Editorial: "Digital tools, innovation and competitiveness: lessons for the digital transition"

Introduction

Companies and society struggle to adapt quickly to a digital and green economy, more resilient and inclusive. The global shock caused by COVID-19 created many challenges and risks for countries and regions. Digital tools showed their potential to provide innovations solutions for the unexpected turbulences caused by the pandemic, from digital tools for education (Mahmud *et al.*, 2022; Rosenberg *et al.*, 2022; Weilage and Stumpfegger, 2022; Yu, 2022) and innovative tools for the management of global value chains (Butollo *et al.*, 2022; Cusumano *et al.*, 2019; De Propris and Pegoraro, 2019; European Commission, 2023a; Yeung, 2021), to artificial intelligence (AI) and internet of things (IoT) for the health care (Ienca and Vayena, 2020; Lytras *et al.*, 2009; Ordóñez de Pablos *et al.*, 2022; Pretorius and Coyle, 2021; Zhang *et al.*, 2015), for example. The transition toward a digital and green economy brings new challenges but also opportunities for the creation of jobs and boost competitiveness.

Therefore, companies and governments need to understand the challenges and opportunities of digital transformation in the post-pandemic era, unlock the potential of digital tools and create an inclusive, green and resilient economy and society. They need to reap the benefits of advanced digital technologies. Governments must design policies to give companies and institutions the opportunity to digitalize and increase competitiveness in the digital age (European Commission, 2023a, 2023b). Using digital tools to increase collaboration between academia and businesses, creating strategic research networks and to develop more integrated value chains, the use of artificial intelligence or the digitalization of the health-care industry are some examples of how digital tools and solutions can foster the transition toward a more competitive and resilient economy (Ordóñez de Pablos and Zhang, 2023).

Contents of the issue

The first issue of 2023 presents a collection of nine papers that address key issues for companies and society, like entrepreneurship, innovation, AI, IoT and organizational learning among others, and covers countries like India Indonesia, Iran and Malaysia as well as the African region.

The paper titled "*Industry 4.0-Based Enterprise Information System for P2P Lending*" (by Musti and Baporikar) explores "the overall peer-to-peer (P2P) business process, user requirements and design considerations under Industry 4.0 based on enterprise information system for P2P lending. P2P lending uses different credit audition methods and relies on information available in the system and the decision model. So IT techniques, for example, big data analysis and data mining, on credit audition are key points in P2P lending but the application of Industry 4.0 to the P2P lending landscape can yield several new benefits with a well-designed EIS, which is critical to service various stakeholders. This study is exploratory in nature and may need more testing on an empirical basis before drawing generalizations. Implications of research included in this area are that it poses good challenges to researchers from different disciplines such as economics, business management and information, communication and technology. Deliberations of business process for P2P lending via enterprise information system under Industry 4.0 in the African

Journal of Science and Technology Policy Management
Vol. 14 No. 1, 2023
pp. 1-5

2053-4620
DOI 10.1108/JSTPM-01-2023-191

context is of value as these emerging economies adopt new systems and processes to meet the requirements of Industry 4.0."

The paper titled "*Can Technological Innovation Spur Economic Development? The Case of Indonesia*" (by Junarsin, Hanafi, Iman, Arief, Naufa, Mahastanti and Kristanto) states that "innovation in digital technologies has been the main force in promoting growth and inclusion. However, the impact of such innovations remains ambiguous. Within this context, this study aims to analyze the distribution of digitally empowered peer-to-peer (P2P) lending in Indonesia. This study uses a quantitative approach to estimate the impact of technological innovation in promoting economic development. In particular, this study employs empirical panel data from 135 financial technology (FinTech) companies from 2015 to 2019 and use the dynamic panel threshold regression approach. This study collects secondary data to build the estimated model. Contrary to conventional wisdom, this study's evidence suggests that there is a delayed effect between the contribution of P2P lending by FinTech firms on economic growth in the country. While the immense growth of FinTech seems promising, the findings indicate that FinTech is far from its optimal point. This study calculates the optimal combination between productive and consumptive lending and between Java and non-Java. In view of this finding, this study proposes strategies to effectively distribute lending and bring about the expected benefit to the economy. Since the contribution of P2P lending on economic development has not reached its optimum, the findings expose the limitation of current technological innovation in the financial sectors. In this sense, P2P penetration on the financing market needs encouragement. The calculations for optimal allocation between productive and consumptive and between Java and non-Java provide guidance to policymakers. This study helps practitioners to shape strategy and to begin experimenting with different approaches to distribute loans effectively."

