
Guest editorial: Reliability and quality: analysis and applications

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This special issue of the *International Journal of Quality and Reliability Management* entitled “*Reliability and Quality: Analysis and Applications*” is primarily devoted to global environmental problem electronic waste (e-waste). By accessing the remaining useful lifetime, reliability and quality of components, the problem of e-waste can be minimized, and reuse potential can be enhanced. Electronic waste (e-waste) is one of the fastest-growing, worldwide critical issue if disposal protocols are not meticulously managed for a variety of toxic substances, which can contaminate the environment and threaten human health. This special issue is focused on reliability and quality and its analysis and application.

In developed countries, various tools including life cycle assessment (LCA), material flow analysis (MFA), multi-criteria analysis (MCA) and extended producer responsibility (EPR) have been developed to manage e-wastes, whereas for developing countries, the key to success in terms of e-waste management is to develop eco-design devices, properly collect e-waste, recover and recycle material by safe methods, dispose of e-waste by suitable techniques, forbid the transfer of used electronic devices to developing countries and raise awareness of the impact of e-waste. The challenges facing the developing countries in e-waste management include an absence of infrastructure for appropriate waste management, an absence of legislation dealing specifically with e-waste, an absence of any framework for end-of-life (EoL) product take-back or implementation of extended producer responsibility (EPR). Focus of this special session is to address the challenges and opportunities related to residual life prediction using various intelligent, simulation, experimental and empirical techniques as well as quality and maintenance modelling.

This special issue was open to all over the world and got a very good response from the worldwide authors. The manuscript acceptance ratio of this special issue of the *International Journal of Quality and Reliability Management* was 39%. It includes six quality related papers and nine reliability papers. Two reliability articles are related to decreasing e-waste through reliability enhancement and assessing the reuse potential of capacitors using intelligent methods. Other reliability articles are related to optimization enhancement using inverse Weibull distribution, grey relational analysis method, RCM and artificial intelligent techniques, such as fuzzy, genetic algorithm, etc. One quality article is concerned with statistical process monitoring for e-waste based on beta regression and particle swarm optimization. The country development indicators examined using e-waste policy are discussed in this special issue. The manuscripts related to case study of Ethio cement multivariate statistical process and sustainability of small-medium enterprises using green lean Six Sigma are also an addition in this issue. Performance evaluation of tool wear prediction and validation of diabetes-related awareness instrument (DRAI) tool is discussed in this special issue.

We would like to express our thanks to the authors for submitting their work and to the reviewers for their efficient work in evaluating the submissions. We are truly gratified by their excellent timely responses.

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Cherry Bhargava and Pardeep Kumar Sharma
Symbiosis International (Deemed University), Pune, India

Rajkumar Bhingonda Patil
Pimpri Chinchwad College of Engineering, Pune, India, and

Mohamed Arezki Mellal
M'Hamed Bougara University, Boumerdes, Algeria

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