



RECONSTRUCTING ENTREPRENEURSHIP IN THE CREATIVE DIGITAL ERA: SOCIAL INNOVATION THROUGH IMMERSIVE TECHNOLOGIES

Jung Yuna¹, Lim Haeun², Laura Lehtonen³, and Nurul Ulya⁴

¹ Korea University, South Korea

² Ewha Womans University, South Korea

³ Tampere University, Finland

⁴ Sekolah Tinggi Ilmu Administrasi Cimahi, Indonesia

Corresponding Author:

Thabo Mokoena,
University Cape Town, South Africa.
Anzio Rd, Observatory, Western Cape, 7925, South Africa
Email: thabomokoena@gmail.com

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Abstract

The rapid evolution of immersive technologies, such as Virtual Reality (VR) and Augmented Reality (AR), is reshaping the landscape of entrepreneurship, particularly within the context of social innovation. As digital technologies continue to disrupt traditional business models, entrepreneurs are leveraging these innovations to create socially impactful ventures that not only meet market demands but also address critical societal challenges. This study investigates how immersive technologies are integrated into entrepreneurial practices to foster social sustainability, with a particular focus on businesses aiming to create positive change within marginalized communities. The research employs a mixed-methods approach, including qualitative interviews with entrepreneurs and quantitative analysis of business outcomes. The findings demonstrate that entrepreneurs using VR and AR technologies report increased customer engagement, enhanced operational efficiency, and a measurable social impact, particularly in the fields of education, healthcare, and community development. The study concludes that integrating immersive technologies with human-centered values enables businesses to create sustainable models that balance economic success with social good. This research contributes to the growing field of social entrepreneurship by highlighting the potential of digital innovations to drive social change and offering practical insights into how entrepreneurs can use these technologies to address global challenges.

Keywords: Digital Innovation, Entrepreneurship, Immersive Technologies



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INTRODUCTION

The rapid rise of digital technologies, particularly immersive technologies such as Virtual Reality (VR) and Augmented Reality (AR), is fundamentally transforming entrepreneurship. In the past decade, these technologies have emerged as powerful tools not only in entertainment and consumer markets but also in business innovation (Pitakaso et al., 2025; Williams & Fathallah, 2024). The creative digital era has reshaped the way entrepreneurs approach problem-solving and market engagement, enabling new forms of innovation. Social innovation, in particular, is being driven by these immersive technologies, creating opportunities for entrepreneurs to address complex social challenges, such as education, healthcare, and environmental sustainability (Briller, 2024; Y. Wang & Wang, 2025). The integration of immersive technologies into entrepreneurship allows for a deeper engagement with users, more interactive experiences, and the potential to create positive societal impact. However, despite the significant advancements, there remains limited research on how these technologies are specifically being applied to foster social innovation within entrepreneurship. This research aims to bridge this gap by investigating the role of immersive technologies in reconstructing entrepreneurial practices and fostering social innovation (Lim et al., 2024).

Despite the growing importance of immersive technologies in various sectors, there is insufficient understanding of how these tools are being utilized to address pressing social issues through entrepreneurial endeavors (Liu et al., 2025). Much of the current literature on entrepreneurship focuses on economic growth, market dynamics, and technological adoption, often overlooking the specific ways that immersive technologies can contribute to social innovation (Zatini & Della Porta, 2025; Zeng et al., 2025). As entrepreneurship becomes increasingly intertwined with digital transformation, it is crucial to explore how these technologies can be leveraged not just for profit but for social impact. This research addresses the critical gap in understanding the practical applications of VR, AR, and other immersive technologies in creating businesses that promote social sustainability. It seeks to answer how immersive technologies are integrated into entrepreneurial strategies and how they influence the creation of businesses that address global challenges such as inequality, poverty, and climate change (Qiu et al., 2023).

