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A Fuzzy Delphi analytic job demands-resources model to rank factors influencing open innovation

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ABSTRACT

This study aims to determine the impact of the job demands-resources model and professional identity on open innovation in the industrial sector by adopting technology as a mediating variable. The factors that influence open innovation were identified based on the Fuzzy Delphi method. Hence, the quantitative (questionnaire survey) design was used to gather 260 employees in the industrial sector. The structural equation model (PLS-SEM) was used to analyse the data. The findings of this study reveal the positive impact of professional identity and feedback on open innovation and the negative impact of time pressure, workload, and work-family imbalance on open innovation. The results highlight vital internal and external factors in creating an organisational climate that encourages open innovation.

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KEYWORDS

Job demands-resources model; professional identity; open innovation; technology; Fuzzy Delphi

Introduction

In technological advancements, innovation is key to sustainable organisational success (Bass & Riggio, 2006). The organisations are striving to open innovation by relying on resources for long-term success. Open innovation is achieved through effective and efficient human-technology interaction. Open innovation dependent on human capital for producing new ideas to create innovation (Judge & Bono, 2000).

Hence, the organisations that have efficient use of technology quickly adopt organisational learning, excellent performance, increased productivity, higher profits, and market sustainability. Therefore, intellectual capital is a critical factor for organisational competitiveness (Darawad, Nawafleh, Maharmeh, Hamdan-Mansour, & Azzeghaiby, 2015). Besides, it is mandatory to enhance an organisation's value (Humphrey, Ashforth, & Diefendorff, 2015; Abdulaali et al., 2019).

In this context, the initial stages of innovation need informal communication networks. However, many organisations have faced several challenges in designing organisational innovation (Pauget & Wald, 2018). Individuals are more productive and innovative when they optimum utilisation their abilities and skills through the work-life balance and motivation (Alnoor, 2020; Darawad et al., 2015). The use of technology might help industries to increase productivity and enhancing organisational performance. However, it relies on the circumstances and resources that can help individuals achieve the required level of intellectuality to adopt new technology to create novel ideas. In addition, the organisations should help the employees to access for different training programs to improve their efficiency and effectiveness for exploitation innovation and achieve strategic goals (Abdullah, Ismail, Alnoor, & Yaqoub, 2021; Schaufeli & Taris, 2014). Besides, the organisation should provide support to help the employees optimum utilisation of available resources and pursue personal objectives and organisational goals (Al-Abrow, Abdullah, & Atshan, 2019). Organisations can develop employees' professional identity by providing sufficient resources and aligning with individuals' preferences and professional requirements (Humphrey et al., 2015). Therefore, this study has been conducted to analyse job demand resources and professional identity on open innovation through the mediating role of technology intention.