

Transformation Corporate Social Responsibility Towards Industrial Revolution 4.0: Strategy and Challenges

Monika Handayani
Dept of Accounting
Polytechnik State of Banjarmasin
Banjarmasin
monika_handayani@poliban.ac.id

Zaki Baridwan
Dept. Accounting
Brawijaya University
Malang
Zakibarid1@yahoo.com

Gugus Irianto
Dept. Accounting
Brawijaya University
Malang
gugusir@ub.ac.id

Rosidi
Dept. Accounting
Brawijaya University
Malang
Rosidi.mlg@gmail.com

Abstract—The purpose of this study is to explain how the strategies and challenges of corporate social responsibility lead to the industrial revolution 4.0. Method Used. The method used is descriptive qualitative method. Researchers analyze existing issues related to corporate social responsibility in the face of the industrial revolution 4.0, then formulate existing problems, and look for strategies to solve problems and explain the challenges faced. Results. The key to the industrial revolution 4.0 is Human Resources and technological innovation, then the right strategy to deal with it, the Social Responsibility of the Community must give a large portion of these two things in its CSR program, while the challenges faced are social problems, that will occur public unrest due to the reduction in labor because it was replaced by machines, computers and robots. Therefore the CSR program must pay attention to this in the future. Discussion. Industrial Revolution 4.0 is talking about information systems and computers that are built with wireless structure systems. Two things that need to be focused on are Human Resources and Technological Innovation, to build these two things, the role of CSR is also very important to lead to the industrial revolution 4.0.

Keywords—Corporate social responsibility, Industrial Revolution 4.0, Human Resources, Technology Innovation

I. INTRODUCTION

Industrial Revolution 1.0 began in England around 1760 until 1840, in that year there was a change in the manufacturing process from human power to machinery, this was preceded by the discovery of steam power by James Watt in 1764, which was then followed by other discoveries that were very beneficial for the industrial world. But the negative impact of these findings is the change in the role of humans as workers who were replaced by mechanical power, this led to mass unemployment which led to massive demonstrations, protesting the policies of companies that have made massive dismissals due to the use of mechanical power. The company argued that engine power is far cheaper than human power.

Industrial Revolution 2.0 occurred in 1840 until 1870, there was a change in electricity research, beginning with the discovery of the Morse code telegraph, then in 1870-1879, Thomas Alva Edison invented paper tape and lights. In 1908 Henry Ford changed his factory with conveyor belts, conveyor belts lowered prices by up to 300%, making Ford

control of the car market at the time. The peak of the impact of the car market competition occurred in 1930, the car industry dropped dramatically, from 250 companies to 20 company.

Industrial Revolution 3.0 began in 1970 marked by the discovery of an industrial machine that can run alone which resulted in low production costs, in the music industry was born digital music that can be enjoyed by the public without having to buy cassettes or discs. In the world of photography the innovation that occurs is taking pictures and sending can be done quickly and easily, without the need for film paper as a medium.

Industrial Revolution 4.0 began in 2000, machines using operators were changed to full automatic machines, human labor became scarce. As an example of a park gate guard with e-parking, Google developed a "self driving car" so that it does not require human labor in driving. This will have an impact on society (people) and the environment (Planet). Companies that only prioritize profits (profit) will have problems with society and the environment. The concept of Corporate Social Responsibility (CSR) (Elkington, 1998) is known as the triple bottom line (Planet, People and Profit). The concept has not been able to meet the current economic, social and cultural developments, many challenges must be faced with the industrial revolution 4.0, new concepts emerge that can complement the triple bottom line concept, the concept is called the Pentaple Bottom Line which consists of Planet, People, Profit, Pheno-technology and Prophet. This concept not only emphasizes material things but also matters related to immaterial. The purpose of this paper is to explain how the strategy and challenges of Corporate Social Responsibility in facing the industrial revolution 4.0?

II. MATERIALS AND METHODS

This paper is based on the literature review and personal experience of researchers as practitioners/assessors of sustainability reports. Many studies related to CSR and industry revolution 4.0, but still limited to doing research related to these two things at once. This paper describes the metamorphosis of the industrial revolution 1.0 to 4.0 and the concepts of CSR that apply globally, as well as concepts that

provide ideas and ideas for improving existing CSR concepts. To meet the changing times, existing theories must be updated in order to meet the demands of the times. The literature review connects two things, namely the industrial revolution 4.0 and Corporate Social Responsibility, so that it can answer the question of how the strategy and challenges of Corporate Social Responsibility in the face of the industrial revolution 4.0.

