Revolutionizing Academic Excellence: Unpacking The Potential of Ai Literacy for Sustainable Career Development Among Academic Staff in Selected State-Owned Polytechnics in Northwestern Nigeria

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Abstract—The common belief that Artificial Intelligence (AI) is designed to replace human professionals rather than complement their efforts continues to fuel resistance and hesitation in embracing AI across various sectors, particularly in education. In response to this widespread misconception, this study aims to investigate the level of AI literacy and its impact on sustainable career development among academic staff in selected state-owned polytechnics in Northwestern Nigeria. A total of 205 academic staff were drawn from the entire population of Umaru Ali Shinkafi Polytechnic, Sokoto, and Kebbi State Polytechnic, Dakingari, using the Krejcie and Morgan sample determination table. The sample was proportionately stratified across different colleges, faculties, and departments in both institutions to ensure representativeness and institutional balance. Data were collected through an adapted questionnaire sourced from validated instruments and administered using a mixed-mode approach: digitally via Google Forms to staff in Sokoto and through face-to-face interactions with staff at Dakingari. The data were analyzed using regression analysis in SPSS version 27 to test the study's hypotheses. The findings revealed a very low statistical significance between AI literacy and sustainable career development, which indicates that the vast majority of academic staff lack familiarity with AI tools and are not literate in their practical application. This low significance further suggests that only a small subset of respondents demonstrated awareness or competence in utilizing AI technologies, thereby limiting the potential benefits of AI in advancing their academic and professional growth. Consequently, the study recommends targeted interventions, including institutional AI training, integration of AI modules into staff development programs, and sensitization campaigns aimed at shifting the prevailing narrative from viewing AI as a threat of replacement to recognizing it as a tool for empowerment and digital collaboration. These measures are crucial for bridging the existing AI knowledge gap and positioning academic staff for relevance and effectiveness in a rapidly evolving global educational landscape.

Keywords—Artificial Intelligence, AI Literacy, Sustainable Career Development, Academic Staff, State-Owned Polytechnics