

Examining the Ways in Which Digital Technologies Promote a Circular Product Economy

Euroiser Riaeroe*

Department of Community Health and Social Sciences, City University of New York Graduate School of Public Health and Health Policy, 55 West 125th Street, New York, NY 10027, USA

Introduction

The global economy has long followed a linear model of production, consumption, and disposal, with limited consideration for resource sustainability and environmental impact. However, the rise of digital technologies is revolutionizing the way we manage resources and products. A circular economy, which aims to reduce waste and keep products and materials in use, is becoming increasingly feasible thanks to digital innovations. This article explores the ways in which digital technologies promote a circular product economy, driving sustainability and economic benefits. The traditional linear model of production and consumption, often described as "take, make, dispose," has been associated with significant resource depletion and environmental degradation. In response to these challenges, a circular economy model has gained prominence. A circular product economy aims to minimize waste, promote resource efficiency, and reduce the environmental footprint of products. In this article, we explore how digital technologies play a pivotal role in advancing the circular product economy and examine the ways in which they drive this transformative shift [1-3].

Description

The circular economy is a transformative approach that aims to decouple economic growth from resource depletion and environmental harm. It promotes the continual use, reuse, and recycling of products and materials, emphasizing a closed-loop system over the traditional linear approach. By extending the life cycle of products and reducing waste, a circular economy strives to achieve a more sustainable and resource-efficient future. PLM systems allow companies to design and manage products from conception to disposal. They enable designers to create products with a focus on durability, reparability, and recyclability. PLM also supports the use of eco-friendly materials, helping to reduce the environmental impact of products. CAD software empowers designers to create precise and efficient product designs. These tools enable the optimization of materials, leading to lighter and more resource-efficient products. CAD also facilitates the development of modular and easily repairable designs [4,5]. Blockchain provides a secure and transparent platform for recording and verifying transactions. In a circular economy, blockchain can track the history and origin of products, ensuring that materials are responsibly sourced, and products are ethically produced and disposed [6].

*Address for Correspondence: Euroiser Riaeroe, Department of Community Health and Social Sciences, City University of New York Graduate School of Public Health and Health Policy, 55 West 125th Street, New York, NY 10027, USA, E-mail: euroiserr@gmail.com

Copyright: © 2023 Riaeroe E. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Received: 03 October, 2023, Manuscript No. jbm-23-117365; Editor assigned: 05 October, 2023, PreQC No. P-117365; Reviewed: 17 October, 2023, QC No. Q-117365; Revised: 23 October, 2023, Manuscript No. R-117365; Published: 30 October, 2023, DOI: 10.37421/2223-5833.2023.13.529

Conclusion

Digital technologies are indispensable in driving the transition to a circular product economy. By leveraging IoT, big data analytics, blockchain, AI, AR, and VR, businesses can extend product lifecycles, facilitate sharing and collaborative consumption, optimize supply chains, and enhance supply chain transparency. As digital technologies continue to evolve, they will play an increasingly vital role in fostering a sustainable, circular approach to product design, production, and consumption. The integration of these technologies with circular principles offers an opportunity to reduce waste, conserve resources, and minimize the environmental impact of product lifecycles. The synergy between digital technologies and circularity exemplifies the innovative path forward in sustainable product management.

Acknowledgement

None.

Conflict of Interest

None.

References

1. Poushneh, Atieh. "Augmented reality in retail: A trade-off between user's control of access to personal information and augmentation quality." *J Retail Consum Serv* 41 (2018): 169-176.
2. Huang, Tseng-Lung and Shu-Ling Liao. "Creating e-shopping multisensory flow experience through augmented-reality interactive technology." *Internet Res* 27 (2017): 449-475.
3. Ollier-Malaterre, Ariane, Jerry A. Jacobs and Nancy P. Rothbard. "Technology, work and family: Digital cultural capital and boundary management." *Annu Rev Sociol* 45 (2019): 425-447.
4. Kim, Dongyeon, Kyuhong Park, Yongjin Park and Jae-Hyeon Ahn. "Willingness to provide personal information: Perspective of privacy calculus in IoT services." *Comput Human Behav* 92 (2019): 273-281.
5. Wottrich, Verena M., Eva A. van Reijmersdal and Edith G. Smit. "The privacy trade-off for mobile app downloads: The roles of app value, intrusiveness, and privacy concerns." *Decis Support Syst* 106 (2018): 44-52.
6. Moon, Youngme. "Intimate exchanges: Using computers to elicit self-disclosure from consumers." *J Consum Res* 26 (2000): 323-339.

How to cite this article: Riaeroe, Euroiser. "Examining the Ways in Which Digital Technologies Promote a Circular Product Economy." *Arabian J Bus Manag Review* 13 (2023): 529.