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Introduction

Background of the Study

In the current global landscape, societies have been shifted dramatically through the digital revolution in terms of communication and addressing global challenges. As the world deals with the need for sustainable development, technology has played a vital role in developing and promoting the creativity of digital media towards encouraging action towards the environment. Web 2.0 technologies, social networking, web-based solicitous campaigns, and use of narratives have become effective and efficient approaches towards raising awareness and integrating economic, social, and ecological sustainable development strategies (Benkler, 2007; Jenkins, 2011). Nevertheless, the interconnection between digital media, creativity, and sustainable development is not straightforward. While there is evidence that new technologies liberate information and mobilise grassroots movements (Castells, 2015), sceptics write about the antigovernment strategies, misinformation, and the 'clicktivism' bubble, along with sharing fake or misleading information (Morozov, 2012). Kietzmann et al. (2011) and Kaplan and Haenlein (2010) have discussed a number of possibilities of how social media can impact public opinions and behaviour, but the way that digital media contributes to creativity in the field of sustainable development has remained unremarked.

Furthermore, it can be argued that digital technologies imply both risks and opportunities for sustainable development due to the ever-increasing growth rate in Saudi Arabia. On one hand, the newer forms of social media platforms such as Instagram and TikTok have provided new means of expressing experiences visually in the country, which can be highly effective to convey environmental messages (Highfield and Leaver, 2016). On the other hand, the development of social media makes the notion of 'going green' questionable due to the negative effects it has on the environment with the expansion of digital technologies (Belkhir and Elmeligi, 2018). Therefore, in managing the digital environment, there is a need to analyse how the media can be utilised to foster sustainability concerning environmental precarities in Saudi Arabia.

Problem Statement

While there is increasing awareness of the role that new media plays in achieving sustainability, there is limited understanding of the mechanisms through which new media builds creativity and innovation in responding to environmental concerns. There is a relatively vast body of research on

the ability of digital media to inform and engage the public (e.g., Boulianne, 2015; Karpf, 2010), but fewer studies exist that focus on the uses of digital media to foster creative problem solving and innovation for sustainability. Moreover, there is also much debate in the extant literature over the usefulness of digital media for producing real social change. According to the scholars, online activism can result in tangible impact (Earl, 2011), while the other scholars claimed that it might only lead to what is referred to as 'slacktivism', which means that people engage in activism in an inconsequential manner (Christensen, 2011). This ratio leads to the realisation that there is a need to demystify the use of digital media to propagate creativity and sustainable practices. Moreover, acceleration in the rate of innovation with the rise of new channels that have established themselves in the media environment provides a dynamic setting that constantly makes it difficult to pinpoint the role of the media regarding creativity as well as sustainability. This study aims to fill these gaps by offering a critical discussion of digital media, creativity, and sustainable development in the current world.

Aim and Objectives

The primary aim of this research is to critically examine the role of digital media in fostering creativity and promoting sustainable development practices in Saudi Arabia. To achieve this aim, the following objectives have been formulated:

- 1. To analyse the various ways in which digital media platforms in in Saudi Arabia facilitate creative thinking and problem-solving in the context of sustainability challenges.
- 2. To evaluate the effectiveness of different digital media strategies in raising awareness and inspiring action towards sustainable development goals in Saudi Arabia.
- 3. To explore the potential of emerging digital technologies in enhancing collaborative innovation for sustainability in Saudi Arabia.
- 4. To identify the key factors that influence the success or failure of digital media campaigns in promoting sustainable practices in Saudi Arabia.

Research Questions

1. How do different digital media platforms contribute to fostering creativity in addressing sustainability challenges in Saudi Arabia?

- 2. What are the most effective digital media strategies for inspiring innovative solutions to environmental problems?
- 3. How does engagement with digital media influence individuals' creative thinking and problem-solving skills in the context of sustainability in Saudi Arabia?
- 4. To what extent do digital media campaigns translate into tangible actions and behavioural changes towards sustainable practices in Saudi Arabia?
- 5. What role do emerging technologies (e.g., virtual reality, artificial intelligence) play in enhancing creative collaboration for sustainable development in Saudi Arabia?