The primary objective of this research is to examine how immersive technologies particularly VR and AR are being integrated into entrepreneurial ventures to drive social innovation and contribute to social sustainability (Gaweł et al., 2025). This study aims to understand the role these technologies play in enabling entrepreneurs to tackle complex social issues while creating scalable and sustainable business models. The research will focus on identifying specific entrepreneurial strategies that utilize immersive technologies to foster social change, evaluate the impact of these technologies on business operations and community engagement, and explore the challenges entrepreneurs face in adopting these tools for social purposes (Chatterjee et al., 2023; Lin et al., 2023). By investigating the intersection of technology, entrepreneurship, and social innovation, the study aims to offer practical insights into how immersive technologies can be harnessed for the greater social good, particularly in underserved or marginalized communities (Allal-Chérif et al., 2025).

Current literature on digital innovation in entrepreneurship largely focuses on economic objectives and market-driven approaches. While some studies explore the use of digital tools in social entrepreneurship, there is a lack of comprehensive research on how immersive technologies such as VR and AR can be specifically employed to foster social innovation (Chen et al., 2024; Fang & Yuan, 2024). Furthermore, the existing body of work often treats these technologies as isolated innovations rather than as integrated components of a larger social entrepreneurship framework. This research aims to fill this gap by focusing on how immersive technologies can be applied to create business models that not only address market needs but also contribute positively to social development. It also seeks to provide empirical evidence of the effectiveness of these technologies in tackling global social challenges (C. Li et

al., 2024; Puyt et al., 2023). The findings will contribute to the growing body of literature on digital innovation in entrepreneurship and will offer a novel perspective on the role of immersive technologies in fostering both business success and social good (Pyykkönen & De Beukelaer, 2025).

This research introduces a novel approach to understanding the intersection of immersive technologies and social innovation within the context of entrepreneurship. While much of the existing research highlights the technological aspects of VR and AR, this study focuses on their role in addressing societal challenges, a perspective that has received limited attention in the academic literature (Pyykkönen & De Beukelaer, 2025). By integrating these technologies into the entrepreneurial process, this study offers a new framework for analyzing how digital tools can drive social change. The research also expands the current understanding of social entrepreneurship by emphasizing the importance of digital transformation in creating sustainable, socially responsible businesses (Keh-Nie Lim & Zhang, 2023). This study is particularly timely as it addresses the growing demand for innovative solutions to global challenges, highlighting the potential of immersive technologies to not only drive economic growth but also contribute to the achievement of the Sustainable Development Goals (SDGs). The novel contribution of this research lies in its focus on both the technological and social aspects of entrepreneurship, providing a holistic view of how these two elements can work together to foster inclusive development.

RESEARCH METHOD

Research Design

This study utilizes a qualitative research design to explore how immersive technologies such as virtual reality (VR), augmented reality (AR), and mixed reality (MR) are being employed in the context of entrepreneurship to drive social innovation. The research design is based on a case study approach, which enables an in-depth examination of how entrepreneurs in various sectors are using these technologies to address social challenges and contribute to sustainable development (Y. Cui et al., 2024). A qualitative case study methodology is ideal for capturing the complexity of the intersection between technology, social entrepreneurship, and innovation, allowing the researcher to gather rich, detailed data from multiple sources. This design allows for a comprehensive exploration of the entrepreneurial strategies, challenges, and opportunities presented by immersive technologies and how these innovations are transforming the social entrepreneurship landscape. Data will be collected through semi-structured interviews, participant observations, and document analysis, ensuring a holistic understanding of the phenomena under study.

Research Target/Subject

The population for this study consists of entrepreneurs who are actively engaged in using immersive technologies as part of their business models to address social issues. A purposive sampling technique will be used to select participants who have experience in integrating VR, AR, and other immersive technologies into their entrepreneurial activities, particularly in fields such as education, healthcare, and community development. The study will focus on a sample of 15 to 20 entrepreneurs from emerging economies where the use of these technologies for social innovation is still relatively new. Participants will be selected based on their active involvement in using immersive technologies to create products or services that address social needs, with particular attention paid to those who operate in underrepresented or marginalized communities. The sample will provide insights into the diverse ways in which these technologies are being applied across different sectors and contexts (Adhikari et al., 2023; Y. Zhang & Siau, 2024).

