The Innovation Agency: An Overview

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The rise of digitalization is causing disruptive changes in business models in many industries and it is radically transforming how innovation should be understood and managed by scholars and practitioners [1]. New digital infrastructures (e.g. 3D printing, cloud computing), platforms (e.g. social media, virtual world) and ways of cooperation (e.g. co-design, co-production) are reshaping the meaning of innovation and introducing new challenges related to actors' interaction within digital ecosystems. According to Nambisan et al. [1: 224], digital innovation is "the creation of (and consequent change in) market offerings, business processes, or models that result from the use of digital technology". This broad definition introduces two specific features of digital innovation. The first is related to the flexibility offered by digital technology which is expanding the innovation phenomenon by not confining it anymore within the borders of an organization. This implies an increase in the fluidity of innovation process and also a continuous flux in which innovation outcomes may continue to evolve even after their delivery. The second feature concerns the potential for innovation agency to be distributed. It exploits the different actors

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which are actually involved into the innovation process (e.g. individuals, organizations, customers, policymakers), underlying the paradigms' shift from the "good-dominant" to the "service-dominant" logic [2].

The book collects some of the best contributions presented to the XIV Conference of the Italian Chapter of AIS (ItAIS) which was held at the University of Milano-Bicocca, Milan, Italy, in October 2017. ItAIS is an important forum for scholars and researchers involved in the Information Systems domain and gathers national and international researchers to identify and discuss the most important trends in the IS discipline. The contributions included in this volume cover a wide variety of topics related to how individuals and organizations can successfully handle emerging challenges in new technologies implementation with a specific focus on what can be classified as human aspects of digital innovation.

Advanced technologies are permeating every aspect of people's work and life. The role of humans in such a rapidly evolving landscape is unquestionable and represents an essential driver for digital innovation. The increasing speed of digital adoption and the continuous emergence of new technologies make people's attitude towards technology a critical concern for organizations wanting to stay competitive and becomes a catalyst for innovation. Organizations who want to make the most of technology should bear in mind the attention to the "human side" or "human agency" of advanced information technology. Indeed, the relationship between individuals and technology is not unidirectional since individuals may both use the features provided by technology or try to resist or modify them in order to achieve their goals [3]. Therefore, people's skills, behaviors, attitudes, motivational traits and goals changes need to be better understood in order to innovate successfully [1, 2].

All the 21 selected papers which are reported in this volume have been evaluated through a standard blind review process in order to ensure theoretical and methodological rigor. The book has been organized into four sections covering (a) Digital innovation and its effect on individuals; (b) Digital innovation for inclusion and sustainability; (c) Innovative solutions in digital learning; (d) Organizing for digital innovation.

1 Part I: Digital Innovation and Its Effect on Individuals

The first part of the book explores the pivotal role of individuals in technology adoption and usage and the related effects on a number of important individual outcomes (e.g. job satisfaction, perceived benefits, user performance) in different kind of contexts (i.e. private and public organizations, digital service providers).

From the job design perspective, Sarti and Torre aim at disentangling the effect of ICT usage on the degree to which employees are satisfied with their current job by taking into account the moderating effect of six job dimensions. More specifically, they found evidence that three job characteristics—namely autonomy, formalization and the relational dimension of the job—significantly affect the relationship between the use of information technology and job satisfaction. This suggests that HR

professionals and managers should carefully take into account the technological dimension when designing a job. The nature of the job together with other individual characteristics are also analyzed in the paper by Caldarelli, Ferri, Maffei, and Spanò which applies the Technology acceptance model (TAM) in order to investigate the existence of the differences in information systems usage between two different groups: accountant and ICT workers. The authors ask for greater emphasis on the analysis of personal and cultural variables that can affect information systems intention to use and to further consider them in the development of implementation strategies within companies.

Moving to the context of the public sector, Tursunbayeva, Bunduchi, Franco and Pagliari explore the effect of the implementation of a Human Resource Information System (HRIS) in a healthcare organization by means of a case study methodology. Interestingly, studies on HRIS benefits rarely examine the kind of expected benefits that motivate different stakeholders (e.g. hospital managers, clinicians, nurses, HR professionals) to accept new HRIS initiatives. This study develops an extended model of the expected and realized benefits of HRIS for different users and maps the interconnections between these benefits in healthcare. Moving to a specific sector of Public Administration, namely judicial system, Lepore, Pisano, Alvino and Paolone investigate the relationship between individual cultural orientation and information system's individual impact. More specifically, they highlighted how group-oriented, dynamic and entrepreneurial features in organizational cultures are successful factors in the implementation of information systems.

As a conclusion to this section, the topical theme of personal data protection is investigated by Gómez-Barroso, Feijóo and Palacios. The authors apply the theory of planned behaviour (TPB) to a representative survey of 1500 Internet users in Spain to test how users' knowledge about service providers usage of personal data influences privacy attitudes, intentions and disclosure behaviour. The study reveals that increasing users' awareness and knowledge about the mechanism of exchange of personal data for improved services can encourage control of personal data.