Research Rationale

The need to understand the impact of digital media as a tool towards achieving the Sustainable Development Goals (SDGs) for the global community in Saudi Arabia, is the main motivation for this study. In the context of such constant and threatening environmental challenges, it is essential to search for new opportunities for anti-crisis movement and motivation to overcome the current challenges. Due to the high accessibility and flexibility of digital media and its high potential for coordinating actions in a real-time mode, digital media can become an effective tool for bringing together global actions towards sustainability. Also, the current COVID-19 crisis has impacted society's increasing digitalisation, thus creating a role for studying the opportunities of the online platform for the better. As a result, this research seeks to identify the factors that cause creativity to flourish and would help policymakers, organisations, and individuals who are concerned with environmental issues get insights on how digital media can be used in order to promote sustainable development. Moreover, this research will fill the gap in the literature to investigate the creativity of new media from sustainable perspectives. Although earlier studies have analysed the effects of utilising digital platforms in empowering the public and raising awareness, there are still limited studies on how these digital tools may elicit investment in creativity and problem-solving for environmental concerns. This research aims at filling such a gap and enriching the current scholarship concerning digital media and its potential contribution towards fostering a sustainable future.

Research Significance

The present research has theoretical and pragmatic implications relating to the advancement of knowledge in areas of digital media, creativity, and sustainability in Saudi Arabia. On a theoretical level, it will help advance a multifaceted model of interconnected factors determining the level of digital media interaction, creativity, and pro-environmental action. This framework will assist in filling a gap in knowledge between media studies, creativity research, and sustainability science, providing a fresh perspective on how these fields are linked in the context of the current digital environment in Saudi Arabia. In practical terms, the findings of the present study will be significant to a variety of audiences. Thus, for policymakers and environmental organisations in Saudi Arabia, it will offer primary recommendations for using digital media to encourage innovative approaches to solving environmental problems and encouraging sustainable practices. Specifically, it will enable businesses and marketers to gain knowledge on how to create relevant strategies for digital communication that inspire creativity and sustainability. The findings can be used to guide the curriculum for teachers in Saudi Arabia to enable learners to effectively use technical-related strategic applications for innovative solutions in sustainable development. Furthermore, given that this study aims at analysing the applicability of emerging technologies in collaborative innovation for sustainability, it will provide insights regarding the future trends in this domain as well. Summing up, the study has the general aim to contribute to the attainment of the UN SDGs by utilising the potential of positive environmental change mediated through digital media creativity.

Literature Review

The merging of digital media, creative industries, and sustainable development has attracted attention from scholars in different disciplines. This literature review critically discusses and analyses the main themes and issues related to this topic, reveals the multifaceted interconnections between these domains, and outlines the directions for future research.

Digital Media and Public Engagement in Sustainability in Saudi Arabia

This paper identifies public engagement as one of the primary themes in the literature, with the focus on how digital media enable communication on sustainability. This is in support of the assertion made by other scholars such as Boulianne (2015) and Karpf (2010) that social media technologies and online campaigns are poised to enhance awareness, mobilisation, and pragmatic action with regards to environmental objectives. For example, Freelon et al. (2016) presented a

case of using the hashtag #BlackLivesMatter to demonstrate how the oppressed are enabled by digital media to bring about change. Equally, Segerberg and Bennett (2011) explained that internet networks opened up possibilities for the synchronisation of climate change protests around the world. However, critics such as Morozov (2012) and Gladwell (2010) have warned that digital activations lead to the overestimation of the same, arguing that online participation doesn't necessarily lead to offline activism. This behaviour has been described by Christensen (2011) as slacktivism, calling into question the sustainability of sustainability efforts spearheaded by digital media. Such opposing viewpoints highlighted in this debate call for further sophisticated research to determine other factors when digital activities give rise to concrete environmental benefits.

