

Editorial: “Digital innovation to tackle business opportunities in the digital age”

Introduction

Companies and policymakers need to actively respond to global challenges and provide digital innovative solutions to accelerate the transformation towards a more circular and green economy, creating new jobs and sustainable growth (Akbari *et al.*, 2021; Agostino and Costantini, 2021; Almunawar *et al.*, 2022a, 2022b; Jirakraisiri *et al.*, 2021; Tu and Wu, 2020; Vaska *et al.*, 2021; Zhang *et al.*, 2021).

The “Digital Europe Programme and the adoption of the multiannual work programme for 2021 – 2022” (European Commission, 2021) states that it will:

[...] reinforce EU critical digital capacities by focusing on the key areas of artificial intelligence (AI), cybersecurity, advanced computing, data infrastructure, governance and processing, the deployment of these technologies and their best use for critical sectors like energy, climate change and environment, manufacturing, agriculture and health. (p. 3)

Furthermore, this programme aims to “upskilling to provide a workforce for these advanced digital technologies” (p. 4). Knowledge-based resources will play a key role in this digital transformation. Human capital, relational capital and structural capital can provide a strategic advantage for companies, nations and societies in this transformational period (Lytras and Ordóñez de Pablos, 2008; Ordóñez de Pablos, 2004; Zhao *et al.*, 2014; Trenerry *et al.*, 2021; Sarwar *et al.*, 2021; Wisawapaisarn and Yodmongkol, 2021).

As the European Commission highlights (2021), “the twin transitions to a green and digital Europe remain the defining challenges of this generation” (p. 4).

Contents of issue 3

Issue 3 of this year presents a collection of nine papers addressing important topics like national innovation systems, mobile banking, biometric point-of-sale terminal for payments to the role of information technologies in manufacturing and health care.

The paper titled “AI enabled digital identity– Inputs for stakeholders and policy makers” (by Umar Mir, Arpan Kumar Kar and Manmohan Prasad Gupta) has the aim of identifying “the significant stakeholders of the digital identity system (DIS) and then highlight the impact of artificial intelligence (AI) on each of the identified stakeholders. It also recommends vital points that could be considered by policymakers while developing technology-related policies for effective DIS. This article uses stakeholder methodology and design theory as a primary theoretical lens along with the innovation diffusion theory as a sub-theory. This article is based on the analysis of existing literature that mainly comprises academic literature, official reports, white papers and publicly available domain experts’ interviews. The study identified six significant stakeholders, that is, government, citizens, infrastructure providers, identity providers (IdP), judiciary and relying parties of the DIS from the secondary data. Also, the role of IdP becomes insignificant in the context of AI-enabled digital identity systems (AIeDIS). The findings depict that AIeDIS can positively impact the DIS stakeholders by solving a range of problems such as identity theft,



unauthorised access and credential misuse and will also open a possibility of new ways to empower all the stakeholders”.

The paper titled “Innovation process of micro, small and medium enterprises (MSMEs) in Greater Jakarta area (Perspective from foodpreneurs)” (by Sevenpri Candra, I Nyoman Agus Dwi Wiratama, Muhammad Airlangga Rahmadi and Vincent Cahyadi) states that “micro, small and medium enterprises (MSMEs) are a critical part of a country or region’s economy. They have contributed to more than half of Indonesia’s gross domestic product. However, MSMEs today are still getting problems and obstacles in the Indonesian industry. One of them is the lack of knowledge about entrepreneurship that hampers the development of a business and the emergence of innovation. This study aims to understand the innovation process and extend the knowledge regarding entrepreneurship in food and beverage MSMEs in Greater Jakarta area. The results suggest that centralized decision-making positively impacts collaboration, communication and contributes to innovation. Communication effects the entrepreneur’s knowledge and collective entrepreneurship. In terms of collaboration, it affects entrepreneur’s knowledge and collective entrepreneurship. Then, the entrepreneur’s knowledge and collective entrepreneurship influence innovation”.

The paper titled “Factors influencing Palestinian small and medium enterprises intention to adopt mobile banking” (by Hamed Mohammed Hamed Mujahed, Elsadig Musa Ahmed and Siti Aida Samikon) explores “the determinant factors that influence the adoption of mobile banking by small and medium enterprises (SMEs) in Palestine. The aim of this paper has supported the objectives to identify the role of mobile banking practices in enhancing sustainable growth and development of Palestine SMEs; determining the factors that influence the SMEs as a service and products providers’ intention to adopt mobile banking; and proposing a conceptual model for adoption mobile banking development by SMEs sectors in Palestine. Hypotheses were developed guided by the technology organisation-environment model. The primary data was collected from 408 SMEs in Palestine using questionnaires and 8 interviews. The empirical results are based on partial least squares analysis and statistical package for the social sciences. The findings presented in this paper reveal that SMEs factors, enabling environment and business model are the main determinant factors affecting the intention to adopt mobile banking by the SMEs sector in Palestine”.

The paper titled “The adoption of biometric point-of-sale terminal for payments” (by Siti Nurdiana Atikah Sulaiman and Mohammad Nabil Almunawar) examines “factors that influence customers’ adoption of biometric-based point-of-sale in Brunei. This paper extends technology acceptance model constructs with trust and some other variables as the framework to investigate their influence on the attitude towards the usage of a biometric point-of-sale terminal for payments in Brunei. Nine variables may influence user’s perception towards usage. The nine variables are need, perceived ease of use, perceived usefulness, experience, innovativeness, privacy, security, trust and attitude towards usage. Multiple regression analysis was conducted to test hypotheses related to these nine variables. It is found that the innovativeness of an individual and similar experience corresponds towards trust, which is positively related to attitude towards usage. Perceived usefulness and trust have significantly influenced the intention of individuals to use biometrics as an authentication method for payment”.

