
Editorial

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Biographical notes: Koichi Nakade is a Professor at the Nagoya Institute of Technology. He obtained his PhD degree at the Nagoya Institute of Technology in 1996. His research interest is stochastic processes, scheduling and their applications to production and inventory systems. His papers have been published in computers and industrial engineering, international journal of production research, European journal of operational research and so on.

In a decade, smart society becomes one of the important topics in the world. The use of recent technology and big data is expected to make the life of citizens better and optimise the performance of urban systems. Most researches focus on technology. The IoT devices such as sensors, monitoring and security systems have been developed. On the other hand, these devices must be effectively used and managed to realise smart society. Large operation costs and risks to maintain smart society reduce the possibility that it expands on a global scale. The system and device which are not human-friendly will also decline in the future. Thus, to develop and manage smart society sustainably, industrial engineering has an important role.

We have organised the workshop of smart society including nine papers in Asian Conference of Management Science and Applications (ACMSA 2017) in December of 2017. The latest development on topics of smart society is exchanged. Topics from wide research areas are selected on smart society. In this special issue, four papers are included after rigorous review.

Ikawa et al. develop a prediction model of the next-day consumption of thermal resources in air conditioning systems. This prediction is important because if the air conditioner resources are used more than expected, the ice refrigerant may run out in the evening. The authors show that the influence of enthalpy at the end of the previous day is strong.

In the paper of Takanokura et al., the long-distance delivery route planning is discussed with a commercial electric vehicle (EV). The analysis shows that EV must be charged several times for a longer delivery, whereas carbon dioxide emissions and delivery costs are lower than gasoline vehicles, which represents the effectiveness of EV.

In the plastic moulding industry, plastics are used in form of pellets and powder. This leads to irritations in eye. The sequence of jobs affects the production hazardous waste. In the paper of Salimifard et al., a bi-objective mixed integer programming model whose objectives are the total tardiness and the hazardous waste. The fuzzy approach is applied and a solution method based on a genetic algorithm is proposed.

Tamaru and Nagatsuka propose a stochastic degradation model of products based on the generalised inverse Gaussian distribution. They construct the generalised model which is more flexible than the previous degradation model, and show the advantages of the proposed model.

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