

Conference Paper

Philosophical Challenges in the Era of Industrial Technology Disruption 4.0

Farhana, Abustan*, Hamdan Azhar Siregar, Otonom Mustomi

Islamic University of Jakarta (UID), Indonesia

ORCID

Hamdan Azhar Siregar: <https://orcid.org/0000-0002-1686-0115>

Abstract.

In the development of a world that is experiencing the intensity of technological disruption, which has actually broken down the boundaries of space and time, and has ceased various developments in the order of daily life. This confirms the need for a clear mindset that every development or dynamic of technology in the industrial era 4.0 is like a double-edged sword. In a sense, positive and negative impacts. The technological progress of philosophy responds back, that is, one way of doing philosophy in the midst of increasingly powerful industrial technological advances. At that point, it becomes a challenge for philosophy to carry out its function as a critic and as a contributor of constructive direction. The struggle of the 21st century is the progression of industrial technology; therefore, this reality is interesting to study/examine in such a way through a comparative approach, a reflective approach in photographing and articulating sharply “artificial intelligence” technology. The double face of the impact of technological disruption will ultimately remind us that “humans” will be the main determinant of all matters of life on this earth.

Keywords: philosophy challenge, era of disruption, 21st century

Corresponding Author: Abustan;
email:
cakbus.community@gmail.com

Published: 4 October 2022

Publishing services provided by
Knowledge E

© Farhana et al. This article is distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the INCLAR Conference Committee.

1. INTRODUCTION

Basically, it is undeniable that people usually like technology, due to its benefits and practical uses. Technology contributes tremendous knowledge and helps make it easier for humans to carry out life activities. However, it is also impossible to close your eyes if there are some people who still question, doubt, and even suspect. Especially when technology is judged to be unable to solve the problem, it cannot immediately provide a solution or certainty. A contextual example is regarding a lawsuit on technology

The important and fundamental question that now arises is where is the direction of the dynamics of technological development, and the future of humanity, as well as philosophy itself?. Various critical and contextual issues related to this have provided information to the public, as a form of confirmation of the latest developments in human life on this earth.

OPEN ACCESS

It can be seen that there are twenty researchers from Deep Mind, a technology company that is trying to develop artificial intelligence technology, who published a report on the latest developments of what they have been working on so far.

In the paper entitled "A Generalist Agent", they reported that they had succeeded in creating a robotic agent named Gato, who was able to perform many tasks like humans, from playing video games, annotating pictures, chatting, arranging stones, and even playing video games. Provide text responses according to context. The creation of Gato is said to be the beginning of the birth of artificial intelligence technology that is able to match the level of human intelligence. Responding to the opinion of people who are pessimistic about the development of Gato, Nando de Freitas, Research Director of Deep Mind, even said on his Twitter account: "The game is over ! It's about making these modes bigger, safer, compute efficient, faster at sampling, smarter memory, more modalities". [1]

This reality triggers our concern about the rise of lawsuits against technology. I am concerned that the plaintiffs are educated people, whom I consider well-informed. Especially in Indonesia, when technology has not yet become a thinking paradigm. However, conservatism and fanaticism for belief are still quite hegemonic in the discourse of thinking.

Therefore, many parties provide an assessment that technology is not experiencing an epistemic crisis so it needs to be questioned. The community in the realm of technology is proven to continue to innovate to make new findings and breakthroughs. In addition, technology is also not experiencing a critical attitude deficiency, feeling the most correct, as assumed by its attackers. On the other hand, attacks on technology have intensified in the last decade. This condition is reflected in the popularity of the "anti-vaxxer", "flat-earth" movement, a mindset, or a conspiratorial and dogmatic way of thinking through social media platforms. (National Geographic Magazine: March 2015 edition).

In that context, questioning the epistemology of technology incoherently because of experiencing anxiety (uneasy) about certainty is of course clearly wrong.

Not only because the theme has been thoroughly discussed by the great minds of his time. However, it is also unethical (proper). The problem is using technology generically, to challenge specific prejudices that are not valid, is like a cliché analogy: hunting down rats by burning barns. So, in turn only dealing with futility (absurdity). Because it is closely related (correlated) with the still underdeveloped technology ecosystem in this country. The reality in Indonesia is that scientists tend to be silent and choose to work in silence. As the saying goes the more dense the rice, the more it bends down.

From him, the ethic of thought has given birth to great thoughts in an effort to interpret the world which gave birth to a number of "schools" of thought. From rationalism, empiricism, idealism, positivism, post-modernism, and others. The great thinkers have been dialectical and contradictory since the beginning of the emergence of the forerunner of great thought. Heraclitus' thesis of ever-changing reality gets the antithesis Parmenides of eternal reality, and Plato synthesizes only physical reality changes, the reality of ideas does not change.