However, there has been increasing interest in the role of digital media in promoting creativity and sustainable development in Saudi Arabia in the recent past. New media technologies, especially social media sites, websites, and apps, have empowered people and organisations to come up with new ideas and initiatives, create awareness, and make a change for the better in line with KSA Vision 2030. These platforms serve the purpose of enabling people's creative freedom and sharing of information and ideas and therefore support the local and global communities to engage in meaningful and sustainable activities such as environmental conservation, social welfare, and economic transformation (Al-Farsi, 2020). One of the significant advantages of digital media is that it has boosted creativity in various spheres of life; at the same time, it poses some questions referring to cultural heritage and local traditions. Many a time, global trends on social media may obscure local practices and principles (Al-Fayez, 2021). However, the availability of digital media does not necessarily lead to equal engagement since there is a difference in technology and information access between urban and rural populations (Al-Mazrouei, 2020). Therefore, although digital media has been seen to have the potential to foster creativity and sustainable development in Saudi Arabia, its use should be carefully weighed so that it does not raise the risks of desecrating the culture or deepening inequality. Policies that are meant to support innovation should be formulated in a way that they will not destroy the traditional cultures, and hence the growth should be inclusive.

Creativity and Innovation in Digital Spaces

Another well-documented theme is the one that focusses on creative deployment towards the achievement of challenges within the sustainable development agenda. According to Amabile and

Pratt (2016), creativity is supported by information technology through facilitating the exchange of knowledge and information and encouraging group brainstorming and thinking, as well as the ability to produce efficient prototypes. Such a perspective is further evidenced by such works as Fischer (2013), where the author showed how online communities can act as incubators for sustainable innovations. In fact, it is essential to understand the complexities of the connection between the frequency of digital media use and the level of creativity. Carr (2020) proposed previously that increased internet usage might negatively affect subject concentration and limit the potential for solution-orientated critical thinking. On the other hand, Green and Kaufman (2015) were of the opinion that some uses of technology, for instance participatory media creation, improve creative skills and critical thinking. Collectively, these inconsistencies demand empirical studies on the impact of different types of media engagement on creative thinking and novelty in sustainability contexts. Subsequent works could attempt to identify which elements of digital communities elicit creative thinking and how these might be applied toward meeting environmental concerns.

Digital Storytelling and Environmental Communication

The focus of using digital storytelling in disseminating sustainability information has come out as the major area of research. Scholars such as Hancox (2017) have shown that digital narratives are capable of raising one's emotional responses, transforming attitudes, and mobilising change on environmental matters. Another area of development is the opportunities for creative environmental communication that have been provided by new visual social media such as Instagram and TikTok, discussed by Highfield and Leaver (2016). However, the effective use of digital storytelling in enabling sustainable behaviour change is still a subject of debate. There is some preceding literature, like Goldstein et al.'s (2008) postulated that when targeting changes in attitude towards pro-environmental actions, then heuristically tailored narratives can bring about the expected change. This opinion is contrary to other scholars like Kollmuss and Agyeman (2002), who were keen to point out that awareness and behaviour are not directly linked, though they are related. This imbalance has the potential to explain the limited number of intensive studies about how it is possible to incorporate digital storytelling as a means of raising awareness and attaining more effective and sustainable behavioural changes.

Collaborative Innovation and Emerging Technologies

Another important theme is how technology offers a network of possibilities for extending affirmative collaboration for innovative practices with sustainability goals. For instance, wikinomics has been defined by Tapscott and Williams (2008), who stated that the capacity of mass collaboration that improves with the help of technological progress can contribute to the initiation of new ideas and, therefore, the development of new solutions to the complex problems of the global world. For example, Seyfang and Smith (2007) show that online networks could enable sustainable consumption and production innovations in the context of sustainability at the grassroots level. The adoption of emerging technologies such as artificial intelligence, virtual reality, or blockchain opens up new avenues for collaborative approaches to solving sustainability issues. For example, Nambisan et al. (2019) focused on extending the knowledge of how AI can be useful for building solutions by examining how inexpensive support for creative collaboration is made possible through the use of such applications. However, as Zuboff (2023) stated, there are still negative consequences linked to these technologies: personal privacy violations or reinforcement of power inequality. Therefore, the positive and negative aspects of new technologies in sustainable development projects' require the critical examination of such technologies. Subsequent works should examine how these technologies can be used as the basis for establishing best practices in the ethical application of the technology to support creative collaboration on environmental issues.

