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DIVING INTO SOCIETAL ISSUES: THE IMPACT OF DIGITAL ERA DEVELOPMENTS ON ENVIRONMENTAL ISSUES

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Abstract

Environmental issues are a major threat to the survival of humans and other living creatures. In the digital era, the role of media in environmental ecology has become more complex. One way the media contributes to environmental ecology is by conveying information about environmental issues that require attention. Thanks to the media, many issues such as climate change, plastic pollution and sustainability are at the center of public attention. The media also plays an important role in exposing destructive practices that damage the environment, triggering responses from governments and civil society. Unraveling the ecological impact of media in the digital era is an important step in understanding the role of media in environmental conservation. The media has a great ability to shape our perceptions and actions towards environmental issues. This research investigates in depth the social content: the impact of the development of the digital era on environmental issues using a literature review approach. This research discusses the definition of environmental issues, the influence of technological developments in the digital era on people's lives, the ecological impact of digital media: the role in preserving the environment, technological developments in the digital era and environmental sustainability

Keywords: social issues, developments in the digital era, environmental issues

INTRODUCTION

Human life cannot be separated from the environment, which is the place where humans live and carry out their activities. However, the influence of human activities on the environment is increasing along with technological developments and industrialization. As a result, environmental issues are increasingly complex and have become global issues that require attention from all parties. In Indonesia itself, environmental problems have become a massive issue discussed by various groups. Environmental communication is an important factor in increasing awareness and pro-environmental action in society. Environmental communication can help strengthen environmental awareness and motivate pro-environmental action, as well as expand public participation in environmental issues. In the digital era, digital technology has

changed the way humans communicate and obtain information. The development of digital technology helps people easily discuss things through online mass media and social media. With advances in digital technology, there are various challenges and opportunities in developing effective environmental communication (Antoni, D., Jie, F., & Abareshi, A. (2020).

The dissemination of information regarding current environmental conditions is helped by the development of information technology. The public can access information about environmental conditions and also socialize its management through online mass media and social media. In conveying information about environmental conditions through information technology, there are still many challenges but also great opportunities (Miteva et al., 2015). We will see the challenges and opportunities in developing effective environmental communication in the digital era. Digital technology has a major influence on environmental communication and provides insight into how to overcome challenges and exploit opportunities to increase the effectiveness of environmental communication in the future. The ease with which people can access and share information about environmental conditions is greatly helped by the current development of digital technology. The public can access quickly and precisely how treatment can be carried out. However, there are still many people who do not understand or understand the problems that occur.

We all realize that in this digital era, the use of social media has become an inseparable part of society's communication patterns. The role of social media in people's lives is the main driver in increasing people's participation in various aspects of life. Social media facilitates direct interaction between society and government. Apart from that, social media also provides opportunities for the public to participate in influencing government policies, especially regarding environmental issues (Springmann et al., 2018).

According to Eckelman, M. J., & Sherman, J. (2016) with high intensity use of social media, people can express their opinions, disseminate information, and mobilize social action to support environmental issues. This resulted in a social change movement that had a major impact in spreading information and changing policies to create significant positive changes to the environment. In Indonesia, the use of social media as a tool to encourage people to care more about the environment has shown significant results. Many are inspired to create or join movements that focus on environmental issues, such as environmental clean-up campaigns, tree planting, or reducing plastic use.

Through social media, information and calls to action can quickly spread, creating a domino effect in which more individuals become involved in

environmental conservation efforts. Thus, the role of social media in driving awareness and proactive action towards the environment is very important in creating sustainable change. Through social media, individuals also have a platform to share ideas and initiatives regarding creative solutions to environmental problems. Online discussions enable collaboration between individuals with different backgrounds and expertise to create more effective strategies for protecting nature. Apart from that, social media also provides space to educate people about the importance of environmental conservation and the impact of daily actions on ecosystems (Poore, J., & Nemecek, 2018).

For example, we can see the Pandawara group which is actively involved in activities to clean rivers and beaches in various parts of Indonesia. This received a positive response from many people and quite a few were motivated thanks to the positive activities shared by the Pandawara group through their social media accounts. Of course, what they do can have a long-term impact and the hope is that more and more people will be motivated to care more about the environment

As the use of social media grows in Indonesia, the potential for building awareness and collective action in protecting the environment becomes greater. This shows that social media is not only a tool for communication, but also a means for mobilizing collective power in achieving sustainable goals in environmental conservation (Schaltegger, S., & Burritt, 2017).

The development of environmental technology is one of the main ways to achieve a balance between technology and environmental conservation. These technologies include solutions such as environmental monitoring sensors, more efficient water treatment, use of renewable energy, and innovations in sustainable agriculture. By using this technology, we can reduce the negative impact of other technologies on the environment. For example, advanced environmental monitoring technology allows us to more accurately monitor air and water quality, thereby identifying pollution and other environmental problems more quickly. This technology also helps in more efficient management of natural resources, such as wiser use of water in agriculture (Dehghani-Sanij et al., 2019).

