Navigating the Tech Frontier. An analysis of technology adoption in companies

Abstract

Technology refers to the application of scientific knowledge to solve practical problems or achieve practical goals, encompassing both tangible (e.g., tools) and intangible forms (e.g., software). For a long time, it has been a steadfast companion and a catalyst for progress when judiciously developed, implemented, and leveraged. However, the business sector in some European countries is slow to integrate technology. While previous research has investigated technology adoption at the company level, these efforts are scattered and sometimes problematic from a statistical standpoint, leaving numerous opportunities for further investigation. The thesis explores some of these avenues, introduces new findings, and provides a perspective on advancing technology adoption and its effective application in businesses. It comprises seven studies, most of them quantitative, each addressing different aspects and based on distinct research questions or objectives. For instance, the thesis offers a framework for enterprise chatbot implementations that can be adapted for similar technologies; investigates technology adoption in small and medium-sized enterprises (i.e., 10-249 employees) in the secondary and tertiary sectors from various points of view; and reveals the key determinant of technology adoption intensity within them by developing a parsimonious and generalizable structural equation model, among others. Through its collection of studies, the thesis makes numerous contributions to both research and practice, and sets the stage for further exploration. Nevertheless, it does not advocate for the indiscriminate adoption of technology in the pursuit of improved company performance or other potential benefits. Companies are strongly advised to conduct a thorough analysis of their circumstances before adopting any technology.

Keywords: technology adoption; determinant; company; business; manager; education; skills; digital; e-commerce; chatbot; artificial intelligence; innovation diffusion; openness; framework; structural equation model.