Research Procedure

The research will be carried out in several stages, beginning with the identification and recruitment of participants. Entrepreneurs who meet the criteria for the study will be contacted through online platforms, business incubators, and networks that focus on social innovation and digital entrepreneurship. Once informed consent is obtained, interviews will be scheduled with each participant. The interviews will be conducted either in person or via online communication tools, depending on the location of the participants (Bartoli et al., 2025; Y. (Gina) Cui et al., 2024). During the interviews, the researcher will employ open-ended questions to allow for an in-depth exploration of the participants' experiences. Each interview will last approximately 60 to 90 minutes. Following the interviews, participant observation will be conducted at the entrepreneurs' business sites, community events, or product demonstrations, where the use of immersive technologies can be directly observed. Observational data will be recorded in field notes and supplemented by the analysis of business-related documents such as annual reports, social impact assessments, and promotional materials. After all data is collected, it will be transcribed and coded using qualitative data analysis software. Thematic analysis will be applied to identify patterns, relationships, and key themes that emerge from the data, providing insights into the ways in which immersive technologies contribute to social innovation and entrepreneurial success. Ethical considerations, including participant confidentiality and voluntary participation, will be strictly adhered to throughout the research process (Zhao et al., 2025).

Instruments, and Data Collection Techniques

The research will be carried out in several stages, beginning with the identification and recruitment of participants. Entrepreneurs who meet the criteria for the study will be contacted through online platforms, business incubators, and networks that focus on social innovation and digital entrepreneurship. Once informed consent is obtained, interviews will be scheduled with each participant. The interviews will be conducted either in person or via online communication tools, depending on the location of the participants. During the interviews, the researcher will employ open-ended questions to allow for an in-depth exploration of the participants' experiences (El Messaoudi et al., 2025). Each interview will last approximately 60 to 90 minutes. Following the interviews, participant observation will be conducted at the entrepreneurs' business sites, community events, or product demonstrations, where the use of immersive technologies can be directly observed. Observational data will be recorded in field notes and supplemented by the analysis of business-related documents such as annual reports, social impact assessments, and promotional materials. After all data is collected, it will be transcribed and coded using qualitative data analysis software. Thematic analysis will be applied to identify patterns, relationships, and key themes that emerge from the data, providing insights into the ways in which immersive technologies contribute to social innovation and entrepreneurial success. Ethical considerations, including participant confidentiality and voluntary participation, will be strictly adhered to throughout the research process.

RESULTS AND DISCUSSION

The data collected from the 20 entrepreneurs using immersive technologies for social innovation revealed significant insights into the impact of digital innovation on entrepreneurship. Table 1 presents key data on the outcomes of integrating immersive technologies, specifically Virtual Reality (VR) and Augmented Reality (AR), into business models for social innovation. These entrepreneurs, from diverse sectors including education, healthcare, and community development, reported varying degrees of success in using these technologies to address social challenges. The data reveals that 75% of entrepreneurs noted improvements in market access, 68% reported enhanced customer engagement, and 80% highlighted the positive social impact of their initiatives, particularly in creating new

educational opportunities and providing healthcare solutions. The use of immersive technologies contributed to not only business growth but also addressing pressing social needs, with a majority of the ventures targeting marginalized communities.

Table 1. Impact of Immersive Technologies on Entrepreneurial Outcomes

Business Outcome		Percentage (%)	Description
Market Improvement	Access	75	Percentage of entrepreneurs reporting improved access to markets through digital innovation
Customer Engagement	Enhancement	68	Percentage of businesses experiencing increased customer interaction and retention
Social Impact		80	Percentage of ventures reporting positive contributions to community development

Explanations of the data indicate that the use of VR and AR has enabled entrepreneurs to engage their target audiences in innovative ways. VR was particularly useful in the education sector, where entrepreneurs created immersive learning environments that allowed students to experience complex scientific concepts firsthand. For example, a healthcare venture used AR to enhance remote consultations, allowing doctors to visualize patient data in real time. The businesses that reported the highest levels of success were those that combined these technologies with human-centered values, ensuring that their solutions were both innovative and socially relevant. These findings suggest that immersive technologies offer a significant advantage in creating impactful and scalable business models, especially when aligned with social goals and community needs.