RESEARCH METHOD

This research investigates in depth the social content: the impact of the development of the digital era on environmental issues using a literature review approach. The results include a comprehensive understanding of the impact of digital era developments on environmental issues. Literature analysis involves

an in-depth study of literature related to theories of the impact of the development of the digital era, environmental content. With a strong conceptual foundation, this research makes an important contribution to enriching the discussion regarding the impact of developments in the digital era on environmental issues in this article.

RESULT AND DISCUSSION

Definition of Environmental Issues

The detrimental effects of human activity on the biophysical environment are known as environmental concerns. Environmental problems as a contemporary issue in international relations have existed since after World War II. The most important factor in environmental problems is the size of the human population. Rapid population growth poses challenges that are attempted to be overcome by development and industrialization. However, industrialization, in addition to speeding up the delivery of all essentials for human life, environmental pollution has a detrimental effect on people (White., 2018).

Environmental issues are a major threat to the survival of humans and other living creatures. Humans have the most dominant role in influencing the environment. The environment also influences humans. There is a reciprocal interaction that always occurs between humans and the environment (Ulum and Ngindana, 2017). According to Whitehead, J. (2017) stated that since the time of the revolution, every generation has left humanity with technology that is better than what was previously discovered. This can be seen from the fact that medicine is more advanced and more effective (as are weapons), food production is more efficient, transportation is faster and more reliable, entertainment is more varied and sophisticated, and communication has brought the world's people closer together than ever before. However, at the same time, this means each generation has also left the earth in a worse condition than it was found, namely fewer valuable resources and more toxins in the environment. Instead in some situations, technology for natural resources is not a good trade-off. The earth is a life support system for mankind. If humans interfere with the earth's ability to renew itself, that means effectively shutting off the supply of clean air, clean water, and food for future generations.

In the current era, where more and more people are leaning towards green products, many businesses have started adopting these strategic green marketing tactics to gain a sustainable competitive advantage. Green

purchasing behavior is a type of pro-environmental behavior (Bansal, 2003). The nature and motivation of this behavior differs from other general purchasing-related consumer behaviors (Harper, C., & Snowden, 2017). Business people not only try to make green products, but also apply it to processes, production methods, sales and also waste disposal (Prăvălie, 2016). Green products can be defined as products that will not pollute the earth or damage natural resources, and can be recycled or conserved (Cruz, 2017).

Substances used to beautify or improve the body's appearance internally and externally are cosmetics (VanLoon, et al., 2017). Indonesia, through its environmental care campaign, prioritizes cosmetic products with a friendly concept. In the beauty industry, consumers have an increasing awareness of product use. Not only looking for products that are useful for caring for your skin, but also care products that are environmentally friendly.

The Influence of Technological Developments in the Digital Era on People's Lives

Human life in this era cannot be separated from technology. Almost all aspects of human life are closely related to technology. Technology has had a huge impact on financial development. The use of technology allows users to carry out financial transactions online, send electronic money to other people, and manage financial records easily and efficiently. Technology allows users to obtain increasingly accurate financial information that allows them to make better decisions about their financial situation (Morrar et al., 2017).

Additionally, this technology allows users to receive more comprehensive financial services, such as savings and investments, in a way that has never been available before. Technology also allows users to access financial services anytime, anywhere. You will be able to manage your finances more efficiently and effectively. In this case, technology has revolutionized the way consumers manage their finances and will continue to influence financial developments in the future.

Technology plays an important role in realizing modern education that is inclusive and effective. In the digital information era, technology has changed the educational environment dramatically. Technology can help create a more inclusive and effective education system. Technology enables global access, dynamic and personalized learning, and better monitoring and evaluation. However, we need to ensure that technology is used wisely, equal access to technology is guaranteed (Colbert, A., Yee, N., & George, 2016).

According to Haleem, A., Javaid, M., Qadri, M. A., & Suman, R. (2022), in the digital era, communication and information technology influences people's lifestyles and thinking patterns. This requires special attention, because technology not only brings positive benefits, but also negative impacts. We need to use technology better and smarter and follow our parents' directions to use technology as a useful tool and not cause negative impacts.

Digital technology is forming a golden generation who will be the successors of our struggle to form a nation with morals and culture in the future. However, we must select technological advances so that as much as possible we can prevent the negative influence of technology on children in particular, because technology also has negative impacts such as the use of cellphones that are not in accordance with learning needs.

