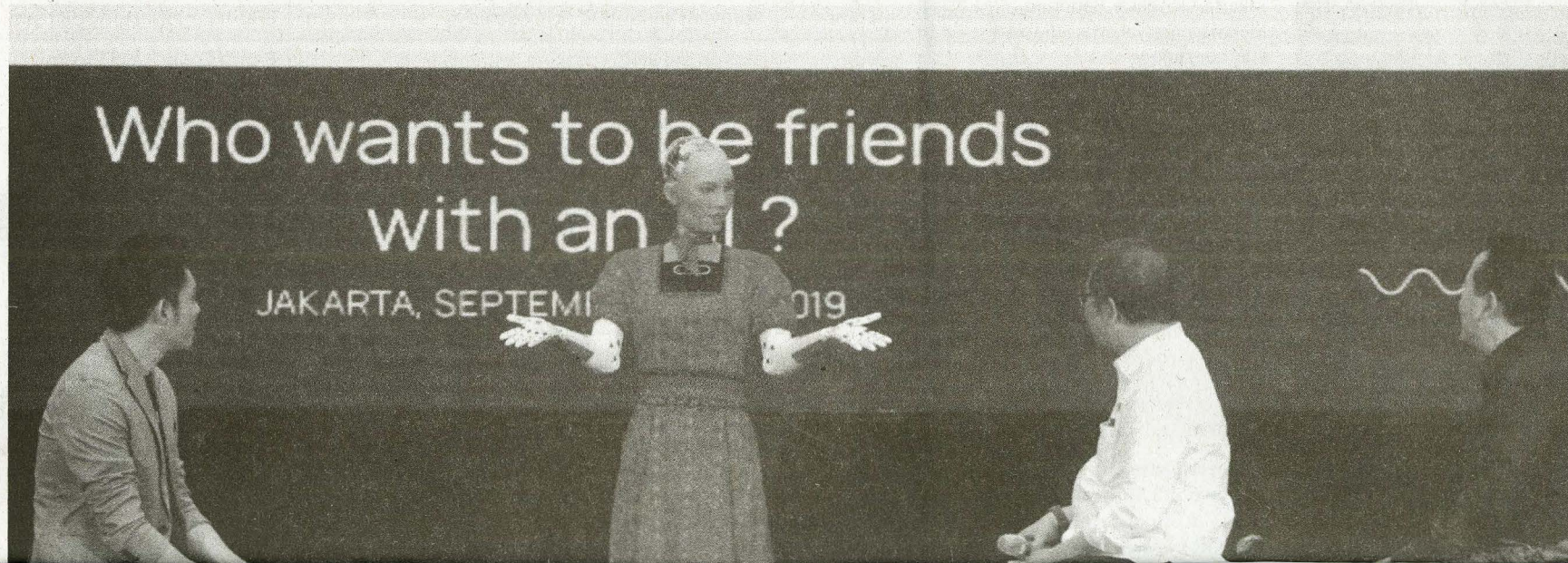


ANALYZE THIS

# The rise of technology and death of humanities?

How undergraduates in social sciences, humanities play role as guards in social change.



**T**echnology-driven change is inevitable. In the context of workforce, undergraduates in technology are in high demand because they are expected to support Industry 4.0. If so, what about undergraduates in social sciences and humanities studies? How relevant are these two studies in today's increasingly digitalized era?

Why undergraduates in technology or engineering have become increasingly preferable is easy to answer but meeting the demand for them is quiet challenging. Indonesia, like many other countries, is in the midst of a significant transformation to Industry 4.0, which points to the use of the internet, sensors, cloud computing and machine learning to optimize an industry.

According to Alpha Amirrachman, director of the Southeast Asian Ministers of Education Organizations Regional Open Learning Center (SEAMOLEC), Indonesia should adjust itself to changes related to Industry 4.0, not only in terms of mentality but also knowledge and skills required to face the highly anticipated digitalization of manufacturing.

Alpha, also a lecturer at the School of Education, University of Sultan Ageng, Serang, Banten, is of the view that Indonesia should multiply the number of engineers and undergraduates in information and communications technology, which supports Industry 4.0, because otherwise Indonesia would lag further behind other ASEAN countries in the utilization of digital technology to improve people's welfare.

The rising preference of studies in technology may be the current trend in Indonesia. But such issue became a hot topic of discussion in several countries, such as Japan, India and the United States, a couple of years ago, although it still echoes today.

