Editorial: Stakeholder causal scope analysis for strategic management of big data: implications for the European-Mediterranean region

Background
Big data as a research domain has attracted enormous attention in recent decades from researchers of different knowledge streams. The practical need of analysing data, in contribution of different interconnected knowledge streams, such as information science, policy and decision-making, strategic management and sustainable growth (among others), to enrich a progressive management development capacity in diverse socio-economic settings is well-recognized (Galati et al., 2021; Ferraris et al., 2019; Hargreaves et al., 2018; Vassakis et al., 2018). However, scholars are concerned to simplify the overall management structure of data, such as data capture/exploration, data storage, data visualization and inflow and outflow of data (Chen and Zhang, 2014; Bikakis et al., 2018), to make on-time decisions, based on right data for the right target audience. As Tabesh et al. (2019) underline, many companies have failed to incorporate big data analytics (BDA) into their decision-making processes; our ongoing commitment and support, communication and the development of knowledge on big data are required for an effective implementation of a strategy based on BDA. It is therefore clear that we need to underpin our knowledge to understand how BDA can create strategic value for an organization and its impact on competitive advantage (Grover et al., 2018). It gives us a strategic management problem from both research and managerial perspectives of big data management. For example, which data we should explore and store, related to our different organizational issues (e.g. challenges and opportunities), how long we should store specific datasets, what would be the sequence and duration of data inflow and outflow to visualize and analyse the right data, how big data tracking system could be exploited for pattern mining to explore stakeholder behaviour, personal data and privacy, fake news and data theft, neutralizing the prospective variance in data analytics and factual error, and ethical issues in data analytics and management are the crucial concerns (Bello-Orgaz et al., 2016; Shams and Solima, 2019; Shams et al., 2020).

Big data and analytics are also challenging existing modes of business and well-established companies. Yet, there is limited understanding of how organizations need to change to embrace these technological innovations, and the business shifts they entail. Even more, the business value and strategic relevance of big data and analytics technologies still remain largely underexplored (Mikalef et al., 2017, np)

As a result, for data-centred strategic decision-making, diverse challenges appear in big data exploration/identification, visualization, storage, pattern mining and analytics. It adversely impacts on the contemporary decision-making process related to business, healthcare and other sectors as well (Hilbert, 2016). For example, indicating the scandal of Facebook’s data mismanagement, McNamee and Parakilas (2018) reported that “it was not just the user’s profile data that was harvested, but also that of their friends” (np). In terms of improper management in between multiple data streams and data (pattern) mining, a spokesperson...
from Tesco described that “we’re currently experiencing an IT issue which is affecting some online grocery shopping orders. We’re working hard to fix this problem and apologize to customers for any inconvenience this may cause” (McDonald, 2017, np), as the IT system misleads data from multiple data streams of customers’ online orders. In practice, there are more examples of mismanagement of data from multiple data streams, which fail to develop an appropriate algorithm of data inflow and outflow, in order to track, explore, visualize and analyze the right data from multiple data sources to make the right decision, at the right time and targeting the right stakeholder(s). For instance, “the problem of multiple data streams – Thomson Reuters is not alone getting burned by the management of multiple data streams. Earlier this year LexisNexis was sued when a customer found errors in a paper back code volume” (O’Grady, 2017, np). As a result, in real-life business world, the absence of a context-based scalable large data management structure often leads to wrong decision-making (Barth, 2017).

Similar to many other sectors, the healthcare sector is also affected because of the absence of a proper scalable data exploration and visualization approach. For example, the key challenges in BDA in the healthcare sector are documented as data inconsistency and instability, data quality (volume, variety, velocity and veracity), limitation of observational data, data validation against a particular context and data analysis perspectives (Rumsfeld et al., 2016). In the manufacturing sector, big data management also “raises challenges for organizations with regard to data storage, analysis and processing” (Dubey et al., 2016, p. 632). Indeed, in this sector, if appropriate data management skills (data acquisition, access, analytical skills, etc.) can be adopted, it can be instrumental to plan, implement and monitor a strategy based on BDA that can improve organizational efficiency, business performance and value for manufacturing firms (Popović et al., 2018). Also, the agricultural and food business sector has received relatively less attention from BDA researchers although the sector is undergoing a digital revolution (Bronson and Knezevic, 2016). In this field, big data can take a relevant importance as they allow reproducing the long-standing relationships among the food system actors, ensuring an effective traceability system which guarantee quality, safety and sustainability of agri-food products and processes (Xu et al., 2020; Kamilaris et al., 2017). In line with this, Singh and El-Kassar (2019) emphasize the need to integrate the management of supply chain, with the management of human resources and big data to improve the sustainable performance of companies.