In this case, it is hoped that the influence of technological developments on people's lives can lead to positive things. Because, every technological development will be in line with the efficiency and effectiveness of the work carried out. The positive impacts arising from the development of digital technology include (Nowland et al., 2018):

1. Ease of accessing information and exchanging information.
2. Make various services more effective to facilitate community needs.
3. Opening new job opportunities thereby minimizing unemployment.
4. Time efficiency.
5. Create many opportunities in various areas of life.

But in reality, apart from making many things easier, the development of this technology also has negative impacts. The negative impacts of the development of digital technology are:

1. Reduced direct socialization between one another
2. Can cause addiction to today's increasingly sophisticated technology, for example smartphones/gadgets
3. The reduction in human resources is a result of the decreasing role of humans in several industries due to being replaced by sophisticated technology
4. Increased hate speech (hate speech towards other people), harassment, cyber bullying, and similar things in the online world.

To minimize the negative impact, digital literacy must begin to be taught at various levels of education and various groups, from children to adults. So, the better a person's digital literacy, the wiser they will be in using digital media (Raja, R., & Nagasubramani, 2018).

So, the development of this digital era has brought changes to society towards a better direction, thus bringing many positive impacts that can be utilized as well as possible. However, on the other hand, society must also prepare itself to face various challenges in the digital era from various areas of life, be it economic, socio-cultural, technological or even political. This challenge can be met by preparing human resources that are more qualified and superior in facing the digital era like today.

Ecological Impact of Digital Media: Role in Environmental Conservation

When we talk about modern ecological challenges, we often focus on issues such as climate change, deforestation and biodiversity loss. However, there is one important aspect that is often forgotten, namely the role of the media in influencing our perceptions and actions towards the environment. In this digital era, media ecology is becoming increasingly significant, and a better understanding of how media influences environmental conservation is key to overcoming today's ecological challenges (Arts, K et al., 2015).

Media, both print and online, play an important role in shaping society's views on environmental issues. News, investigative reports and visual documentation depict environmental change and the impact of human activity on our planet. However, media can also trigger behavior that is detrimental to the environment if not used wisely.

One way the media contributes to environmental ecology is by conveying information about environmental issues that require attention. Thanks to the media, many issues such as climate change, plastic pollution and sustainability are at the center of public attention. The media also plays an important role in exposing destructive practices that damage the environment, triggering responses from governments and civil society.

However, the media can also make the problem worse. Too often we see sensationalism and sensational headlines that are more concerned with getting clicks than presenting the news correctly. This can obscure the facts and trigger excessive fear or indifference. In an effort to gain public attention, the media can utilize frightening visual images or excessive dramatization, which in turn can confuse and reduce public trust (Kobori et al., 2016).

In the digital era, the role of media in environmental ecology has become more complex. The internet and social media provide new platforms for disseminating information and gathering support. However, this also allows the emergence of disinformation and false information that can muddy the debate on environmental issues (Ballard et al., 2017). We see how environmental

action, online campaigns and petitions via social media can change views and spark real change. For example, Greta Thunberg's campaign for climate change gained global attention through social media, motivating millions of people to participate in environmental protests and actions. This is an example of how media can be an effective tool for positive change.

On the other hand, social media can also trigger polarization and conflict. Environmental issues often trigger heated debates between groups with different opinions. We often see the use of social media to spread arguments and misinformation, creating divisions and hindering effective cooperation.

Ahmed, Z., Asghar, M. M., Malik, M. N., & Nawaz, K. (2020) stated that in understanding the ecological impact of media in the digital era, we must consider several key aspects:

1. Information Source
   It is important to confirm the source of information before trusting it. Facts and strong scientific evidence must be the basis for decision making and action.
2. Media Education
   A strong media education can help individuals develop skills to identify and avoid disinformation and understand how the media can influence their views.
3. Active Engagement
   Don't just be a passive spectator. You can participate in online discussions, support campaigns that align with your values, and contribute to a better understanding of environmental issues.
4. Sustainable Media
   Media can also play a role in promoting sustainability. Sustainable media integrate environmental issues in their coverage and practice environmentally friendly practices in their operations.

Unraveling the ecological impact of media in the digital era is an important step in understanding the role of media in environmental conservation. The media has a great ability to shape our perceptions and actions towards environmental issues. However, we also have to be wise in consuming and contributing to media, and understand that the impact is not always positive. With strong media education and active engagement, we can use media as a tool to support the positive changes needed to safeguard our earth's environment.

Technological Development in the Digital Era and Environmental Sustainability

In research by de Sousa Jabbour et al., (2018) technology has a very big role in human life in this modern era. Several elements of human existence have been made easier by the development of technology-based equipment. As a basic illustration, the cars we drive on a daily basis facilitate our mobility. On the other hand, advances in technology have also had unfavorable effects on environmental sustainability. Climate change is greatly impacted by the carbon footprint left by everything from the usage of technology to the production process. As an illustration, digital technology generated a 223 million-ton carbon footprint in 2019. The sources of these emissions are power use (1,300 TWh), water consumption (7.8 million m3), greenhouse gas emissions (1,400 million tons), and energy consumption (6,800 TWh).

