Editorial

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Biographical notes: Lorna Uden is a Professor Emeritus of IT Systems in the Faculty of Computing, Engineering and Technology at Staffordshire University. Her research interests include artificial intelligence, technology learning, HCI, activity theory, big data, knowledge management, web engineering, multimedia, e-business, service science and innovation, mobile computing, cloud computing, neuroscience, social media, intelligent transport systems, internet of things and problem-based learning.

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Magdalena Marczewska is an Assistant Professor at the University of Warsaw. She specialises in innovation and technology management with the focus on environmental technologies. In 2016, she awarded a Doctoral in Management Science with honours research distinction at the University of Warsaw. She is an author of books, reports, book chapters and articles. She is also a project leader or participant of research projects commissioned by the Polish Ministry of Environment, European Commission, the World Intellectual Property Organization, the Polish Patent Office and the National Science Centre. She is an expert for European Commission Joint Research Centre (2016–2019), an

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Welcome to V18N3 special issue of *IJWET*. This special issue is concerned with *New Trends in Knowledge Management Development.* COVID-19 and remote work have acted as catalysts since many organisations have adopted work- and serve-from-anywhere models which have challenged and called into question traditional work communications and relationships. The goals of KM are to enable people and organisations to collaborate, share, create, use, and reuse knowledge. Understanding this, KM is leveraged to improve performance, increase innovation, and expand what we know both from an individual and organisational perspective. Knowledge management involves people, process, content/IT, and strategy.

Knowledge management is undergoing a renaissance because a systematic knowledge-management discipline is critical for the new, post-pandemic world. With the pandemic, companies recognise how critical knowledge is to collaboration – especially for remote workers. This special issue aims at highlighting the latest developments in identifying the key challenges in new trends knowledge management. It provides a platform for academics and practitioners to identify and debate technical, social, and economical problems and recent accomplishments associated with KM.

This special issue consists of six papers. The first paper is 'A study on the economic and sustainable development forecast of rural tourism industry based on ANN' by Li Huang and Jingwei Zhai. Ensuring the economic sustainability of the rural tourism industry is an important factor in promoting innovation and the rational use of resources in the rural tourism industry. This study establishes a rural tourism industry economic sustainability prediction model based on the back propagation (BP) neural network in artificial neural network (ANN). It selects the indicators that have a large influence on the rural tourism industry economic sustainability prediction and takes the four indicators with the highest weight percentage as the input of the prediction model to verify the validity of the model. These authors claim that research model improves the accuracy of predicting the sustainable economic development of the rural tourism industry. Further validations are needed to verify the results.

The second paper is 'Predicting the enterprise tax risk using improved multilayer perceptive vector machine', by Yi Liu. According to Liu, the information age has made corporate tax information an important tool for improving the efficiency of corporate operations. Prediction of tax risks for enterprises is necessary for tax management. This study uses a genetic algorithm to improve the multi-layer perceptive vector machine by extending the enterprise tax risk prediction model to improve the accuracy of tax risk prediction. Comparison of the results from the author's experiments shows that using the CNN prediction accuracy in predicting economic risk, competitive risk, policy risk, and business risk is only 84.37%, while the accuracy of the improved algorithm was over 90% in all cases, with the accuracy of policy risk being as high as 95.87%. The results indicate that the improved algorithm can accurately predict the tax risks of enterprises, providing an effective method to guarantee the security of enterprise tax management. It would be useful to have more experiments to verify the results.

The third paper is 'Research on the privacy protection model of government cyber security in smart cities based on big data' by Gongping Chen and Hong Wang. According

to the authors, traditional privacy protection models can provide defence against certain attacks but are ineffective and energy intensive. SMART algorithm used for security protection in data fusion and can be used in privacy protection model to improve the security of the model. However, the accuracy of traditional SMART algorithm for data classification is not high, resulting in poor privacy protection performance. This study optimises the traditional SMART algorithm to obtain the D-SMART algorithm and applies the D-SMART algorithm to security privacy protection to strengthen the protection of network privacy, improve the problem of easy data leakage, and prevent bad results due to information leakage. The experimental results show that proposed algorithm has a privacy exposure probability of 0.05, a fusion accuracy of 89% and a network energy consumption of 82.5%, which are all better than original algorithms. It can provide better security protection. It would be useful to have more experiments to verify the findings.

The fourth paper is 'Research on the application of association rules based on information entropy in human resource management' by Yi Wang and Lei Li. To address the issue of the configuration of the structure for human resource management, Apriori algorithm is widely used due to its advantages such as simple operation, but it is prone to generating a large number of candidates item sets and fails to consider the differences in the importance of different attributes. To solve the problem, the authors have proposed a genetic algorithm known as PARIMIEG, an incremental mining method of association rules based on information entropy. The experimental results show that when processing the data set Q with a large amount of data, the speedup ratio of the PARIMIEG algorithm is better than other algorithms in different stages, the highest is 2.3, the accuracy rate is 92.5%. The PARIMIEG method can achieve stability in only 102 iterations, which is 72 times faster than the Apriori algorithm and 260 times faster than the SVM algorithm. The average running time of the PARIMIEG algorithm is 26.44% and 28.35% shorter than that of the FG Frowth method and Apriori algorithm, respectively. It would be useful to study relevant theories and hierarchical composition of the human resource management sector of different electronic platforms at a deeper level to mine more valuable information.

The fifth paper is 'Personalised learning systems: drivers of employees' behavioural intention' by Sandra Schlagheck and Gerhard Schewe. Knowledge management is essential for achieving and maintaining competitive advantage. These authors argue that this can be achieved by learning activities. But learning materials can be tailored to the learners' needs and, thus, improve effectiveness and efficiency due to personalisation. Users' acceptance is crucial to successfully implement such systems. The authors in this paper explore factors that influence the intention of using them. Using a quantitative cross-sectional survey, 331 German employees from various industries and positions took part in the study. A structural equation model with maximum likelihood estimation was chosen for the analysis. Three potential moderators (gender, age, and experience) were examined based on multi-group analyses. The results show that behavioural intention was mainly driven by the expected performance and the anticipated pleasure of using the system. Performance expectancy fully mediates the influence of trustworthiness on intention. This empirical study has limitations. The data is based on self-reports, which may be associated with a common method bias. More empirical studies are needed.

The sixth paper is 'Application of chorus teaching model for pedagogical quality assessment on software engineering skills teaching' by Qidong Kang. This study

proposes a teaching method to build a teaching quality evaluation model through intelligent algorithms, to deepen the mastery and understanding of software engineering students and improve their skills. The research takes the chorus course as an example to build a teaching quality evaluation model through BPNN for teaching, so that students can better understand the advantages and disadvantages of BPNN and its application. BPNN is the most common and widely used neural network and one of the most important algorithms in deep learning. Recognising and mastering BPNNs can quickly and effectively improve students' skill levels. According to the author, research results show that the accuracy of the pedagogical quality assessment model based on EM-AGA-BP algorithm reached 99.84%, the SSE value converges to 0.21, the fitness value is 120 and the F1 value of AGA-BP model is 0.84, which are significantly better than other models. Further empirical data are needed to verify the effectiveness.