The paper titled "*Improving Service Engagement in Healthcare Through Internet of Things Based Healthcare Systems*" (by Bhatt and Chakraborty) aims to "validate the linkages between IoT adoption and how it overarched influenced the patient care service engagement. This contributes to the body of knowledge and helps hospital managers to understand the relationship and relevance of IoT adoption; otherwise healthcare sector are late movers towards technology adoption. This gives a nuanced framework towards establishing empirically validated framework which will motivate healthcare services providers to be motivated to adopt and implement IoT enabled care delivery. The physician patient interaction and alignment during decision making will foster positive word of mouth, superior care service and reduce extra overheads for healthcare providers without compromise or rather with increment in service delivery proposition. The study theoretically and empirically describes that with the adoption of internet of things (IoT) devices in health care, better services can be provided to patients by using partial least square – structure equation modelling-based robust technique and explains the better understanding of the health-care process with the help of information pervasiveness, physician-patient orientation and improved patient and physician involvement in the decision-making process. This study shows that wearable IoT device adoption in health-care service delivery opens new opportunities and disrupts the conventional and traditional way of health-care service delivery by empowering the patient to take part in decision-making and enhancing their engagement in health-care service delivery."

The paper titled "*Industrial Energy Behaviour Model: An Analysis Using the TISM Approach*" (by Chillayil, Suresh, Viswanathan, Mahapatra and Kottayil) states that "in the realm of energy behaviour studies, very little research has been done to understand industrial energy behaviour (IEB) that influences the willingness to adopt (WTA) energy-efficient measures. Most of the studies on energy behaviour were focused on the residential

and commercial sectors where the behaviour under investigation was under volitional control, that is, where people believe that they can execute the behaviour whenever they are willing to do so. The purpose of this paper is to examine the factors influencing the industry's intentions and behaviour that leads to enhanced adoption of energy efficiency measures recommended through energy audits. In particular, this paper aims to extend the existing behaviour intention models using the total interpretive structural modelling (TISM) method and expert feedback to develop an IEB model. TISM technique was used to determine the relationship between different elements of the behaviour. Responses were collected from experts in the field of energy efficiency to understand the relationship between identified factors, their driving power and dependency. The results show that values, socialisation and leadership of individuals are the key driving factors in deciding the individual energy behaviour. WTA energy-saving measures recommended by an energy auditor are found to be highly dependent on the organisational policies such as energy policy, delegation of power to energy manager and life cycle cost evaluation in purchase policy."

The paper titled "*Malaysian SMEs M-Commerce Adoption: TAM 3, UTAUT 2 and TOE Approach*" (by Salimon, Kareem, Mokhtar, Aliyu, Bamgbade and Adeleke) studies "the factors that influence Malaysian Small and Medium Enterprises (SMEs) to adopt mobile commerce (m-commerce) by integrating the constructs of Technology Acceptance Model 3 (TAM 3), Universal Theory of Acceptance and Use of Technology 2 and Technology-Organization-Environment model. Though numerous m-commerce adoption (MCA) studies have been conducted, lesser attention is paid to how hedonic motivation (HM) can influence organizational users such as SMEs. This study bridges the gap by integrating the three models to provide a new lens to guide SMEs. To examine the factors that influence the adoption of m-commerce, the researchers collected data from SMEs in Malaysia using an online survey. The sample size of the participants was determined through the available list provided by SME Corp Malaysia. The researchers also used Krejcie and Morgan's sample size and G * Power techniques to determine that the sample size was appropriate. The data collected were analyzed using partial least square-structural equation modeling. The findings of this study reveal that technological factors (computer self-efficacy [CSE], result demonstrability [RD] and computer anxiety [CA]) positively and significantly influence MCA. Likewise, the organizational/environmental factors (m-commerce knowledge, pressure from trading partners and pressure from competitors) positively and significantly influence MCA. The moderating influence of HM was also achieved on the relationship between CSE and RD. However, the proposed hedonic moderating relationship between CA and the adoption of m-commerce is not significant."