Times Higher Education reported that at least 20 of 60 universities had confirmed their decision to close down social sciences and humanities departments following the government's move to issue a policy that scrapped those departments. In the letter sent in June 2016, Japan's education minister Hakubun Shimomura requested that the institutions take "active steps to abolish [social sciences and humanities] departments or to convert them to serve areas that better meet society's needs."

In the US, as reported by the Voice of America (VOA), students are more interested in pursuing studies in science, technology, engineering and mathematics because the studies allow them to earn higher incomes. Many universities in the US have encountered difficulties with the decline in humanities student enrollment and make the classes a soft target for budget cuts. The phenomena drew reactions from academia and society. Carlyn Martin, president of Amherst College is an example. He felt pressured to maintain the importance of humanities. "Humanities are integrative arts. Without humanities, science and technology will be void. The absence of a study on culture will make how to utilize technology in daily life an urgent question," he says.

Back to Indonesia. The growing appeal to produce more undergraduates in technology has also drawn mixed reaction from academia



JP/Ben Latuihamallo;

A student joins a robotics contest in Indonesian Convention Exhibition (ICE), Bumi Serpong Damai (BSD), Tangerang, Banten.



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and society, especially when it comes to the future of social sciences and humanities study programs such as philosophy, sociology, anthropology, literature and arts and culture.

Abdul Mu'ti, secretary-general of Muhammadiyah, acknowledges that Indonesia has more undergraduates in social sciences and humanities than those in exact sciences. "More undergraduates in exact sciences are needed to propel the growth of technology and industry," he says

To reach the goal, according to him, exact sciences should be taught from elementary school. Children should be encouraged to develop their interest in mathematics and natural sciences as basic sciences. "A study of humanities is necessary to provide students with a foundation for developing a sense of solidarity, social sensitivity, arts and creativity," he says.

Other experts give somewhat cynical views on the multiplication of undergraduates in technology. Dhoni Zudiantoro, a specialist in educational issues, for example, once wrote an article titled "Twilight Times for Humanities Studies" to respond to the issue. He lamented the trend in playing down social sciences and humanities, saying that two areas of study were considered "second class" or subordinate, compared to exact sciences.

Humanities students, according to him, are often feared of becoming a group of "wasted people". In an age in which millennials now put more emphasis on speed and instant results rather than the value and meaning of a process, the molding of mentality, humanity and humanism are frequently viewed as absurd compared to new technological innovations with degrees of usefulness that can be immediately felt, Dhoni said.

### Social guards

Multiplying undergraduates in technology, and science and engineering does not necessarily mean belittling undergraduates in social sciences and humanities. "Undergraduates in social sciences and humanities such as sociology and anthropology can also play a significant role in this regard," said Alpha, who shed the light on the role of undergraduates of social sciences and humanities.

Undergraduates in sociology and anthropology, for example, can analyze rapid social changes, especially from the viewpoint of the respective study. "They play a crucial role as a social guard to ensure that the development of Industry 4.0 is useful for humankind in terms of, for example, justice, poverty eradication or gender equality," he notes.

The US, China and India are engaged in fierce competition in developing internet of things (IoTs) and artificial intelligence. "They have made incredible progress in this regard. While, unfortunately, the issue is something that is still being discussed in Indonesia. Undergraduates in social sciences and humanities should remind society and the government of the importance of equipping more people [students] with knowledge and skills in technology. This way we can build a strong basis [for Industry 4.0]," Alpha said.

According to him, advancement in technology has been driven by the policymakers of the respective countries, which in some ways, has been triggered by humanity awareness.

Undergraduates have equal degrees. "I think undergraduates play a crucial role in raising social awareness or social sensitivity, helping direct the nation from the perspective of justice and ethics," Alpha says.

Supporting his statement on the relevance of social sciences and humanities, he says that once he was invited to attend a conference on artificial intelligence in Paris, France. The first thing discussed in the conference was the ethics, humanism and philosophy, instead of technicality. "How the big data should be stored so it is not stolen or how the privacy of personal data can be ensured, for example," he explains.

Alpha says that although India is a technology-based nation, the country is also home to strong associations of undergraduates in social sciences and humanities, who have a recognized role in society.

With rising demand for undergraduates in technology and sciences, the number of undergraduates in social sciences and humanities may naturally decline. But this does not necessarily mean that the latter studies will be scrapped. Both undergraduates in technology and those in social sciences and humanities complement each other according to their respective roles. 