The dialectic of thought continues regarding epistemology, "how do we know what we know about reality". Between thinkers with paradigms of rationalism (Rene Descartes), empiricism (David Hume), criticism (Immanuel Kant), idealism (Hegel), and positivism (Aguste Comte). Each of them offers a perspective to interpret the world, to gain certainty and truth. Various matters, related to the matter of "Philosophical Challenges in the Industrial Technology Era 4.0" in order to contribute ideas to human civilization that is now familiar and commonly called "artificial intelligence" to improve the future prospects of humanity

2. METHODOLOGY/ MATERIALS

The research method used is qualitative descriptive through a comparative and reflective approach in capturing that reality by relating it to the dynamics (advancement) of technology.

Descriptive is describing phenomena that occur in society, especially artificial intelligence programs. And the causal approach that the latest developments in technology pose a challenge to philosophy as a scientific discipline that thinks about many important aspects of human life.

Sources of data in this study include primary data in the form of interviews, observations, and documentation in the districts of Bandung, West Java and North Jakarta. Secondary data were taken from literature studies relevant to this research from journals and books.

3. RESULTS AND DISCUSSIONS

Things that are considered the scope or scope of philosophical challenges in the era of industrial technology 4.0 [2] are:

3.1. The challenge of seeking the truth

In the article “Paradigms Lost” (Acon:2015), David Barash, an evolutionary biologist, mentions technology is not just a body of knowledge, but a dynamic process of reconfiguring knowledge that is constantly evolving and changing. Silence (rest) is one thing that technology will not do. Especially in the current humanitarian crisis (Covid-19).

It is this basic assumption that understanding reality through technology is an ongoing work. Unstoppable progress towards understanding how the world works is continuously improving its accuracy and validity. [3]

Indeed, the dividing line or difference with ideology is very clear. Technology is a flexible thought process to accept changes in line with the development of understanding of the world. Thomas Khun in “The Structure of Scientific Revolution” asserts that knowledge develops through a technological revolution, as well as a radical paradigm shift. The new paradigm replaces the old paradigm, every paradigm change forms a new understanding. The technological revolution is similar to the social revolution but without the shock of war or bloodshed conflicts.

Lori Chandler’s article “Science Doesn’t Find Truth, It Understands Change,” (Bigthink: 2015), detects the symptoms of widespread negative sentiment towards technology, including among educated people. Although people generally like the benefits of science, confusion often occurs in understanding what technology is. Distrust of science spreads because of change or uncertainty. Because, in reality, humans always want everything to be certain, if today there is a pandemic, then the human desire for the day after tomorrow will have a drug or vaccine available. That’s the side of human nature that always wants to be fast and sure. [4]

In fact, regarding the nature of the virus that causes the Covid-19 pandemic, for example, the uncertainty regarding the origin of the virus and the uncertainty of its treatment, some people prefer conspiracy theories over scientific explanations. That researching mutations migration of this virus and its characteristics, including producing vaccines and drugs. It takes time and the process doesn’t happen immediately. So, this situation makes people choose a conspiracy theory explanation that is completely certain.

It must be recognized and understood, after being “acquainted” with viruses for more than 100 years until now scientists have not been fully able to understand with certainty this organism. Not only is the scale very small in size, but also the style of diversity. Viruses can quickly mutate into new types. As far as is known, the cause of Covid-19 is a new virus from the Coronavirus group. [5]

Now, information and knowledge (insight) continue to accumulate, new discoveries continue to unravel the existing mysteries. New knowledge and information change people's mindsets and perspectives. It used to be thought that the earth was flat, the sun and stars revolved around the earth, but now we know that is wrong.

Karl Popper in his treatise, "Conjectures and Refutations", deals with the problems that distinguish science from pseudo-science. Distinguishing astronomy from astrology; distinguishing the theory of evolution from creationism (intelligent design); or natural sciences from social sciences (humanities). Through the application of the principle of falsification. Popper makes a clear demarcation line between what is science and what is not. [6]

Popper proposes "Thesis of Refutability" as a method of testing scientific theories, that is, they can be blamed. A statement or hypothesis is scientific if it is possible to refute it. Popper makes the famous "white swan" analogy. The task of science is not to verify that all swans are white, because the assumption is that swans must be white. The task of science is actually trying to find black swans as a falsification of inductive thinking that swans must be white.

