouraged the idea to innovate in the conventional financial sector (Nakamoto, 2008, International Telecommunication Union, 2017). As is well known, the conventional financial sector is facing several challenges, especially the issue of inefficient distribution of financial services and the issue of public distrust due to several financial scandals (Arner et al., 2015, Philippon, 2016).

Blockchain consists of two eras, namely the Blockchain 1.0 era and the post-Blockchain 1.0 era. The division is made considering the popularity and application of blockchain currently still focused on Blockchain 1.0 (Swan, 2015, Yli-Huumo et al., 2016). Blockchain Era 1.0: Cryptocurrencies Driven by macro and meso-level factors, blockchain technology was first introduced to target financial service applications, such as cryptocurrencies and digital wallets (Nakamoto, 2008). Blockchain 1.0 offers more reliable, secure and easy financial transactions by eliminating the role of intermediaries. However, blockchain still faces one of its biggest challenges: privacy.

At the beginning of its development period, Indonesian people's expectations of blockchain were still specific as a conventional financial service solution. These expectations arise due to internal factors and external factors. The internal factor comes from the development of blockchain which is still focused on financial service applications (Swan, 2015, Yli-Huumo et al., 2016), while the external factor comes from the many reports in the media that expose Bitcoin and blockchain simultaneously (Li and Wang, 2017, Hynes, 30 2018b). Although this is commonplace, the generalization between Bitcoin and blockchain can cause misunderstandings in society. Furthermore, the expectations of the Indonesian people still value blockchain with a quality that tends to be negative. This is partly due to the growing practice of abusing Bitcoin for illegal transactions which is widely reported in the media (Mutmainah, 2018, NDY, 2018, Pebrianto and Suseno, 2018). These negative expectations then made the Indonesian government intervene. The Financial Services Authority (OJK), for example, has suspended some crypto currency transaction practices to protect the public (Financial Services Authority, 2017a). Apart from OJK, Bank Indonesia (BI) is also actively involved in the dynamics of Blockchain 1.0 development in Indonesia. On many occasions, BI has explained that the practice of using cryptocurrencies in Indonesia is illegal. This is in accordance with Law no. 7 of 2011 concerning Currency, Bank Indonesia Regulation (PBI) No 18/40/PBI2016 concerning the Implementation of Payment Transaction Processing, and PBI 19/12/PBI/2017 concerning the Implementation of Financial Technology

which states the obligation to use Rupiah for financial transactions within the territory of the Unitary State of the Republic of Indonesia (NKRI). In addition, BI also prohibits the use of cryptocurrencies because it is very risky, volatile, and there is no responsible authority. Therefore, BI considers that cryptocurrencies have the potential to be used for illegal activities such as money laundering and terrorism financing.

B. *Discussion*

Based on the results obtained from this study, the researchers tried to elaborate several points to be studied more carefully through the following SWOT analysis:

a) Strengths.

a. **The penetration of internet usage is very high**, according to a report by the Association of Indonesian Internet Service Providers (APJII) in 2018 which recorded that out of 264.16 million Indonesians, as many as 171.17 million people or around 64.8% have used the internet. This number grew by 10.12% from the previous year where the number of internet users only reached 143.26 million people. Internet users have an impact on the development of the digital economy. Even in 2019, Indonesia's digital economy contributed around 2.9 percent of the Gross Domestic Product (GDP). This figure is higher than most Southeast Asian countries, with the exception of Singapore (3.2 percent) and Vietnam (4 percent).

b. **Startup innovation** is currently the main attraction for the growth of the digital economy in Indonesia, each of which is engaged in travel, on demand, to e-commerce. The products from each startup are closely related to people's daily activities, from online motorcycle taxis, airline tickets and hotels to meeting daily needs offered by e-commerce platforms. Indonesia itself has four startups with unicorn status, namely Gojek, Tokopedia, Bukalapak and Traveloka.

c. **Blockchain offers a secure and controlled technology**. Unlike conventional bookkeeping and recording systems, blockchain technology is here to offer a sense of security to all its users. The more secure a system is, the system will continue to be sought, because no one wants to be harmed by the slightest thing.

