Editorial

Markus Helfert

School of Computing,
Dublin City University,
Glasnevin, Dublin 9, Ireland
E-mail: markus.helfert@computing.dcu.ie

Biographical notes: Markus Helfert is a Lecturer in Information Systems at Dublin City University, Ireland and programme chair of the European MSc in Business Informatics at Dublin City University. His research interests include information quality, data warehousing, information system architectures, supply chain management and business informatics education. His current research in information quality builds on his PhD research in data quality management in data warehouse systems. He holds a Doctor in Business Administration from the University of St. Gallen (Switzerland), a Master-Degree in Business Informatics from the University Mannheim (Germany) and a Bachelor of Science from Napier University, Edinburgh (UK-Scotland). He has authored academic articles and book contributions and has presented his work at international conferences.

1 Introduction

Over the last decades Information Quality (IQ) is increasingly recognised as crucial and a highly sought after asset for all types of organisations. IQ is not only important for decision making but also for avoiding failure, reducing costs and gaining competitive advantage. Professionals rely on information to successfully carry out their work and the quality of their information source impacts their decisions.

The five papers in this issue of the International Journal of IQ examine systematically research challenges related to IQ form different perspectives: Analysing IQ Chains, Managing IQ, Modelling Information flows and IQ in healthcare and sensory networks. Common to all papers is the viewpoint of IQ as product of an information manufacturing system. Challenges of analysing, modelling and managing complex information manufacturing systems are central to this issue.

2 Information Quality research challenges

The first paper in this issue addresses analysing IQ chains for total IQ management. The quality of information is important to organisations and the society. The management of IQ aims at the evaluation of the quality of the main components of the system, i.e., information system quality, data quality, model quality, computer-user interface quality, as well as the identification of strategic plan to improve the IQ for the organisation. The paper from Shouhong Wang and Hai Wang discusses the complexity of total IQ management and introduces the concepts of IQ chain, IQ matrix, IQ unit, and

IQ network. It proposes a procedure of IQ chain analysis that can reveal the pattern of IQ problems of the organisational information system. Based on a real-world case, it concludes that the approach is useful for total IQ management.

The second paper by Heather Maguire extends the boundaries of IQ by examining if collaboration with information management improves corporate governance. The paper proposes that organisations incorporate records management functionality into the criteria used to assess IQ in order to improve corporate governance mechanisms. As the volume of information handled by organisations has increased, the pressure on corporate boards to comply with legislative, accountability, business and cultural requirements increased as well. Recent negative media coverage has brought demands for improved accountability and transparency in corporate governance regimes. Effective records management can assist organisations to meet demands for accountability, transparency and compliance and help reduce information asymmetry. Focusing on record management, this paper provides the linkage between information management and corporate governance.

Health care is increasingly an information-driven activity so that the quality of the underlying data assumes critical importance. The third paper in this issue analyses health care and data quality from a practitioner's perspective. In this paper, Karolyn Kerr and Tony Norris identify the origins and characteristics of health data and survey their acquisition and usage in the delivery and planning of modern health care. The factors that influence data quality are discussed together with an assessment of the main quality issues. Strategies for improving data quality as well as various national strategies are reviewed. The study exposes the theoretical foundations and practicalities of health data quality enhancement and demonstrates the significant benefits that a data quality improvement strategy can bring across the whole spectrum of health care.

The fourth paper addresses the mapping of information flows as an important aspect of IQ. In his contribution, Latif Al-Hakim investigates modelling information flow for surgery management process and describes the results with the help of a case study. In order to map information flows within the surgery management process this research modifies a process mapping technique and combines it with the principle of other techniques. In addition to input and output, the research recognises that information flow has three additional elements; guidance, constraint and feedback. These additional elements form the 'governance information', which manages, regulates and controls the implementation of the activities. The paper stresses that identifying governance information elements and their interdependencies is the first step towards improving process variation in terms of reduction in delays and disruptions.

The fifth paper identifies the implications of sensors and sensory networks for data quality and describes a method for managing data quality in sensory networks using the information product approach. Part of pervasive computing, sensors and sensory networks are becoming a vital part of organisational infrastructures as they allow capture and integration of real-time data. However, they also have certain limiting characteristics that can impact the quality of data collected over a sensory network. Addressing these, Mark Gaynor and G. Shankaranarayanan present a conceptual architecture that allow to better manage data quality in sensory networks. They illustrate the instantiation of this architecture in a real-life health-care application and illustrate how this application addresses some of the implications for data quality identified in this paper.

3 Conclusion and acknowledgements

We are delighted to be completing this issue as it introduces the second volume of the IJIQ. We would like to thank the numerous reviewers for their valuable time and assistance in assessing articles and providing insightful and constructive feedback to further improve the IQ of the contributions in this issue. We believe that their efforts and the contributions in this issue help to address some of the research challenges in this complex research domain of information quality.