“In practice, organizations need to continuously realign work [...] (with) stakeholder interests in order to reap the benefits from big data” (Günther et al., 2017, p. 191). Since an organization attempts to explore, visualize and analyse data about its stakeholders, developing a strategic data mining pattern based on analysing the “cause and consequence of stakeholder relationships and interactions as a stakeholder causal scope (SCS)” (Shams et al., 2020; Shams, 2016a, p. 141) would be instrumental to establish non-complex, scalable, effectual, customized and interactive data exploration and visualization methods from multiple data streams. For example, focusing on particular service encounters or any other kind of business interactions between a business firm and its customers and other stakeholders (e.g. shareholders, suppliers among others), the business firm usually gathers market data related to its diverse stakeholders’ (including customers’) behaviour/perception (Giacomarra et al., 2019; Shams and Solima, 2019). In such business encounters, focusing on specific stakeholder relationship management (RM) constructs would be useful to collect/explore, store and visualize particular dataset, where the specific RM constructs would be used to categorizing different datasets, in order to abstracting/conceptualizing insights, based on that specific RM construct to undertake stakeholder-specific management decisions (Belyaeva et al., 2020; Shams and Solima, 2019; Shams, 2016b). Different established and emergent RM constructs would include, but are not limited to trust (Blenkhorn and Mackenzie, 1996; Moliner et al., 2007), satisfaction (Crosby et al., 1990; Macintosh, 2007),
commitment (Dwyer et al., 1987; Patrick and Vesna, 2010), communication (Gummesson, 1994; Parasuraman et al., 2005), reciprocity and co-creation (Fontenot and Wilson, 1997), reliability (Parasuraman et al., 1985; Bennett and Barkensjo, 2005) responsiveness (Parasuraman et al., 1991; Bennett and Barkensjo, 2004), bond (Wilson and Mummalaneni, 1986; Lang and Colgate, 2003), loyalty (Berry, 1995; Dimitriadis and Stevens, 2008) and so forth.

In this context and centring on the key focus of the EuroMed Journal of Business, this special issue aims to enhance our understanding on how analysing stakeholder relationships based on different RM constructs in the European and Mediterranean socio-economic settings would be instrumental to establish non-complex stakeholder-specific strategic data mining patterns. And how establishing such data mining patterns could ensure a stable practice of effectual and interactive data exploration and visualization method from multiple data streams, as a practice of evaluating large pre-existing (and embryonic) databases in order to generate original insights, which is scalable and offers novel socio-economic and/or business value of existing and new datasets.

An overview on articles in the special issue
This special issue of the EuroMed Journal of Business comprises six scientific articles which cover a broad range of issues, topics and initiatives in big data management and on the stakeholder role. These articles have adopted different methodological approaches and methods and covered various sectors. We are happy to provide this rich and varied collection to scholars and peers in our field.

In the first paper titled “Big data analytics in strategic sales performance: Mediating role of CRM capability and moderating role of leadership support”, Chaudhuri et al. (2022) examine how BDA improves strategic sales performance of 12 organizations from different industries and the contribution of BDA capabilities and CRS ability. Based on a qualitative approach, the authors found that BDA and CRM capabilities positively affect organization strategic sales performance.

The second paper titled “An innovative big data framework for exploring the impact on decision-making in the European Mediterranean healthcare sector” by El Nemar et al. (2022) proposes a big data framework that could be adopted by the healthcare sector in the Mediterranean region in order to share data reacting to any future medical epidemic crisis. Authors in this paper discuss the significant aspects of BDA and the importance of quality of data to support the decision-making process.

In the third paper titled “Stakeholder Data Analysis in the Video Gaming Industry: Implications for Regional Development”, Belyaeva et al. (2022) discuss on the determinants of the video gaming industry development in the socio-economic and technological world and its relationship with stakeholders’ groups. By adopting an econometric tool able to model the dependence of the video gaming industry revenue with specific determinants, the authors found that the development of the video gaming industry is affected by a combination of economic, social and technological factors. Results, in addition, emphasize the role of the types and quality of data to support the decision-making process.

The forth paper titled “The efficiency of LiDAR HMLS scanning in monitoring forest structure parameters: implications for sustainable forest management” by Galati et al. (2022) evaluates the efficiency of a new scan technology (LiDAR HMLS) in comparison to tradition survey methods in order to obtain accurate data able to manage forest resources in an effective way. Based on a case study approach, the authors demonstrate that the adoption of the LiDAR technology in the forest-based industry allows forest managers and policymakers to have accurate data useful for an effective forest planning and management policies ensuring a sustainable forest management.
The other two papers, although not submitted for this special issue, were included because they contribute to enriching the discussion on big data management.

In particular, the fifth paper titled “Cryptocurrency Adoption: A Systematic Literature Review and Bibliometric Analysis” by Rodrigues et al. (2022) explores the relationship between cryptocurrency and consumer trust, a relevant and current topic underexplored until now. Based on a systematic literature review combined with a bibliometric analysis, the authors identify five research trends in the current literature providing a useful tool for researchers and practitioners.

Finally, the last paper titled “Intellectual Capital and Innovation Performance: The Moderating Role of Big Data Analytics: Evidence from the Banking Sector in Jordan” by AL-Khatib et al. (2022) analyses the impact of intellectual capital on the innovation performance to identify the moderating role of BDA in the banking sector. Based on a quantitative-deductive casual method and cross-section approach, the authors found that human, structural and relational resources and BDA affect the bank innovation performance.

We would like to thank all the authors who contributed to this special issue by undergoing an extremely selective review process and the anonymous reviewers who provided constructive and detailed reviews, feedbacks and suggestions.

Finally, we hope you shall enjoy reading papers in this SI and that they shall constitute an inspiration and a cornerstone for future research.

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References