b) Weaknesses

a. **Telecommunication infrastructure** in Indonesia is still inadequate. Open Signal, a research institute that analyzes internet speed, reports that Indonesia is one of the countries with poor internet access. The reason is, Indonesia's internet speed is only 3.0 Mbps.

b. **Cybersecurity** Indonesia is still a homework until now, in the Global Cybersecurity Index 2017 document published by ITU-D Indonesia is in position 69 out of 164 countries with maturing status (on the way to readiness) which is way behind when compared to Singapore which is in 1st position and Malaysia in 3rd position.

c. **The quality of human Resources (HR)** in Indonesia is still relatively low, along with the industrial revolution and the development of digital technology, business competition and development that originally relied on the use of natural resources will shift to mastery of information technology and workforce competence.

c) Opportunity

a. **Jobs** in the era of the development of digital information technology are feared to be replaced by machine power, but in fact the birth of the digital era provides opportunities to open new jobs. Currently, the digital industry actually provides space for creative workers who are willing to work hard to break conventional professions.

b. **Attracting investors** to invest their funds in the digital economy because the birth of Indonesian startups with unicorn status has become an attraction for investors.

c. **Review existing policies and laws**. Regarding the digital economy, there is a possibility that blockchain technology will actually be able to help human work which in detail will be replaced by algorithmic machines into a certain device. Because if this is not regulated with certainty, it is not impossible that it will cause problems in the future.

d) Threats

a. **Payment methods** are still one of the obstacles to the development of the digital economy, especially those related to blockchain technology. That's because, in Indonesia itself, cryptocurrency is still a debate.

b. **Unclear about taxes.** One element that is at the root of all blockchain technology problems is taxes. An example is the case of selling Ghozali's selfie photos. There are those who say that Ghozali is obliged to pay taxes, but which tax? Will crypto money that has not been converted into rupiah be taxed? Where does the tax calculation come from? This is something that must be resolved immediately. The following table SWOT Matrix for a more detailed explanation.

Strengths	Weakness
Very high internet penetration	Telecommunications infrastructure
Startup innovation	Blockchain
Offers multiple layers of security	Quality of HR
Opportunity	Threats
Employment	Payment methods
Attract investors	Tax ambiguity
Review existing policies and laws	

Table 1: SWOT Matrix

V. CONCLUSION AND SUGGESTION

This study aims to determine the development of the digital economy at a macro level in Indonesia. Specifically on the implementation of blockchain technology in the future. Based on the analysis of the strengths, weaknesses, barriers and challenges, it can be concluded as follows:

- The strength lies in internet users who continue to increase from year to year. The emergence of startups is an important point for Indonesia's digital growth, so far Indonesia has 4 unicorn startups with a valuation of over 1 billion USD. In addition, blockchain technology also offers an incredibly well-organized security system.
- The weakness is that there is a telecommunications infrastructure that is still slow so that it interferes with

conducting transactions via the internet, information technology which is also still lagging behind other developed countries, cyber security that cannot be overcome, and inadequate human resources will be a bit slow in dealing with global changes.

- The opportunity lies in opening up job opportunities in new fields, as well as the opportunity to attract more investors, as well as the opportunity to rearrange some policies related to the use of digital technology, in this case blockchain so that the benefits can be felt by many people.
- The obstacles are related to payment methods whose sources are not yet clear, as well as tax regulations whose origins are still unclear.

VI. SUGGESTIONS

Based on an analysis of the strengths, weaknesses, barriers, and opportunities for digital economic growth in this case the use of blockchain technology in Indonesia, the author intends to write suggestions that are hopefully useful for further institutions and researchers, namely as follows:

A. *Academics*

Digital economy is becoming one of the issues which is very interesting to discuss. New economics that can generate many opportunities for anyone who wants to study it. It is hoped that further academics or researchers who are interested in researching the same topic will review more sources and references so that research is more complete and better.

B. *Share Practitioners*

With the many opportunities available in this digital era, it is hoped that it will provide an opportunity for anyone to work without limits, especially practitioners of the digital economy.

C. *For the Government of Indonesia*

The XIV economic policy package on the roadmap that has been formalized should be realized as soon as possible by making the right decisions. Improving the quality of human resources should be addressed considering that Indonesia is quite lagging behind other countries whose quality of human resources is worthy to compete globally.

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