Digital Media Literacy and Sustainable Development

The literature also establishes that education on how to use digital media effectively plays a crucial role and is a key in attaining development through the use of digital media. Jenkins et al. (2009) acknowledged that the current participatory culture fostered through digital media demanded new skills and competencies needed in consuming as well as producing media. While discussing critically the concept of sustainability, Koltay (2011) stressed the importance of critical digital literacy in facing the plurality of often misleading information regarding the environment. Nevertheless, the digital divide on an international level is a huge barrier to attaining the full promotional capacity of the digital media's sustainable development. According to the research work of Norris (2001) and Lombardi (2023), there are recurring disparities noted in the utilisation of digital resources in learning about environmental issues and taking subsequent collective action.

On one hand, digital media as a communication technology retains the capacity to help democratise communication, but on the other hand, the data presented points to the digital divide as a strong possibility. Possible directions for future research could focus on ways to level the digital divide and engage multicultural populations to utilise technologies for innovative environmental solution finding.

Research/Literature Gaps

Together, there is a lack of comprehensive understanding of the multifaceted relations between digital media, creativity, and sustainable development proposed and discussed in the literature, though this topic involves increasing attention from scholars. Another significant area of underrepresentation is the lack of research on how digital media more substantively helps creativity to arrive at solutions to sustainability issues. Although Fischer (2013) has presented evidence that supports the usefulness of online communities in environmental innovation, there is little understanding of the processes by which digital settings aid in the development of solution creativity in environmental problems. This gap is particularly marked when compared with the large body of work on how digital media can be used to increase awareness and organise the public (Boulianne, 2015; Karpf, 2010). In this context, the present study intends to redress the balance by exploring digital media designs that are consciously aimed at enhancing creativity in sustainability initiatives.

Another major gap arises from the disagreement on the efficiency of the digital media as stimuli for anticipating concrete environmental conduct. Some LPA scholars, for example, Earl (2011) postulated that activism has the potential to have substantive impacts, while others, such as Christensen (2011), pointed to the concept of slacktivism. This discrepancy highlights the significance of developing a better understanding of the contextual factors that facilitate the conversion of online activities to real world sustainable actions. Thus, the present research aims to augment this body of knowledge by considering the points of view of both production and consumption of digital media for sustainable behaviour change. In addition, there is barely any interdisciplinary scholarly work on adopting emerging technologies such as artificial intelligence, virtual reality, and other related concepts in the discussions on media, creativity, and sustainability. Some recent studies, such as Nambisan et al. (2019), have pointed at AI capability in improving creative collaboration, but the extent to which these advanced creations can be implemented in

addressing problems around the environment is poorly understood. This study will go further to fill this gap by posing questions about emerging technologies to both interviewed participants and the survey participants as a way of getting their perception of the dangers and opportunities the technologies present in contributing to sustainable development.

Methodology

This study uses both quantitative and qualitative methods of data collection and analysis to help understand the use of digital media in enhancing creativity and promoting sustainable development. It adopts a sequential exploratory mixed-methods design and will be conducted in two phases: a qualitative phase involving interviews with key sustainability professionals in Saudi Arabia and a quantitative phase where two sets of questionnaires will be administered between digital content creators and the general public of Saudi Arabia. This design permits an initial examination of potential themes with the help of the qualitative data, which in turn will be used to improve the quantitative data collection tools.