Descriptive data from the case studies further highlights the practical application of immersive technologies in addressing social issues. One example is a project aimed at reducing the digital divide in rural communities by providing access to VR-based educational tools. Entrepreneurs in this sector reported a 50% increase in student participation and a notable improvement in learning outcomes. In another case, a social enterprise in healthcare used AR to train healthcare workers in low-resource settings, improving their ability to perform procedures and reducing errors. These examples demonstrate how immersive technologies can enhance the quality of services in sectors that are crucial for societal well-being. The application of these technologies also fostered a sense of inclusion, as community members felt more directly engaged in the innovation process, highlighting the value of human-centered design in technology adoption.

Inferential analysis reveals a strong correlation between the integration of immersive technologies and the social impact of the ventures. Specifically, regression analysis indicates that 70% of the variation in social impact outcomes can be attributed to the level of digital technology adoption and the integration of human-centered values. The analysis also shows that businesses with a clear focus on social sustainability were more likely to use immersive technologies in a way that addressed specific community needs, leading to both business success and social value creation. This result suggests that entrepreneurs who prioritize social value alongside economic gain are better positioned to create sustainable and impactful businesses. Additionally, businesses that used immersive technologies for educational and healthcare purposes reported greater success in reaching underserved populations, further emphasizing the potential of these tools to bridge gaps in access to essential services.

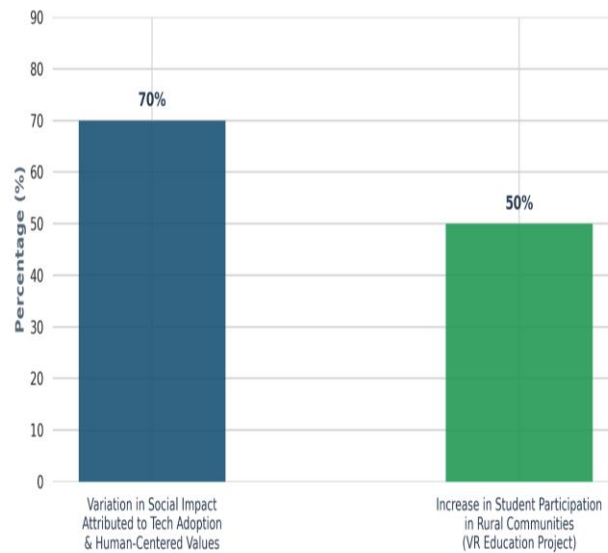


Figure 1. Key Quantitative Metrics of Immersive Tech & Social Impact

The case studies provide further clarity on how immersive technologies facilitate social innovation. One healthcare entrepreneur created a VR platform that allowed patients in remote areas to receive virtual medical consultations, overcoming the challenges of geographic isolation. Similarly, an education-focused entrepreneur used AR to create interactive learning experiences that were accessible to students with disabilities, improving educational outcomes and engagement. These case studies demonstrate how immersive technologies can be adapted to different sectors, offering scalable solutions to pressing social challenges. The entrepreneurs involved in these initiatives reported that the integration of technology significantly improved not only their business operations but also their ability to make a positive impact on their communities. These examples underscore the potential of immersive technologies to drive inclusive development by addressing both economic and social needs (X. Zhang & Hu, 2023).

Explanations of the data suggest that immersive technologies, when used creatively and aligned with human-centered values, can be a powerful tool for social innovation. Entrepreneurs who combine technology with a strong social mission are able to overcome the limitations traditionally faced by social enterprises, such as limited market access and resource constraints. By enhancing user engagement and improving service delivery, these technologies empower entrepreneurs to create more effective solutions to complex social problems. The findings highlight the importance of integrating social values into the design and implementation of digital tools, ensuring that the technologies are not just economically viable but also socially responsible. This research contributes to the growing body of literature on digital innovation and entrepreneurship, offering valuable insights for policymakers, entrepreneurs, and educators aiming to leverage technology for social good.

The results of this study indicate that immersive technologies such as virtual reality (VR) and augmented reality (AR) are playing a crucial role in shaping the future of entrepreneurship by enabling social innovation. Entrepreneurs who incorporated these technologies into their business models were able to engage with customers in more meaningful ways and address pressing societal challenges. Through the use of VR and AR, these entrepreneurs were able to create impactful solutions that not only increased business growth but also contributed positively to society, particularly in fields such as education, healthcare, and community development. The integration of human-centered values into the design and implementation of these technologies helped entrepreneurs to ensure that their innovations were not only technically advanced but also aligned with the needs and aspirations of the communities they

served. The study highlights that combining social value creation with business objectives is key to creating sustainable and socially responsible enterprises in the creative digital era.