A. The Development of The Industrial Revolution

The Industrial Revolution is a change of lifestyle and mindset, which influenced the economy, social and culture, began in England in the late 18th century, people began to change the way of thinking and way of life, which initially shifted into an agricultural industry, in the industrial revolution 1.0 power production is still using human labor, workmanship is also still traditional, production is carried out from house to house. The British colonies were a source of raw materials and as an area of industrial marketing. The key factor for the Industrial Revolution was also influenced by the emergence of a revolution in the field of science, which had begun to develop since the mid 16 th century. At that time there were many scientists who developed science by doing research and research. The discovery of machines with steam power is the beginning of innovation in the industrial field.

Industrial sectors that started the Industrial Revolution 1.0, including: first, the Textile Industry At the beginning of the era of industrialization and mechanization, innovation in the textile industry sector experienced remarkable development. This begins with the manufacture of spinning machine mechanization. The spinning machine is an innovation finding that changes the style of the textile industry sector. Textile production which previously used human power has changed to use mechanical power which can certainly be more efficient and effective. The productivity of textile production has increased many fold. The focus of the textile industry which was originally using human power turned into mechanical power. Second, the Iron and Steel Industry, the development of innovation in the mining sector is also experiencing rapid progress. With the invention of production innovations, the cheaper iron and steel manufacturing process is a milestone in the development of the machinery and transportation industry. Iron and steel strengthened the development of the next industrial revolution. Iron and steel are both important materials used for the manufacture of various important equipment and infrastructure. Third, transportation Industry Before the industrial revolution, goods produced were transported using animal power. But after the discovery of steam engines and steam ships the process of sending production goods to distant locations can use ships and trains.

Industrial Revolution 2.0, during this period there was very rapid industrial progress in Britain, Germany, America, France and Japan. Furthermore, this industrial revolution spread throughout Europe and America. industrial revolution 2.0 is a continuation that is inseparable from the previous industrial revolution which began in England in the 18th century. industrial revolution 2.0 is also known as the technological revolution in which during this period there was a huge and radical leap in the development of technology and the culture of society. Innovation in this period was the development of the previous industry based on science and technology and took place around 1900- 1960 with the

discovery of the mechanization of the mass production system using a more effective and efficient assembly line, as well as the quality standardization.

Some innovations and progress in the 2.0 industrial revolution period include: Development of energy resources such as petroleum, coal as a new fuel source. The initial period of electrical technology was the discovery of AC and DC electric currents that could be used for making electric motors (electrification). New innovations in iron and steel production on a large scale. Mass production of cars and planes as a means of mass transportation. Widespread use of industrial machinery for manufacturing. Widespread use of telegraphs that make it possible to conduct long-distance communication. The use of electrical technology applied into transportation and telecommunications technology is a big leap for developments in the industrial sector.

Industrial revolution 3.0 is encouraging us to innovate. Starting with the Industrial Revolution 1.0 marked by the discovery of machines for industry, the 2.0 industrial revolution was marked by the invention of electrical technology for industry and the next industrial revolution 3.0 which began with the emergence of information and electronic technology that entered the industrial world, namely computer-based automation systems and robot. Industrial equipment is no longer controlled by humans, but has been controlled by computers or better known as computerization. In the period 1960-2010 gave birth to innovation in the development of software systems to utilize electronic hardware. Many inventions and manufacture of electronic devices that make it possible to automate the operation of machines replace the role of production operators. Some innovations and advancements in the 3.0 industrial revolution period include: Computer technology, internet access, smartphone electronic equipment, software system innovation, innovation and development of new energy sources.

Industrial revolution 4.0 is an era marked by human, data and machine connectivity in virtual form or known as cyber physical. The development of the industrial revolution brought about a very rapid change with the noble aim of creating a better quality of life. In industrial revolution 4.0 era there is a shift in innovation trends towards digital technology, enables automation in all fields to achieve effective and efficient productivity. The application of digital supply chain information systems to all work units minimizes the role of humans as operators. In general, in industrial revolution 4.0 era, the role of human labor changed from the role of the operator to an expert with high competence. Other terms of the industrial revolution 4.0 are the digital revolution and the era of technological disruption. All fields use computerized recording systems. One of the unique characteristics of the industrial revolution 4.0 is the application of artificial intelligence in all fields of industry. The industrial revolution 4.0 originated from a project initiated by the German government to promote computer manufacturing. This fourth generation revolution is marked by the emergence of sophisticated computers, smart robots, vehicles without steering, which allows humans to further optimize brain function.

