Investigating the Role of Digital Literacy on Environmental Consciousness and Sustainable Practices among Young Omanis with a Focus on Generation Y and Z

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Abstract

This mixed-methods study investigates the role of digital literacy in shaping environmental consciousness and sustainable practices among young Omanis, focusing on Generation Y (25–40 years) and Generation Z (18–24 years). It is based on the Value Belief Norm (VBN) model because it examines the role of digital skills in environmental awareness and the presence of generational differences in mediating this relationship. Quantitative data were collected from 66 valid online survey responses, analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM), while three semi-structured focus group discussions (n = 10) provided qualitative contextualisation through thematic analysis. Results reveal a significant positive effect of digital literacy on environmental consciousness (β = 0.395, $p < 0.01$) and a strong mediating role of environmental consciousness in predicting sustainable practices (β = 0.193, $p < 0.05$). However, generational moderation was not significant ($p > 0.29$), indicating similar behavioural dynamics across both cohorts. These results are supported by qualitative data that indicate that digital material which is promoted by influencers (e.g., Tik Tok, Instagram Reels) is more effective in raising environmental awareness but structural barriers (e.g., inadequate recycling systems and misinformation) prevent behavioural change. The triangulated results validate the hypothesis that digital literacy is an enabling factor of environmental awareness and not a motivating factor towards sustainability behaviour. The research adds to the sustainability-literacy theory by making the digital-environmental nexus contextual in a Gulf context, providing insights into the need to incorporate eco-digital competence in the strategy of Vision 2040 in Oman. Recommendations to the policy are the provision of digital-environmental literacy in schools, promoting the sustainability campaigns in Arabic language, and improvement of institutional infrastructure in order to transform the awareness into sustainable behaviour change.

Keywords

Digital literacy, environmental consciousness, sustainable practices, Generation Y and Z, Oman.