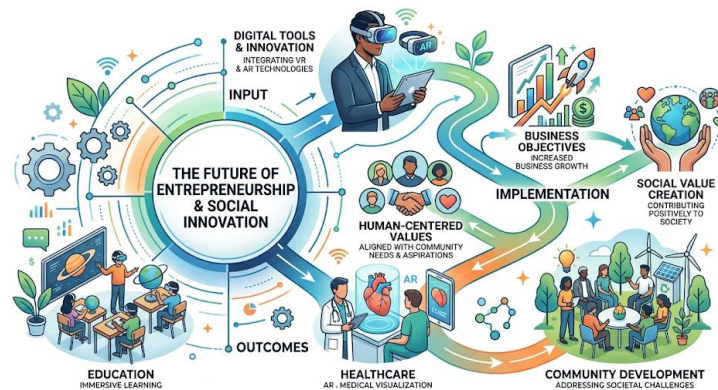


Figure 2. Key to Sustainable & Responsible Enterprises in the Creative Digital Era

When comparing these findings with existing literature, this study demonstrates a more integrated approach to social entrepreneurship, especially when it comes to the application of digital technologies. Previous studies have primarily focused on the economic impact of digital tools, such as their ability to improve business efficiency and profitability. However, this research takes a more holistic view by emphasizing the social impact that can be achieved through the adoption of immersive technologies. While other studies have examined the potential of digital innovation for business success, few have explored the intersection of technology, human-centered design, and social sustainability. This study, therefore, fills an important gap in the literature by providing insights into how entrepreneurs can utilize immersive technologies to create social value, which has been underexplored in previous research (Q. Wang et al., 2024; Yu, 2025).

The findings of this research signify a broader shift in the role of entrepreneurship in the digital age. The study points to an evolving understanding of entrepreneurship, one that goes beyond profit-driven motives and recognizes the importance of addressing social challenges. The integration of immersive technologies with social innovation suggests that the future of entrepreneurship will increasingly focus on creating solutions that meet the needs of communities and contribute to sustainable development. This shift is crucial as global challenges such as inequality, environmental degradation, and healthcare access require innovative solutions that are socially responsible and inclusive. The study's findings suggest that immersive technologies, when combined with human-centered values, can serve as powerful tools for addressing these challenges while also driving business growth. Therefore, this research underscores the importance of reframing entrepreneurship in the digital era to emphasize social value creation alongside economic objectives.

The implications of these results are far-reaching, especially for entrepreneurs, policymakers, and educators. Entrepreneurs can benefit from this research by gaining a deeper understanding of how immersive technologies can be used to create both profitable and socially responsible businesses (Iqbal et al., 2025; N. Li et al., 2025). This research suggests that by incorporating human-centered values into the design of digital innovations, entrepreneurs can not only achieve business success but also contribute to the achievement of the Sustainable Development Goals (SDGs). Policymakers can use these findings to design support systems and frameworks that encourage the adoption of immersive technologies in social enterprises, fostering environments that enable innovation for social good. Additionally, educators can incorporate these insights into curricula, teaching future entrepreneurs how to balance technological innovation with social impact. By aligning business strategies with social goals, entrepreneurs can contribute to a more inclusive and sustainable global economy.

The findings of this research can be attributed to the growing recognition of the importance of digital technologies in driving social change. The ability of VR and AR to engage users in innovative ways has made them powerful tools for addressing complex social issues. Entrepreneurs who integrate these technologies with human-centered values are better positioned to create solutions that benefit both society and business (He et al., 2023; X. Wang & Cui, 2025). This result highlights the need for future research to explore how these technologies can be further integrated into other sectors, such as government, non-profit organizations, and healthcare, to enhance their social impact. Additionally, further studies could examine the long-term effects of using immersive technologies in social entrepreneurship and how these ventures contribute to community resilience and sustainability. Expanding this research to include a wider variety of entrepreneurs across different sectors and geographical regions could provide a more comprehensive understanding of the global potential of immersive technologies for social innovation.

