

Values in The development of Science and Technology Contribution to Strengthening the national Cultural Character

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Abstract. This research aims to analyze the importance of values in the development of science and technology in Indonesia. The rapid development of science and technology in this global era affects human life, it can even affect human behavior. This research is a qualitative research in the field of philosophy, with the material object is the development of science and technology, while the formal object of research is the essence of value. The methodical elements used by the researcher are description, totalization, interpretation, and analysis-synthesis. The result achieved is that science and technology are very important for national development. Therefore, the development of science and technology should be aimed at humanitarian purposes, namely improving human welfare; educate people both intellectually, emotionally, and spiritually; and enhance human dignity. To achieve these humanitarian goals, the development of science and technology in Indonesia is not value-free, meaning that it must be based on the values adopted by the Indonesian people. These values serve as the basis that will direct the development of science and technology which then has logical consequences for strengthening the nation's cultural character.

Keywords : character, science, technology, the nation's culture, values.

1. Introduction

Science and technology in this global era is developing very fast. The development of science has a logical consequence on the development of technology. Likewise, the development of increasingly sophisticated technology has logical consequences for the rapid development of science, especially in supporting various researches carried out by scientists. Both are interrelated and influence each other in their development.

These developments ultimately encourage the flow of globalization, especially the increasingly advanced information technology. The boundaries between regions and between countries are no longer felt the difference. Public spaces and private spaces can no longer be dammed by administrative rules. This condition directly affects the way people think and act

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in general. The established values are reinterpreted by the ways of thinking and acting of each community group. As a result, there is a lack of clarity on the direction of the value system adopted by the community. Communicating on various types of social media often shows how the attitude of each individual has a tendency to be liberal, instant, and materialist.

This phenomenon is a form and effect of globalization which has shifted the values that become the character of the nation, therefore it is only through strengthening the character of the nation that the changes that occur are evolutionarily and constructively, not destructive. Strengthening character is a filter in stemming the incoming globalization flow that can affect people's views of life. The reality is that globalization brings positive and negative values that cannot be denied.

The influence of values brought in the flow of globalization tends to be materialistic and instantaneous. Cultural values that have been established, full of moral values have begun to shift. Cultures that reflect spiritual traits tend to be ignored. The tendency of a pragmatic and instant view of life can be felt in all lines of life. The era of globalization, one of which is marked by information and communication technology, is sometimes taken for granted without a critical attitude so that it has a negative impact. Reality sometimes shows a value disorientation. This is emphasized by Koento Wibisono Siswomiharjo, namely that people have lost their value orientation. Life becomes bland, cruel, rough, and barren in cultural poverty and spiritual dryness. Courtesy, refinement, harmony, social solidarity, idealism, tolerance are the effects of the swift currents of globalization and modernization which are full of paradoxes. The noble cultural values built by the ancestors have faded and lost their basis and direction [1].

2. Methods

2.1 Research Stages

This research is a qualitative research in the field of philosophy with the formal object of philosophy of value and the material object of science and technology.

Research stages

- Exploration of library resources. At this stage the researcher determines the location of the data source, including libraries, study centers, or research centers.
- The stage of collecting library data in the form of books and other literature related to the object of research studies, both formal objects and material objects.
- Data processing stage by conducting an inventory, systematization, and data classification.
- Data Analysis Stages. Data related to the philosophy of value, the development of science have been inventoried, systematized, and classified and then analyzed with relevant methods and methodical elements.
- Stage of compiling the results of research analysis.

2.2 Data Analysis

The methodical elements used by the researcher are description, totalization, interpretation, and analysis-synthesis.

3. Results and Discussion

3.1 Value

Value is an inherent quality of something. Value in this understanding is abstract. Kattsoff (1953-297) emphasized the relationship between value and good understanding. Health implies good or valuable because it has an impact on happiness. Health allows humans to carry out their obligations in life. The substance is value means the existence of goodness, benefits, and worth. Values are also related to morality. A good person is a person who has a valuable life in terms of morality [2].

The branch of philosophy that studies values is called axiology. The word axiology comes from the Greek *axios* and *logos*. *Axios* means value or something useful, while *logos* means reason or theory. It can be concluded that axiology is a theory of value, nature, an investigation of criteria, and the metaphysical status of values [3].

Values are the basis for behaving and behaving in everyday life. In relation to the development of science and technology, values have a function as a foundation in the development of science because the development of science and technology in Indonesia is bound by values, namely the cultural values of the nation.

