

Book Title : **SOSIOTEKNOLOGI**
 Kearifan Lokal: Komoditas
 Era Revolusi Industri 5.0

Author Names : Dicky R. Munaf &
 Susanto

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 Bandung 40132,
 Jawa Barat

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Book review by : Muhamad Firman
 Al-Fahad



This book discusses cultural diversity that includes local wisdom as a form of civilization heritage that is carried out continuously from generation to generation as a controller of various influences. Various factors influence the order of human life and change the civilization (science and technology, information and communication technology, mindset and behavior, basic pattern of society and prosperity, politics, and national defense).

This book is a narration of the authors' thoughts on local wisdom in relation to the changes and developments of time reverberated by the industrial revolution. The industrial revolution is one stage of the development of time as evidenced by the progress of thoughts of each generation starting with the industrial revolution 1.0. This era was marked by the emergence of machinery and steam engine in the late 17th century when human and animal power were replaced by the presence of these machines. The industrial revolution 2.0 was marked by the development of electrical energy and motors and 3.0 by the invention of the computer as a milestone of this era, the growth of electronics-

based industry, information technology, and automation. In addition, the industrial revolution 4.0 was marked by cyber physical system, such as, virtual connectivity, machine, and data, as well as the development of the Internet of Things (IoT). Currently, the joints of human life are dominated by advances in information technology which includes the internet, data, artificial intelligence and a series of technologies that support this revolution. Industrial revolution 5.0 is marked by the presence of intelligent robots, cyber space (virtual space), and physical space (real space).

Furthermore, apart from the industrial revolution and its development, it also influences changes of human civilization. Civilization and culture are inseparable from human life. Meanwhile, cultural products are manifestations of reality and systems of thought. Utilization of the natural environment's condition is carried out by realizing the 'dream' of human needs to be better, more prosperous, and safe, thus causing a change in civilization.

In the era of industrial revolution 4.0, the Indonesian nation can develop new competitive

innovations. These innovations apply appropriate technology in improving the national industry to meet domestic needs. This book describes the work of the nation's youth in the application of appropriate technology, including the use of urine as fuel oil (stoves and motors), root/wood ingredients as a breast cancer drug, as well as the results of the design and construction of infrastructure/buildings, household industries, household appliances, and so on. The results of these findings need to be appreciated and supported by the central/regional government to improve aspects of welfare and security defense. With the development of technology in the era of the industrial revolution 4.0, countries around the world are competing to take advantage of opportunities to become productive countries in creating products that can meet human needs. However, with the development of this civilization, there are concerns about the existence of local wisdom of the archipelago. If local wisdom is not managed and preserved properly, then the treasures of local wisdom of the archipelago will gradually disappear and be replaced by foreign cultures.

Regarding concerns about the shifting of local wisdom that can be replaced by foreign cultures, this book discusses the strategy of preserving the local wisdom of the archipelago touched by current technology.

This book discusses examples of local wisdom of the archipelago that have been touched by appropriate technology at the current time of industrial revolution 4.0, including the use of technology in agriculture, application of technology in arts and culture, security defense, politics, socio-economics, socio-cultural and humanities, geography, demographics, natural resources, and ideology. In addition, this book also explains the efforts to strengthen the local wisdom of the Indonesian people in each region as a buffer for the development of the industrial revolution 4.0.

In preserving and re-elevating the treasures of local wisdom in Indonesia, there are many challenges to be faced. The authors explain the challenges in maintaining the local wisdom of the archipelago in Indonesia, including the use of

the treasures of local wisdom and the application of transdisciplinary socio-technology have not yet been optimized, as well as the lack of awareness and understanding of the local wisdom values of the archipelago.

Historical relics of the past are scattered in Indonesia such as temples, irrigation systems, and others prove the struggle of the ancestors in meeting their needs. This means that our ancestors have prepared all possible things in facing the advanced era. Thus, the next generation is expected to be prepared in the work, creativity, and initiative of their ancestors as a motivation in filling national development for the future.

Another chapter in this book deals with local wisdom for competitiveness. In its discussion the authors emphasize the various forms of local wisdom that are inherited such as the value of mutual cooperation, tolerance, work ethic, oral traditions, manuscripts, customs, rituals, traditional technology, arts, language and literature. Traditional games and sports face challenges in maintaining their existence in the era of globalization, which is marked by the rapid and dynamic development of knowledge and technology.

Thus, the role of socio-technology is needed in developing local wisdom in the era of globalization. The development of local wisdom and socio-technology must also be accompanied by a multicultural national ideology for the creation of a social order. Therefore, a special strategy is needed to further prepare local wisdom in facing the industrial revolution 5.0.

The role of socio-technology for the preservation of local wisdom in facing the industrial revolution 5.0 is to help formulate strategies such as, formulation of appropriate subject, object, and method, formulation of defense, and development efforts.

This book is very interesting to read because it is in accordance with the current developments, namely the industrial revolution 4.0. The industrial revolution 5.0 will be coming soon to fill the civilization of the industrial revolution in the world. In facing the industrial revolution 5.0, humans need to prepare and adapt to the era.

AUTHORS' PROFILE:

Dicky R. Munaf is an ITB Professor in the field of Socio-technology. This book is the sixth book he has written based on his knowledge and experience. His doctoral education was completed in 1990 in the field of Theoretical Mechanics. He has been involved in infrastructure development on the moon and Mars with Prof. T.D. Lin from Northwestern University since 1996 and was assigned the mandate of echelon I positions from 1998-2021, and obtained best graduate of Lemhannas Education in 1999. He believes that the Pearls of Pancasila (Mutiara Pancasila) are the embodiment of local wisdom. The field of socio-technology that he developed is an interdisciplinary study which combines formal and non-formal education, as well as experience in carrying out tasks, and it can be used for the benefit of the nation. Therefore, Indonesians should become pioneers (not followers) in the next Industrial Revolution Era.

Susanto is a senior Indonesian Navy officer who retired in 2015 with the last assignment of a teaching staff in Geopolitics at Lemhannas, which was preceded by an assignment as Navigation Officer, Head of the Operations Department, Palaksa KRI SMB, KRI YOS, Commander of KRI KKG, KRI CND, Paban Ops Koarmabar. He was also Adjutant to the Vice President and Adjutant to the President of the Republic of Indonesia, Karo Tanda Penghargaan Setmilpres, Setneg, Pati Sahli Tk. II. He had been assigned as Chief Commander of TNI for communal conflict in TNI Headquarters, Commander of Guskamla Koarmatim, Karo Koordinator Perwira Navigasi, Kapusops Bakorkamla and Expert Group of Bakamla.