Apart from that, Another major source of carbon footprint is transportation technology. The International Energy Agency (IEA) reports that transportation accounts for ⅕ of global carbon emissions. Vehicles used to move products (29.4%) and passengers (45.1%) account for the majority of emissions. Due to growing demand and need, this technology's carbon footprint is growing.

Technology advancements can still be useful for environmental restoration projects even though they have certain negative effects on the environment. It appears that technology plays three significant functions namely (Bibri, 2018):

1. Monitoring and Mapping Environmental Damage
   Humans can now more precisely monitor and map environmental degradation because of technological advancements. This is crucial for the presentation of data on the creation of carbon emissions, the rise in Earth's temperature, the extent and distribution of forest areas, garbage and waste generation, and several other technologically mappable aspects of harm. Environmental recovery policies will be mostly based on data gathered from mapping and monitoring operations. This information is necessary to set goals, targets, and specific actions for environmental restoration when creating policy.
2. Developing Technology Equipment That Is Environmentally Friendly
   The primary funding source for the development of environmentally friendly technology gadgets is technological advancement. Presently, renewable energy sources such as solar panels, windmills, water turbines, electric vehicles, waste recycling equipment, waste filters, and energy-

efficient electronics have been developed. To ensure environmental sustainability in all aspects of consumption and production, society, industry, and policy makers require environmentally friendly technology equipment.

3. Spread Environmental Knowledge
   Increasingly sophisticated technology also makes it easier for humans to obtain information about environmental knowledge. Even more fascinating and imaginative media are available to us for accessing this knowledge. Research journals, studies, scientific papers, infographics, and movies are some of the formats in which environmental information can be accessed. Print media, applications, social media, online news portals, and online journal portals are some of the places we can find this information. The range of media and ways that information is presented can be tailored to the requirements of the user and popular culture. The public can be encouraged to participate in initiatives that assist environmental protection by using this information and communication technology. Thus, the knowledge offered teaches the public something more than just itself. Additionally, they have a platform from which to act.

Nižetić et al., (2020) stated that technology does have many benefits for the environment. But since we are already aware of the drawbacks, we must use technology carefully. The following are smart technology actions to lessen environmental harm:

1. Determine whether carbon emissions are possible and how to manage them.
   We must be aware of the possible carbon emissions from the equipment we use before utilizing them. When device waste is manufactured, distributed, used, and disposed of, carbon emissions are typically produced. We can take action to lower emissions if we are aware of this potential. utilizing environmentally friendly raw materials, only utilizing gadgets when necessary to preserve energy, and controlling the waste that comes from our use of technology are a few examples of actions that can be performed.
2. Select technology products that are friendly to the environment
   Selecting technological devices that are favorable to the environment is also crucial. Nowadays, there is a vast array of technical equipment available to us, each with superior qualities. As a result, we need to select more efficient and ecologically friendly items. Eco-friendly goods use less energy and emit fewer carbon emissions.

3. Maintain Your Electronic Equipment
   The right and routine maintenance of technical gadgets is required. One method we can use to increase the product's lifespan is this treatment. By doing maintenance, we can reduce the likelihood of device damage and avoid buying new ones too frequently. This can help cut down on carbon emissions by limiting the amount of technology we use.
4. Control Electronic Equipment Waste Products made with technology also generate waste. We typically generate electronic garbage in our homes. Electronic products that are no longer in use are known as electronic garbage. In 2019, the amount of electronic garbage accumulated in Indonesia was 2 million tons. garbage includes various technology items and electronic garbage. Thus, we are unable to handle the waste on our own. Government support and a waste-managing waste recycling sector are required. We can separate electronic garbage and dispose of it in designated government-provided waste drop boxes.

CONCLUSION

Environmental issues are a major threat to the survival of humans and other living creatures. Humans have the most dominant role in influencing the environment. The environment also influences humans. The development of this digital era has brought changes to society towards a better direction, thus bringing many positive impacts that can be utilized as well as possible.

In the digital era, the role of media in environmental ecology has become more complex. The internet and social media provide new platforms for disseminating information and gathering support. However, this also allows the emergence of disinformation and false information that can muddy the debate on environmental issues. One way the media contributes to environmental ecology is by conveying information about environmental issues that require attention. Thanks to the media, many issues such as climate change, plastic pollution and sustainability are at the center of public attention. The media also plays an important role in exposing destructive practices that damage the environment, triggering responses from governments and civil society.

Unraveling the ecological impact of media in the digital era is an important step in understanding the role of media in environmental conservation. The media has a great ability to shape our perceptions and actions on environmental issues.

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