B. The Concept of Corporate Social Responsibility

The concept of corporate social responsibility (corporate social responsibility) since the BC era has been thought of by regulators, this is evidenced by the Hammurabi code (1700s BC) which contains 282 laws that contain sanctions for entrepreneurs who do not care about the convenience of citizens and cause the death of its customers. In the Hammurabi Code it also mentions the death penalty for entrepreneurs who abuse their licenses to sell drinks, provide bad services and construct sub-standard buildings, causing the death of another [1].

In 1713 the concept of CSR was further formulated by Saxon Mining Head, Carlowitz, Hans, who stated that employers should act as patrons and donors for the improvement of the lives of their employees, including by meeting their needs, protecting the natural environment and building Walton employees' homes [2].

The term Corporate Social Responsibility (CSR) was originally coined first in an article written by Brown, Howard in a Social Responsibility of the Businessman magazine in 1953 with the aim of reducing the unrest of the business world at that time. Corporate Social Responsibility (CSR) is an approach where companies integrate social care into [3]. Furthermore Keith [4] expressed the Iron Law of Responsibility which means that the social responsibility of the entrepreneur is the same as the social position he has and the social responsibility of the entrepreneur must be commensurate with their social strength, this implies that those who use power irresponsibly will lose their power have now.

In the 1970s Corporate Social Responsibility (CSR) became a trend as a study that attracted the attention of many people precisely after The New York Times Magazine published Friedman's article entitled "The Social Responsibility of Businesses is to Increase its Profits". The article triggers the pros and cons of the need for CSR for companies, from the debate emerged the concept and approach of CSR [5], including the development of the definition of CSR. Prakash Sethi in 1973 provided an explanation of the company's behavior known as social obligation, social responsibility and social responsiveness. The nature of social obligation is mandatory, social responsibility is recommended and social responsiveness is preventive.

The book titled "The Limit to Growth" was published in the same year based on the results of the thoughts of world scholars who are members of the club of Rome, containing a warning to the world community that the earth that we stand on has a carrying capacity, so exploitation of the earth needs to be done carefully the heart to continue. Since the discourse on environmental impacts has been rolling, the company's generosity has led to philanthropy and community development. This can be seen from the changing emphasis of the company from the productive sector to the social sector (Susilowati, 2010) [6]. CSR practices carried out if it can provide additional benefits for the company and its short-term nature. Secondly, social tasks are not the company's duties

but the State's duties, so companies are not obliged to take over the duties of the Putera state (2015) [5].

This is in line with Milton Friedman's phrase "The Business of Business is Business", according to Friedman, the social responsibility of business companies is to increase profits for shareholders, outside activities cause the company is not focused on improving the welfare of shareholders (Rumambi, 2014) [7]. Milton also said that CSR practices are only "cosmetic" to cover up management weaknesses. For supporters of this flow, a good response to the company environment is a determinant of the company's reputation and not CSR (Crook, 2005) [8]. The 1980 era was marked by more directed efforts to interpret precisely the intent of corporate responsibility. CSR comes from business ethics (based on culture, religion, and other good things) and the social dimension of business activities, so it can be said that CSR in each country is a different way for each individual or country. So the need for awareness that the CSR movement in Western Countries cannot be forced in developing countries by looking at existing realities.

Triple bottom line concept which consisted of social, environmental and economic components was developed by Elkington (1998) [9] with his book "Cannibal with Forks, The Triple Bottom Line of Twentieth Century Business" in response to these challenges. These three principles are known as 3 P (People, Planet, Profit) in the book Elkington explained three equally important goals to be achieved by the company, namely economic prosperity, environmental quality and social justice. This concept means that the company's responsibility is not only to maximize profits (profit) but also make a positive contribution to the community (people) and be active in preserving the environment (planet).

According to Frynas and Blowfield (2005) [10], CSR is likened to an 'umbrella' of various approaches, theories and practices that, recognizing the following: first, that companies have responsibility for their impacts on society and the natural environment, which sometimes goes even further merely fulfilling the legal aspects and individual responsibility, second, companies have a responsibility to behave with whom they do business, and third, businesses must (need) manage relationships with the wider community, for commercial reasons or for added value to society.