The paper titled “A decision support system to solve the problem of healthcare priority-setting” (Micaela Pinho and Ana Moura) offers “a decision support tool to deal with the problem of setting priorities among patients competing for limited health-care resources. Limited resources and unlimited demands prevent health-care services to be provided to all those in need. This became publicity evident with the current COVID-19 pandemic.

Although controversial, health-care rationing has always existed and is now inevitable. Setting priorities becomes then inevitable. How to define those priorities is a complex and yet irresolvable issue mainly because it involves several and conflicting criteria, translated into efficiency and equity considerations. This is why multi-criteria decision analysis was introduced to health care as an appropriate decision support framework for solving complex problems. This paper proposes the application of two combined approaches – analytic hierarchy process (AHP)-Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) and AHP-VlseKriterijumska Optimizacija I Kompromisno Resenje (VIKOR), as decision support tools to rank patients with competing needs in a more effective and equitable way. A rationing scenario involving four patients, differentiated by personal characteristics and health conditions, is used to illustrate, test and compare the applicability of both approaches. After extraction of the relative weights of the prioritization criteria involved in the hypothetical scenario from paired wise comparison methods, TOPSIS and VIKOR priority setting methods were designed”.

The paper titled “Efficiency-effectiveness assessment of national innovation systems: Comparative analysis” (by Asieh Bakhtiar, Seyed Sepehr Ghazinoory, Alireza Aslani and Vahid Mafi) addresses “the performance of innovation systems by considering two indicators of efficiency and effectiveness. The scope of the evaluation is globally and due to the situation of each country, the suggested strategies are proposed to maintain the status quo or move towards the desired situation for countries. The approach is to compare and benchmark the countries in terms of the efficiency and effectiveness of their innovation system. The Global Innovation Index report’s input-to-output ratio and the global competitiveness report are used for the assessment. The findings indicate that countries such as China, Switzerland and the USA have an efficient and effective innovation system. However, the innovation systems in countries such as Brazil and Zimbabwe are not only inefficient but also ineffective. The findings also indicate that the innovation systems of countries such as Iran, Armenia and Egypt are efficient but ineffective. Finally, the authors can name Australia, Qatar and Russia as countries with effective but inefficient innovation systems”.

The paper titled “Examining the factors influencing adoption of Over the Top (OTT) services among Indian consumers” (by Som Sekhar Bhattacharyya, Shaileshwar Goswami, Raunak Mehta and Bishwajit Nayak) aims “to identify and predict the key factors that influenced the usage intention of over the top (OTT) services by consumers. This was done by applying the modified unified theory of acceptance and use of technology 2 (UTAUT2) model. An online survey questionnaire assessed the proposed motivational factors for the adoption of OTT services. Confirmatory factor analysis and structural equation modelling were conducted on collected data ($n = 598$) to demonstrate the reliability and validity of the measurement and structural model. The model consisted of nine factors, namely, value expectancy (VE), ease of effort (EE), social influence (SI), favourable infrastructure conditions (FIC), hedonistic motivation for usage (HMU), favourable economic position (FEP), content quality (CQ), habitual behaviour (HB) and security conditions (SC). SC, VE, SI, HB and EE were the antecedent variables. FEP, CQ and FIC were the mediating variables and HMU was the dependant variable. SI and CQ of OTT services were positively associated with HMU of OTT services, and FEP had no significant effects on HMU. The results also supported the explanatory strength and predictability of UTAUT2 as a model. It further extended UTAUT2 boundaries and paved the way for an extended UTAUT2 model to be developed”.

The paper titled “Reckoning with the barriers to lean implementation in Northern Indian SEMs using the AHP-TOPSIS approach” (by Sachin Saini and Doordarshi Singh) focuses on

“critical barriers for lean manufacturing practices implementation in SMEs focusing in the context of a developing economy. The advancement of SMEs is of utmost important for a surge in exports while competing with other countries and these barriers have to be given due importance as they play a major role in stalling the overall development of SMEs. In this present investigation, 26 barriers to lean implementation in SMEs have been identified after an extensive study of the literature available on the subject. After that, the influential barriers were investigated through the analytical hierarchy process-TOPSIS (AHP-TOPSIS) method using priority weightage given to them by different experts in their industries. The ranking given to the barriers is based on the AHP-TOPSIS method and has been validated by the sensitivity analysis. The investigation reveals that for the successful implementation of lean manufacturing practices, the will of the management, individual will power and contribution of the people matter a lot apart from other barriers such as flexibility, expertise of the people, resources and resistance offered by the people to new programmes. The solutions for overcoming these barriers are also provided in this study and a model has been suggested for the same”.

Finally, the past paper of this issue is titled “Using the UTAUT, personal innovativeness, and perceived financial cost to examine student’s intention to use e-learning” (by Kojo Kakra Twum, Daniel Ofori, Gabriel Keney and Bright Korang-Yeboah). It studies “the factors affecting behavioural intention to use E-learning during the COVID-19 pandemic. The study applies the UTAUT2 to identify the factors that predict intention to use E-learning. Also, the study examines the effect of personal innovativeness in information technology and perceived financial cost on intention to use E-learning. The study adopted a cross-sectional quantitative study design involving 617 university students. The data was collected through an online survey due to the COVID-19 restrictions. The proposed hypotheses were analysed using partial least squares structural equation modelling. The study found that personal innovativeness in information technology, perceived financial cost, performance expectancy, hedonic motivation and SI have a significant effect on the intention to use E-learning. Contrary to expectation, habits, effort expectancy and facilitating conditions did not predict intention to use E-learning”.

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Further reading

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