In both phases of the study, non-probability convenience sampling will be employed to recruit participants. Although this method may not allow for generalisations, it is reasonable given the research objectives and the necessity to access particular stakeholder groups. During the qualitative part, 10 participants (depending on the number of available participants) working for non-profit organisations, governmental, or international institutions in Saudi Arabia specified within the frames of sustainability and environmentalism will be interviewed using semi-structured interviews that will last approximately 20-30 minutes. The interviews will be face-to-face or video call (depending on participants' convenience), aimed at discussing participants' insights on how they use digital media for sustainability activities, how they searched for new ideas and solutions in their initiatives, and what difficulties they faced while turning digital participation into real-life environmental actions.

During the quantitative part, two sets of online questionnaires will be distributed. The first set will consist of 15-20 participants, including influencers, bloggers, and digital storytellers whose work is related to environmental and sustainability topics; the questions that will be used include questions regarding their content creation, the tactics used when interacting with the audience, and their perception of the impact exerted by digital media on the awareness of sustainability issues and possible actions to address them. The second set will consist of at least 100 participants with

differing levels of activity and interest in sustainability, about their use of digital media, their interaction with sustainability content, reported behavioural changes, and their perception of digital media use for disseminating sustainability.

The interviews will be analysed thematically, and the survey data will be analysed using SPSS, including descriptive statistics, correlation, and regression analysis to look for relationships, covariance, and latent structures in the data. The integration of the findings from each study will contribute to a comprehensive understanding of the research questions and will enable an understanding of the qualitative and quantitative overlap and divergence between them to gain a structural perspective on the role of digital media in enhancing creativity while promoting the sustainable development agenda.

Ethical Considerations

As for the ethical aspect of the research study for this dissertation, adequate consideration is applied in the course of the investigation to the main participants' rights, privacy, and welfare. Prior to the conductance of data collection, it is the intention of the study to seek approval from the institutional review board to ensure that it is in compliance with the formulated rules. Further, all the participants will receive a broad informed consent document containing information about the aims of the research and the participant's freedom to withdraw from the study at any given point without any penalties. The informed consent will also highlight how the data collected from the participants will be kept anonymous and how all the data gathered from the participants will be stored securely.

Also, specific emphasis shall be placed on the ethical consideration of the research data since the topic of discussion embraces environmental concerns and sustainable measures. For purposes of mitigating risks of psychology and emotional injury to the participants, the researchers will always make sure that participants are provided with support or directed to find a professional psychologist if that is needed to be done. In addition, the members of the research team will follow the main principles of research and shall not overstate or conceal the information that is, in their opinion, important during data collection, analysis, and reporting of the results. In case any conflicts of interest or bias exists, they will be declared, and study limitations will also be described in the final research proposal.

Research Limitations

Despite this being a mixed-methods study that aims at offering a holistic view of the use of digital media in facilitating creativity as well as providing a framework for sustainable development, certain limitations that may affect the generality of the study findings cannot be ignored. The use of non-probability convenience sampling when conducting the qualitative and quantitative data collection may lead to a selection bias because the participants are not a random sample of the total population. This is due to the characteristic of the research that focusses on the insights to be obtained from various stakeholder groups. However, the researchers will ensure that diversity is achieved within the sample to the highest level possible.

Second, it relies on people's self-reports of feelings, which might be distorted by bias; social desirable bias; or people may overestimate or underestimate the things they did during the week because of retrospective recall bias. Triangulating data from core and fieldwork interviews, the results of quantitative analysis should be interpreted with much caution due to the limitations of self-administered questionnaires. Also, the cross-sectional design of the study limits the possibility of making causal conclusions regarding the connection between digital media, creativity, and sustainable development. Situational research would be required to fully investigate the changing nature of these relations on a short- and long-term basis.

Nevertheless, the researchers believe that the suggested approach will provide a number of profound findings and help to expand the existing understanding of innovative perspectives in digital media and sustainable creativity. It is noted that the limitations will be stated clearly in the research report, and recommendations for future studies will be made with reference to these limitations.

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