3.2 Science and Technology Development

Science is knowledge that is systematically arranged and the stages of its achievement can be accounted for theoretically. Science is obtained by the scientific method [4]. Science manifests itself in the following matters: 1). Society is an elite society that is concerned with the rules of universalism, disinterestedness, and skepticism that are organized and directed. 2). The process is the activity of elite society through reflection, contemplation, observation, experimentation and so on continuously seeking and finding scientific truth. 3). The product is the activity in the form of theories, arguments, paradigms and the results of their application, both physical and non-physical [5].

Technology is the application of the laws of science in the creation of life tools. The application of technology is oriented to human interests. There is a parallel between human interests and technology so that the rapid development of science and technology increasingly encourages the development of the perfect human idea. Acceleration of discovery and application will also accelerate changes in people's lives. It is understood that advanced human life is always closely related to technology which has logical consequences for new thinking about human culture. Technological developments in reality develop both physically and psychologically [6].

The development of science and technology in Indonesia must be based on values. These values are able to direct the implementation of science and technology for human life. The purpose of the development of science and technology in Indonesia is for humanitarian purposes, namely the welfare of humans, educating, and elevating human dignity. To achieve that goal, the development of the field of science and technology must be based on the values of Pancasila, therefore science and technology are actually not value-free in the end.

The values of Pancasila are the basis for the development of science and technology in Indonesia, which can be explained as follows: The precepts of the One Godhead, complementing science, creating, balancing between rational and irrational, between reason, taste, and will. Humans are a systemic part of the nature they cultivate. The just and civilized Precepts of Humanity provide the basis for morality that humans in developing science and technology must be civilized. Human values must be prioritized. The Precepts of the Indonesian Unity provide the basis that the development of science and technology should be able to foster the spirit of nationalism, the greatness of the nation, and the nobility of the

nation. The People's Precepts, which are led by wisdom in deliberation/representation, provide the basis that the development of science and technology must be democratic, meaning that every scientist has the freedom to develop science and technology; Scientists should have an open attitude to always be reviewed or compared with the findings of other theories. The precepts of social justice for all Indonesian people provide the basis that the development of science and technology must maintain a balance of justice in human life, namely justice in relation to oneself, humans to God, humans to other humans, and humans to their environment [7].

The development of the field of science and technology significantly influences the success of national development. Zuhul emphasized that national development can provide welfare for the Indonesian people both physically and mentally, in its realization it is very important to apply the values of science and technology in a responsible manner by paying attention to the noble values of the nation's culture [8]. In essence, the application of science and technology in development must refer to national identity

It is clear that the cultural values of the nation are very important in relation to the development of science and technology, namely as the direction and basis for such development. Science and technology imperatively develop in accordance with the values of Pancasila as the personality of the Indonesian nation. Pancasila as an open ideology allows the Indonesian nation to adopt science and technology from countries in the world as long as it is in accordance with the cultural values of the Indonesian nation.

3.3. Strengthening The National Cultural Character

The characters referred to here are special characteristics inherent in the culture of the Indonesian nation. This special characteristic is inherited and practiced in everyday life in the customs and habits of the community. The Indonesian nation which has a religious character, mutual cooperation, a high sense of humanity is integrated into the Indonesian human character, which in turn is manifested in the nation's culture.

Culture that always develops along with the rapid development of society along with the development of information technology should not eliminate the cultural character that is already believed and becomes a character. This development remains continuous so that it cannot be separated from values that are believed to be true, not interrupted by values that have become personal and character. The orientation of its development remains based on customs that are continuously passed down from generation to generation, even though the forms of culture are different but the inherent values remain. Notonagoro formulated that the influence of culture and development should take place in a selectively inco-operative manner. This means that cultural influences are selected in such a way that they do not damage the existing culture but instead develop for progress.

The substance is that the application of science and technology in national development should be in accordance with national identity as in the Outlines of State Policy. Zuhul cites that so that national development can provide people's welfare both physically and mentally, its implementation needs to apply the values of science and technology, and encourage the use, development, and control of science and technology in a responsible manner, namely based on noble cultural values. nation [8].

The application of science and technology must be in accordance with the culture of the Indonesian nation. The Indonesian nation may adopt science and technology from countries in the world as long as it is in accordance with the cultural values of the Indonesian nation. The nation's cultural values are reflected in the values of Pancasila. These Pancasila values become the foundation for the development of science and technology so as to strengthen the nation's culture.

4. Conclusion

Science and technology is one of the important sectors in national development. Success in developing science and technology affects the success of national development. Humans are a central theme in development, therefore the development of science and technology must be aimed at the interests of humanity. To achieve these humanitarian goals, science and technology must be based on the nation's cultural values, which are reflected in the values of Pancasila. These values are a framework of thinking that will direct the development of science and technology in the global era so as to strengthen the cultural character of the Indonesian nation.

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