LEVERAGING PLATFORM ECOSYSTEMS AND DIGITAL TWINS FOR ORGANISATIONAL AGILITY IN E-BUSINESS

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Abstract - In today's digital Economy, organisations operating in e-business environments face heightened challenges of volatility, competition and rapid change. To remain competitive, firms must adopt agile strategies and build capabilities not only in technology but in organisational change and management practices. This study investigates how the adoption of platform ecosystems and digital twin technologies can enhance organizational agility and support transformational change in e-business firms. Drawing from a mixed-methods design comprising a multiple-case study of three e-business organisations in Southeast Asia and a quantitative survey of 200 managers, we develop and test a conceptual model linking (a) ecosystem maturity (platform governance, complementor networks, data sharing), (b) digital twin integration (process modelling, real-time analytics, simulation), and (c) organizational agility (speed of response, adaptive capability, strategic renewal). Findings indicate that higher levels of ecosystem maturity and digital twin integration significantly improve organizational agility, and that this relationship is mediated by dynamic capabilities such as sensing, seizing and transforming. Practical implications suggest that managers should treat digital twins not just as a technological tool, but as a strategic enabler embedded in a broader platform ecosystem, supported by organisational change management and leadership commitment. The paper contributes to both technology management and e-business literature by providing an empirically-validated framework and offering guidelines for practitioners navigating digital transformation in the platform economy.

Keywords - Platform ecosystems; Digital twin; Organisational agility; E-business; Technology management