

Circular Economy Business Model: Bibliography Analysis and Future Agenda

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Abstract— Circular economy business model has attracted attention in last decade regarding the increasing of environmental awareness and sustainability. However, the scientific and research content of the concept is so shallow and disorganized that it is still a collection of vague ideas separated from several fields of science. This study aimed to measure the visual trends in circular economy business model. This survey identified keywords related to circular economy to find and identify related articles in the Scopus database for 500 articles published from 2018 to 2022. The findings are a visual trend of an increasing number of publications each year, academic affiliation, author, and article subject area, keywords, and authorship networks. This literature review provides evidence that circular economy business model thinking attracts academic researchers to make policy-relevant regarding environment.

Keywords— *circular economy; business model; bibliometrics analysis; visual trend*

I. INTRODUCTION

Given the importance of the role of business organizations in saving the environment, it is very important to increase attention to these efforts [1]. These efforts can be from internal organizational factors such as environmental orientation and awareness [2], environmental commitment [3], green innovation [4], and pro-environmental behavior [5]. Meanwhile, from the external side, optimizing green economic incentives [6], and green supply chain partners [7] so that organizations contribute to sustainability [8], [9].

The circular economy concept has been introduced as a strategic step to save the environment. And in the various available works of literature, the interest of researchers has increased sharply, as evidenced in recent years research on the circular economy has attracted the attention of researchers from all over the world. To bridge the research mechanism on the circular economy into a circular economy business model is very necessary. This business model change has an important impact on reducing waste from production [10], [11], increasing eco-design-based products [12], and increasing global value [13] to build the reputation and legitimacy of an organization towards the environment [14].

Circular economy topic is increase in last ten years, but this field still underdeveloped [12] due of many limitations, unexplored research topics, and still scattered only in industrial with highly readiness level [15]. Its implementation is also constrained by technology [16], [17] so that it is not optimal in increasing productivity and open innovation [18]. So, this literature gap has become a motivation for mapping bibliographic-based literature so that it can provide a broader perspective. Based on these reasons, this study aims to highlight research trends in the circular economy. The results of the research can be used as guidance in increasing the number of researches and the potential to build expertise based on interdisciplinary collaboration. So far, the trend of CE research has focused mainly on related fields, carried out on single case studies, or literature reviews without visualization. To our knowledge, there are no studies that provide a

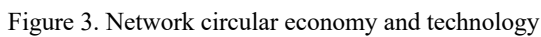


Figure 4 shows the results of the overlay visualization analysis. Most of the circular economy research was carried

[illegible]

From Figure 5 it can be seen that the circular economy has the lightest color while other topics do not, with an even distribution. Only the topic of sustainability is a little clear. This means that research on the topic of the circular economy is mostly related to sustainability and research in 2010-2022 on the circular economy is associated with many things, not just a few topics.

From the results of the three visualizations, currently, research on the circular economy has been extensively investigated concerning various topics not only in science but also in social science. Research on the circular economy in industry 4.0 leads to the use of big data, blockchain technology, artificial intelligence, and digitalization. Of the four topics, blockchain technology is the latest topic related to the circular economy where the results of the overlay visualization show that research on the topic will be conducted in 2022. While most research related to the circular economy from 2018-2022 is on sustainability which can be seen from the results of network analysis and density visualization. Thus, looking at the composition of the three outputs of the analysis above, research on the circular economy business model is an area of research that has the potential to continue to grow in the future. Given the increasing demands of businesses oriented to saving the environment [9], the circular economy business model is a strategic step to implement environmental awareness, commitment and environmental strategies. The expected impact is that organizations increasingly understand patterns of saving the environment to build sustainable development [17].

IV. CONCLUSIONS

This study aims to measure visual trends regarding the circular economy business model and technology. The findings of this systematic literature review provide evidence that thinking about how technology impact on circular economy business model attracts attention from academic researchers through the visualization of related topics. The results of the study also found many opportunities to explore future research. This study has a limitation, namely that it does not measure the contribution and impact of the research seen from the quotations. The analysis is based solely on the Scopus dataset drawn specifically on ScienceDirect, while there are more relevant papers not indexed by Scopus, for that, future research may analyze from other database sources.

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