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## Introduction

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**Biographical notes:** Eduardo Tomé made his PhD in Economics at the Technical University in Lisboa, Institute of Economics and Management. Since then, he worked for several private Portuguese universities, published papers in peer-reviewed journals, and presented 70 papers in conferences with proceedings and authored five book chapters. He has organised MSKE, TAKE, UFHRD and ECKM conferences. His main interest is the analysis of intangibles – human resources, intellectual capital and knowledge management. He is also interested in social policy and international economy. Currently, he works at Universidade Europeia where he won research awards in 2017 and 2018.

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This special issue is based on the first edition of Theory and Practice in the Knowledge Economy, an international and multidisciplinary conference which occurred between 7th and 9th of July, 2016 in the University of Aveiro, Portugal. The special issue has two parts. The first part is related to companies and business, the second part is more socially oriented. When put together both parts give the reader a wide, updated and good idea about what research is currently done regarding the application of theory in the knowledge economy, and also about the contribution of knowledge to the world development.

The special issue starts with an innovative piece on the use of big data to model the knowledge economy (Mellor). The aim of the paper is to discuss the implications for SME growth and development, including the growth and development prospects of specific clients. Markov chain Monte Carlo modelling is presented which shows how the fold can be used and manipulated to model and predict outcomes of ‘knowledge engineering’ projects. Using data available for SMEs the authors create a tri-dimensional model of the knowledge economy. Any organisation can be located in the 3D landscape and accordingly take investment decisions and predict outcomes. In particular, detailed results are shown for four specific situations; adding multi-skilled innovators; adding network input from the external environment; looking at the cost of controlling management by showing how much bad information gatekeeping at departmental manager level actually costs; and finally investigating the value-adding effect of intellectual capital, such as patents.

The second paper (Ferraz and Pereira) is also related to SMEs in the knowledge economy and somehow gives realism to the model described in the first paper. The study analyses, for 24 European Union Member States, between 2008 and 2012, the relationship between having small knowledge intensity firm (SKIF) and the gross domestic product (GDP) and the business expenditure on research and development

(BERD). The results show that countries with high growth values on SKIFs also have growth in GDP and BERD, therefore emphasising a direct relationship of SKIF with country macroeconomic variables.

The third paper by Sampaio, Correia, Braga and Braga continues the link with small businesses by analysing entrepreneurship. The study uses individual data collected from the National Expert Survey of the Global Entrepreneurship Monitor 2011 in order to assess the impact of the environmental variables on entrepreneurship. Results show that some variables, and namely the entrepreneurial education at vocational, professional, college and university level, but also the research and development level of transference, the physical infrastructures and services access and finally the cultural, social norms and society support, have impact in the entrepreneurship activity, particularly at an early stage.

To end this first part, Odongo Wang and Suntu analyse the influence of knowledge sharing (KS) on organisational performance. An empirical study is performed using 237 Kenyan firms in the petroleum and telecommunication industries, in order to tackle both tangible and intangible assets. It appears that firms that appreciate KS principles enjoy superior gains than their rivals. The study illustrates the importance of intellectual creativity in organisations. Various knowledge embracing industries can adopt this innovation.

The second part of the special issue starts with a paper that also addresses the question of KS (Leal, Marques, Marques and Cruz). The study is based in the idea that even if the benefits of KS have been documented in many settings, its effectiveness varies considerably among organisations. In this context, the aim of the research is to identify the perception of healthcare workers' on the importance of KS practices and the way those practices relate to organisational performance. Also the study focused on verifying the existence of the mediation effects of job satisfaction (JS) and turnover intention (TI) in the relationship between KS and organisational performance. Two dimensions of KS were considered: informal knowledge sharing (IKS) and formal knowledge sharing (FKS). Data were collected on a sample of Portuguese healthcare professionals and validated via confirmatory factor analysis. Path structural equation modelling was used to assess the direct and indirect relationships between the four variables. The study found that FKS increases JS, and it also increases the perceived performance of healthcare professionals regardless of their satisfaction levels. Therefore, it seems that investing in FKS is beneficial to healthcare services, favouring the retention of satisfied workers who value non-financial organisational performance.

The link between the fifth and the sixth paper (Dias, Simões and Santana) is made by the object of the study: both relate to healthcare. The aging of the world population and the need to ensure the financial sustainability of the National Health Service claim for urgent changes in the way healthcare is being delivered. Better coordination between different levels of care is fundamental to achieve higher levels of efficiency and effectiveness but the provision of healthcare in the country (Portugal) is still very fragmented. Therefore, how to integrate healthcare is a central issue in the design and management of the healthcare system, assumed as a condition to optimise the use of resources and to improve the outcomes of the healthcare provision, especially regarding value created for patients. Performing a literature review and 15 semi-structured interviews with Portuguese experts, the study suggest a service model more focused on the requirements of the demand, for example through alternative models of organisation,

which do not necessarily entail the creation of new structures and which can lead to an increasingly de-institutionalised care system.

The final paper is also related to innovation but its scope is on the development of knowledge cities (Flores, Carrillo, Robles and Leal). The idea is to develop a knowledge city (Culiacan, Sinaloa, in Mexico) using open innovation initiatives. The participation indicators were integrated into the open innovation initiative promoted in the city and into the activity of two social network accounts provided by the city administration, during 12 months. The study found that open innovation encourages the development of the knowledge capital of a city, which includes citizen participation, the experience of civic values and trust. Furthermore, the integration of open innovation initiatives into permanent communication media such as social networks provides a continuous platform for promoting events and messages that boost the social accounts of a city.

As an editor of the special issue, I would like to thank the editors of *International Journal of Knowledge-Based Development* and all the authors for their quality work, collaboration and patience. Thank you and may this volume help your careers and your life.