In 2012, the concept of Quadrangle Bottom Line (QBL) emerged stating that economic, social and environmental performance would not run properly if spiritual performance was not achieved (Suyudi, 2012) [11], in 2016 a new concept called the Pentuple Bottom Line (PBL), The results of the study indicate that managerial performance is strongly related to not only profit, the planet and humans, but also the Apostles and God (Triyuwono, 2016) [12]. The concept of Pentuple Bottom Line (PBL) can be seen in Table 1 below:

TABLE 1. THE CONCEPT OF PENTUPLE BOTTOM LINE (PBL)

Concept	Elements	Indicators
Leadership	Profit	Sharia Value Added (SVA)
	Planet	Unity
		Balance

		Harmony
		Beauty
Pentuple Bottom Line (PBL)	People	Brother/Sisterhood
		Cooperation
		Duty and Right
	Prophet	Truthfulness
		Trustworthiness
		wisdom
		Advocacy
	God	Divine Will

Source [12].

According to Sukoharsono (2019) [13] Pentuple Bottom Line is a mode of comprehensive disclosure about the preparation of sustainability reports by any organization whether business or public, large or small. The point is Pentuple is 5 Ps: Planet, People, Profit, Phenotechnology and Prophet. Planet means preserving the natural environment as a balance of operational activities from the contribution of organizations. People give the meaning that balance with human welfare (internal and external organizations) or society becomes important. Profit means profit or welfare in economic terms. Phenotechnology is the existence of information technology is an important thing that must be owned by the company. The Prophet is a spiritual, mental or spiritual balance in the process of maintaining the life of an organization

III. RESULTS AND DISCUSSION

In the era of the Industrial Revolution 4.0 many opportunities can be developed. This all depends on creativity to find and find opportunities that are scattered in their respective fields of industry. The 4.0 industrial revolution changed many industries and occupational characters. Presenting new lines of business, new jobs, new professions that were not thought of before. The ability demands needed in the industrial era 4.0 changed to follow technological developments. To be able to compete in the industrial era 4.0, we must be able to read and be responsive to changes and equip ourselves with the latest skills.

The potential impact of industry 4.0 on the world, on society, the planet and our economic system. The negative impacts that we can, namely: first, the occurrence of a reduction in labor or dismissal in a company. This is the impact of globalization due to the development of science and technology causing mechanization or use of machines and computers that replace human functions as labor. This happens because human considerations are less efficient and cost too much. Second, individuals are more individualistic than before. This is because individual privacy in globalization can be easily exposed if it is more social than ever before. Third, the inclusion of lifestyle or culture that is not in accordance with our culture. The negative impact of globalization is even greater if the culture that enters can absorb and serve as one of the values in our culture. Example: Western culture that allows for adultery is very damaging to the morale of every individual in Indonesian society

The positive impact we have on the development of the industry, namely; first there is a pattern of life that is fast-paced or increasingly instant. The positive impact of this globalization supports the speed of production of goods, especially food. A direct example in agriculture. Second, the

development of information and technology that is more rapid and advanced: The positive impact of globalization is of course present itself because of the integration or at least a cultural meeting in which of course the results of thinking about information and technology developed. Third, the differences that exist in one country, especially countries that have citizens of various races, ethnicities and religions, are more easily integrated. The positive impact of this globalization occurs due to interactions between other citizens of different races, ethnicities and religions so that the differences that exist between them disappear. Fourth, economic improvement and welfare. This positive impact is present when people and countries can take advantage of the ease of interacting with other countries in the economic, business goods and services area. Especially by using e-commerce, exports and imports of goods. Fifth, health improvement, because of the exchange and addition of medical knowledge from other countries.

Technology 4.0 can be used to take over human work or to create and facilitate new jobs; can be optimized for the benefit of their owners, or for everyone. There are several skills needed to be able to successfully face the dynamics of the changing work world. There are 4 (four) main skills needed as follows: information, media and technology skills, life and career skills, learning and innovation skills, and effective communication skills.