The paper titled "*Evaluation of Sustainable Supply Chain Risk: Evidence from the Iranian Food Industry*" (by Abadi and Darestani) affirms that "the food industry is directly related to the health of humans and society and also that little attention has been paid to the assessment of sustainable supply chain risk management in this area, this will be qualified as an important research area. This study aims to develop a framework for assessing the sustainable supply chain risk management in the realm of the food industry (confectionery and chocolate) with a case study of three generic companies denotes as A1–A3. The proposed risk management was evaluated in three aforementioned manufacturing companies, and these three companies were ranked by the Fuzzy-Weighted Aggregated Sum Product Assessment (F-WASPAS) method in EXCEL. The evaluation was carried out using integrated multi-criteria decision-making methods Best-Worst method (BWM)-WASPAS. Via an extensive literature review in the area of sustainable supply chain, sustainable food supply chain and risks in this, 9 risk criteria and 59 sub-criteria of risk were identified. Using expert opinion in the food industry, 8 risk criteria and 39 risk sub-criteria were identified for final evaluation. The final weight of the main and sub-criteria was obtained using the F-BWM method via LINGO software. Risk management in

the sustainable supply chain has the role of identifying, analyzing and providing solutions to control risks."

The paper titled "*Impact of AI Regulation and Governance on Online Personal Data Sharing: From Sociolegal, Technology and Policy perspective*" (by Chatterjee and Sreenivasulu) studies "the impacts of regulations and governance of artificial intelligence (AI) on personal data sharing (PDS) in the context of sociolegal, technology and policy perspective. With the help of theories and literature review, some hypotheses have been formulated and a conceptual model has been developed. These are statistically validated. The validated model has been compared again using impact of regulation and governance of AI as a moderator. The validation has been done using survey by PLS analysis. The study found that there is a high level of positive impact of regulation and governance of AI on the online PDS by the users."

The paper titled "*Organizational Learning, Entrepreneurial Orientation, and Personal Values Towards SMES' Growth in Indonesia*" is by Rafiki, Nasution, Rossanty and Sari. The purpose of this study is to "examine the dimensions of organizational learning (OL), entrepreneurial orientation (EO), personal value toward the firm performance of small and medium enterprises (SMEs) in North Sumatera, Indonesia. This study used a quantitative methodology using Smart partial least squares of the structural equation model. A survey is done by distributing the questionnaires to the respondents (owner-managers) of SMEs across sectors. Using a convenient sampling technique, 128 respondents are selected. Using a cross-sectional survey design, 11 hypotheses are tested. It is found that the innovativeness of EO and personal value both have a significant relationship with firm growth. While OL is significantly related to the innovativeness of EO, risk-taking of EO and proactiveness of EO. Then, both innovativeness of EO and proactiveness of EO significantly mediate the relationship of OL and firm growth. However, OL, proactiveness of EO and risk-taking of EO are insignificantly related to firm growth, while risk-taking of EO also insignificantly mediates the relationship of OL and firm growth."

Finally, the last paper of the issue is titled "Effective Framework to Tackle Urban Unemployment by E-Government: An IoT Solution for Smart/Metro Cities in Developing Nation" (by Alam and Siddiqui). It states that "with the advancement in technology, the day-to-day life of people has gone through an immense transformation. The use of smart devices for day-to-day life is greater than before, and people are moving towards smart work rather than doing hard work. In this paper, a novel framework is proposed named Online Service Provider in Metro City (OSPMC) for IoT. The purpose of this study is to provide a theoretical framework for the E-Government in order to sustain or minimize the unemployment rate. The utilization of the Web in the upcoming years would create further opportunities for smart work. Internet of Things (IoT) plays an essential part in a system of multiple networks that aims to connect all things in the world that are capable of being connected through the internet. OSPMC framework can be developed on ASP.NET through (visual C#) 3.0 and Microsoft SQL Server with frontend and backend languages, respectively, under a web-based environment built on .Net platform. This lucrative facility is available mainly for the people living in the smart city. Rural people are coming to smart cities in search of jobs, better education and a healthy lifestyle. India is also coping up with the modern world. The Government of India has taken an initiative for the making of 100 smart cities where the residents are relied upon to use Information and Communication Technology with the assistance of web."

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Further reading

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