The search for truth as a technological challenge, inspired by Popper's thoughts. Therefore, it is necessary to start by drawing a clear dividing line between subjective and objective attitudes. The technology demarcation method, it begins by sorting out the epistemic (how we know) from the ontological (the existing reality). [7]

3.2. Challenges for humanity

It should be noted and underlined that at first glance, the artificial intelligence project does appear to be a "threat" to the future of humanity. [8] Because, in fact humans do not need to seek the truth, but enough how to live life properly. The truth may not be found because the locus is not clear. However, humans can formulate things right. Truth is ultimately a matter of human consensus, just as the truth of morality, for example, is a probability. Instead of obsessing over the truth, it's more relevant to make sure to continually work on reducing errors. [9]

In that context, Richard Rorty in "The Contingency of Language" states "truth is made rather than found". Truth as a human construction can be constructed and deconstructed. Our imagination soars, for example there are robots who are offended by our words or actions because they are not equipped with a moral program to forgive minor mistakes, he is then suddenly slapped by robots who are employed as shopkeepers just because they bid too cheap or other little things that irritate the robot. [1]

This debate and problematic robot about artificial intelligence from the start was built with human standards. The Turing Test, for example, designed by Alan Turing to test machine intelligence, sets its indistinguishability from humans as the standard. That is, if we are no longer able to provide a distinction between the imitation standards, then the human intelligence project can be justified that it is designed as a human "rivalry" itself. The existence of machines is intended to do many of the same jobs even with better quality than that of humans. Thus, you can imagine how many human resources (HR) will be laid off (unemployed) if the wheels of the world economy are mostly driven by robotic resources (machines). This will be a distortion –disorientation for the future of the workers.

Although on the other hand, it must also be understood and realized that humans are still the owners of technology or in other words stakeholders of technology which is now a challenge, for humanity in this universe.

3.3. A challenge to philosophy

Interpreting ontological reality is an attempt to find meaning in life. That in addition to humanity, the latest developments in artificial intelligence also pose challenges for philosophy as a scientific discipline that thinks about many things. Therefore, in order to respond to this challenge, a new branch of philosophy has emerged called "Artificial Intelligence Philosophy" (Philosophy of Artificial Intelligence). [10]

It is at this point in scientific terms, that the development of artificial intelligence technology emerges and confirms new questions that have never appeared before in the span of time in the history of philosophy: what is the essence of intelligence? What is the difference between the ontological status of the natural intelligence of the human species and the artificial intelligence of machines?

An important and fundamental question now comes to the surface: Can the information obtained from the work process of artificial intelligence be called knowledge? Whether the decision or whatever its name refers to the results of information by artificial intelligence that contains ethical and polite rules must also be obeyed? Is there a struggle of thought and/or awareness of human beings as or as legal subjects? These questions are some of the new areas that have emerged as a result of the development of artificial intelligence that requires elaborative study/study and extensive exploration.

In this context, once again, philosophy functions as a critic, and philosophy must also be constructive. For example, offering ideas or solving conceptual problems in the technology development process. Because the existence of technology needs

to be broadcast as a guide to life in uniting humans. Therefore, its existence is not like ideology, politics, or beliefs that often divide. Through technology in the history of civilization, humans can unite in one method, one common thought, regardless of cultural background and identity.

For this reason, the philosophical challenge in the technological era termed 5.0 technology must be seen as an anchor of belief to realize values, governance, and prosperity in the life of the state. A responsible government will use it as a means of self-correction, rather than just blaming or confronting fellow citizens in today's 4.0 industrial technology era.

4. CONCLUSION AND RECOMMENDATION

First, Important and strategic things in dealing with philosophical challenges in the era of industrial technology disruption 4:0 or often called the 21st-century era which is the era of the glory of the technology that we live in lately. However, of course, it cannot be separated from the challenges themselves, namely: 1. The challenge of seeking truth, 2. The challenge for humanity, 3. The challenge for philosophy.

References

- [1] . Murtiningsih S. Artificial intelligence and humanity. Kompas Artic; 2022.
- [2] Ellitan L. "Competing in the era of industrial revolution 4.0 and society 5.0." J. Maksipreneur Manajemen, Koperasi, dan Entrep. 2020 Dec;10(1):1–12. <https://doi.org/10.30588/jmp.v10i1.657>
- [3] Abustan. Critical and contextual human rights issues. PT. Raja Grafindo Persada, 2021.
- [4] . Makin. "Important aspects of building in the village". ILREJ J. 2022;2(1):36.
- [5] Luwarso L. "Challenges in the era of global diversity and pluralism" Science. 2016;(80-).
- [6] . Hidayat K. The social role of religion. For the Benefit of the Nation; 2016.
- [7] Ali F. "Time and people." The Benefit of the Nation, 2016.
- [8] Sari JM, Purwanta E. "The implementation of artificial intelligence in STEM-based creative learning in the society 5.0 Era." Tadris J. Kegur. dan Ilmu Tarb. 2021 Dec; 6(2): 433–440. <https://doi.org/10.24042/tadris.v6i2.10135>
- [9] . Latif Y. Pancasila in the Era of Disruption. Kompas Article; 2022.

- [10] . Reskiantio Pabubung M. EPISTEMOLOGI KECERDASAN BUATAN (AI) DAN PENTINGNYA ILMU ETIKA DALAM PENDIDIKAN INTERDISIPLINER. *J. Filsafat Indones.* 2021 Sep;4(2):152–9.