A. *Strategies for Facing the Industrial Revolution 4.0*

The industrial revolution 4.0 is a combination of some of the latest technological innovations such as information and communication technology, network systems, big data and cloud computing, virtualization, etc. Therefore, preparing yourself by increasing competence in the field of digital technology is a necessity and a necessity. In addition, we must mentally prepare for resilience, adaptability, critical thinking skills and the ability to innovate

B. *Challenges of Corporate Social Responsibility in the Industrial Revolution 4.0*

The industrial revolution 4.0 threatens existing business lines, because professions and jobs are replaced by automation systems and robots. The use of robot power has a lower, more effective and efficient cost. In the industrial era 4.0, humans live in uncertainty, therefore we must have the ability to predict the future. We must have the ability to respond to change wisely and wisely. The presence of industry 4.0 threatens the existence of established companies. Disruptive technology comes so quickly and many big companies have fallen apart leaving a deep sadness. The speed with which business people respond to changes greatly determines progress for the future. Business competition is no longer visible, because digital technology is able to penetrate the existing order. Physically, there are no competitors, but in reality there are many competitors.

IV. CONCLUSION

Industrial Revolution 4.0 talks about information systems and computers that are built with wireless structure systems. Two things that need to be focused are Human Resources and Technology Innovation, to build these two things, the role of CSR is also very important to lead to the

industrial revolution 4.0. Large-scale job creation is also one of the keys to the existence of this new industrial revolution. In 2017, McKinsey Global Institute Report states that the 4.0 industrial revolution will cause 800 million jobs to be lost by 2030 because human power has been replaced by robot automation. . Therefore, Corporate Social Responsibility is more concentrated on two things that will become challenges in the future, the concept of Triple Bottom line is still not right to answer the challenges of the development era needs to be added with two more things, namely: Phenotechnology and the Prophet, called Pentaple Bottom Line. This answers the challenges of the Industrial Revolution 4.0 which focuses on changes in technological innovation and Human Resources capabilities.

ACKNOWLEDGMENT

This research was submitted at a research grant at the research institution namely Banjarmasin State Polytechnic.

REFERENCES

- [1] Kett, W. G. (1941) 'The Code of Hammurabi', *The Australasian Journal of Optometry*, 24(2), pp. 51–52. doi: 10.1111/j.1444-0938.1941.tb03375.x.
- [2] Walton (1967) *Corporate Social Responsibility*. Belmont: Wadsworth.
- [3] Ward, H. and Smith, C. (2015) *Corporate Social Responsibility at a Crossroads: Futures for CSR in the UK to 2015*.
- [4] Jackson, A., Boswell, K. and Davis, D. (2011) 'Sustainability and Triple Bottom Line Reporting – What is it all about?', *International Journal of Business, Humanities and Technology*, 1(3), pp. 55–60.
- [5] Putera, A. (2015) *Praktik Corporate Social Responsibility*. Brawijaya University.
- [6] Susilowati, C. (2010) *Corporate Social Responsibility dan Orientasi (Studi Pada Industri Air Minum Dalam Kemasan di Jawa Timur)*. University Brwijaya.
- [7] Rumambi, H. D. (2014) *Konsep Dasar Tanggungjawab Sosial Perusahaan dalam Perspektif Ajaran Sosial Gereja Katolik (Studi pada PT. Indofood CBP Sukses Makmur Tbk. Cabang Manado)*. Barawijaya University.
- [8] Crook, C. (2005) 'Special Report on Corporate Social Responsibility', *The Economist*.
- [9] Elkington, J. (1998) 'Cannibals With Forks: The Triple. Bottom Line of 21st Century Business'. Capstone: Oxford, pp. 1–402.
- [10] Frynas, J. G. and Blowfield, M. (2005) 'Setting new agendas: critical perspectives on corporate social responsibility in the developing world', *International Affairs*, 81(3), pp. 499–513. doi: 10.1111/j.1468-2346.2005.00465.x.
- [11] Suyudi, M. (2012) 'Konsep Quadrangle Bottom Line (QBL) dalam Praktik Sustainability Repoting Dimensi 'Spritual Performance'', *Jurnal Akuntansi Multiparadigma*, 3(April), pp. 1–14.
- [12] Triyuwono, I. (2016) 'Taqwa : Deconstructing Triple Bottom Line (TBL) to Awake Human ' s Divine Consciousness', *Social Sciences & Humanities*, 24, pp. 89–104.
- [13] Sukoharsono, E. G. (2019) 'Sustaining a Sustainability Report by Modifying Triple Bottom Line to Pentaple Bottom Line: an Imaginary Research Dialogue', *The International Journal of Accounting and Business Society*, 27(1), pp. 119–127.