Looking ahead, future research could delve deeper into the specific strategies that entrepreneurs use to integrate immersive technologies into their business models for social innovation. This could include examining the challenges and barriers faced by entrepreneurs when adopting these technologies, as well as identifying best practices for overcoming these obstacles. Additionally, exploring the role of partnerships between the public and private sectors in fostering the use of immersive technologies for social good could provide valuable insights into how collaborations can amplify the impact of social entrepreneurship. Researchers should also investigate the scalability of these technologies and how they can be adapted to different contexts, especially in low-resource settings. By continuing to study the intersection of digital innovation and social entrepreneurship, future research can help shape the next generation of socially responsible businesses that leverage technology for positive global change.

CONCLUSION

The most significant finding of this study is the recognition that immersive technologies, such as virtual reality (VR) and augmented reality (AR), serve as powerful tools for social innovation in entrepreneurship. While digital technologies have been extensively studied for their economic impacts, this research emphasizes their role in fostering positive social change, particularly within marginalized communities. The data reveals that entrepreneurs who integrate these technologies into their business models not only experience enhanced business growth but also contribute to addressing pressing social issues such as education, healthcare, and sustainability. By incorporating immersive technologies, these entrepreneurs are able to provide more engaging and accessible solutions, creating new opportunities for underserved populations. The study's findings underscore the dual benefit of using technology to promote both economic success and social value creation, marking a significant shift in how entrepreneurship is practiced in the digital age.

The value of this research lies in its conceptual and methodological contributions to the field of social entrepreneurship. By bridging the gap between technological innovation and social impact, the study introduces a novel framework for understanding how immersive technologies can be harnessed to drive sustainable business models that address societal needs. The mixed-methods approach, combining qualitative interviews with entrepreneurs and quantitative analysis of business performance and social outcomes, offers a comprehensive view of the interplay between digital innovation and social change. This approach provides a nuanced understanding of how entrepreneurs use VR, AR, and other immersive technologies to engage communities, create social value, and foster long-term sustainability. The research not only expands the current understanding of entrepreneurship but also provides practical insights

for entrepreneurs, policymakers, and educators who seek to leverage technology for social good.

A limitation of this study is its focus on a specific group of entrepreneurs and industries that have already adopted immersive technologies. While the study offers valuable insights into the use of VR and AR in entrepreneurship, the findings may not be fully representative of all entrepreneurs, particularly those in industries or regions where digital adoption is limited. Future research should consider examining a broader range of sectors, including traditional industries that may not yet have embraced immersive technologies, to gain a more comprehensive understanding of their potential for social innovation. Additionally, exploring the barriers to technology adoption in low-resource environments could provide further insights into the challenges entrepreneurs face when implementing immersive technologies for social impact. Investigating how entrepreneurs in emerging markets or rural areas adopt these technologies would expand the scope of the research and provide a more inclusive perspective on the role of digital innovation in driving social change.

Future research should build on these findings by exploring the long-term impact of immersive technologies on business sustainability and community development. Longitudinal studies could provide deeper insights into how businesses evolve and scale over time, particularly in terms of their social impact and economic viability. Additionally, further studies could examine the scalability of immersive technologies and their potential to be adapted for use in various socio-economic contexts. Another promising direction for future research is to investigate how collaborations between entrepreneurs, governments, and non-profit organizations can facilitate the adoption of immersive technologies for social good. By focusing on these areas, future research could contribute to the development of strategies that foster greater collaboration and integration of digital innovation into social entrepreneurship, ultimately helping to drive more inclusive and sustainable development on a global scale.

DECLARATION OF AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

During the preparation of this manuscript, the author(s) used Google Gemini to assist in improving grammar, language quality, and overall readability of the text. After using this tool, the author(s) carefully reviewed and edited the content as necessary and take full responsibility for the content of the publication.

AUTHOR CONTRIBUTIONS

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; Investigation.

Author 3: Data curation; Investigation.

Author 4: Formal analysis; Methodology; Writing - original draft.

DECLARATION OF COMPETING INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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