2 Part II: Digital Innovation for Inclusion and Sustainability

The effect of digital innovation goes beyond its role in boosting performance and productivity—both at the individual and organizational level—and it may have a huge potential in terms of addressing inclusion and sustainability challenges. However, there is also a dark side in new technology adoption such as the negative effect on specific social groups because of a distort use of social media and their role in creating and spreading specific representations of members of certain social categories. This is the focus of the study by Perna, Varriale and Ferrara which analyses how media, and more specifically social media, have contributed to the spread of distorted and stereotyped images of nurses hence negatively affecting

their reputation as qualified professionals. This representation of nurses on social media has a number of negative organizational consequences such as issues in recruiting and organizational image and brand. Prejudice and discrimination affect another social group, namely women in science and technology careers. D'Agostino and De Nicola apply semantic social network analysis to gender diversity in the Italian information systems community. Although there was an overall lower participation of women in this specific community, leveraging on their analysis the authors conclude that there is no evidence of gender discrimination and that men and women have an equally relevant role in the advancement of the information system discipline. Moreover, digital innovation may play a role in solving specific social problems. This is the case of crowd funding for social causes, a phenomenon which is quickly gaining popularity. Di Pietro, Spagnoletti and Prencipe analyze donations collected by a charity-crowd funding online platform and show the negative influence of a poor technology infrastructure as well as the positive effect of individuals' digital skills and social network interactions. Those results may be useful for leading the development of successful charitable initiatives and contribute to the further development of digital social innovation.

Another important aspect of digital innovation is its role in reinventing collaboration by facilitating the participation of various actors in the innovation process and gaining sustainability. Indeed, as described by Romanelli, Metallo and Agrifoglio, participation and technologies are the key issues to be addressed for future sustainability since they enable cities to become smart cities. Their contribution presents the concept of sustainable and smart cities and describes the role of citizens' participation as a means to engage them in decision-making processes concerning the development of urban areas. In this vein, interactive technologies, platforms and tools are a crucial prerequisite in order to support cities towards a sustainable development. However, according to Spagnoli, van der Graaf and Brynskov, especially within the smart cities' context there is a plethora of definitions of service co-creation and a large number of tools and platforms taken into account from different perspectives and disciplines without any harmonizing effort. Therefore, their study analyses methods and tools adopted by different cities in order to implement co-creation processes in collaboration with different stakeholders and tries to define the methods and digital tools that cities should pursue to fully exploit the potential of these platforms in terms of enhancing global collaborations. Among the main challenges cities are facing in terms of co-creation, those related to engaging the stakeholders and organising co-creation activities with new actors around virtual communities are the biggest. The engagement of citizens in collaboration is extremely useful and provides new possibilities and advantages for complex scientific research projects such as the one described in the paper by Bolici and Colella. Their paper aims at contributing to the "open/citizen science" research domain by examining and testing public engagement activities for a robotics research project and determine a series of guidelines useful to design public-engagement initiatives. Therefore, increasing citizen participation is one of the main components of the future sustainability challenges and can help governments to be more responsive to community and scientific needs.

3 Part III: Innovative Solutions in Digital Learning

As the digital technologies are reshaping organizations and workplaces, innovations and transformations in education and learning are underway. Technology-based learning is the future of training and there is a flourish of terms and concepts referring to the new forms resulting from digital technologies applied to learning. However, the growing interest and the increase in the number of publications on this topic has led to confusion rather than more understanding of the phenomenon. On the basis of this assumption, Caporarello, Giovanazzi and Manzoni perform a content analysis on the last twenty years of research and discuss the use of the most diffused 16 learning terms in the literature. They provide a comprehensive learning model that clarifies interactions and interdependencies among the terms and offers some insights for both practitioners and scholars. The growing shift towards technology-based learning is coupled with the spread of gamification, that is, the use of game design elements in non-game contexts. Caporarello, Magni and Pennarola provide a new definition of gamification for learning and an overview of applications. Moreover, the paper presents and discusses research on the effectiveness of gamification for learning purposes, focusing on students' attitude, knowledge and behaviour, which constitutes one of the main gaps in gamification literature. Specifically related to the topic of gamification is the concept of absorption, which is a sense of high psychological involvement that someone can experience when performing a task or a game. Many previous studies consider absorption as a positive antecedent of training outcomes and in their contribution, Aliberti and Paolino address the challenges posed by technological learning environments characterized by high degree of absorption. More specifically, the two authors tried to disentangle the effect of two negative antecedents of absorption, namely distraction and boredom, on learning and training transfer by proposing a theoretical model. Furthermore, they aim at exploring the role of creative climate in these relationships.

This section presents several innovative solutions related to digital learning in the higher education scenario. In their chapter, Previtali and Scarozza focus on the changes undergoing in the Italian university sector due to the rise of online educational programs. Using a case study, the authors describe the blended learning adoption and implementation by an Italian University and identify institutional strategy, structure, and support policies that could lead to the improvement of teaching and learning conditions. Moreover, they shift from students to faculty members' perspective in disentangling factors which most likely affect satisfaction in a blended learning program. Finally, the last contribution of this section presents another very innovative blended learning form which is called e-internship. Jeske and Axtell analyze this new kind of internship which requires no or minimal in-person interaction since work and collaboration on projects are supported by online tools and software. The number of e-internship is growing across different countries and is posing new research questions about how people learn in virtual contexts and also about how higher education institutions can manage college-to-work transitions.

4 Part IV: Organizing for Digital Innovation

Companies involved in digital transformation efforts may require substantial changes in roles, routines, processes, departments and the overall organizational structure. However, there is not a one-size-fits-all solution. Rather, the design of the digital transformation journey starts with the analysis of the particular needs of the organization together with the identification of competitive advantage sources and the formulation of strategic priorities.

Although SMEs are considered to be slower than larger firms in adopting digital technologies, digital innovation may improve their competitiveness with new products, services, processes and businesses models. Therefore, in order to keep customers and expand their markets SMEs are increasingly adopting e-business. De Paoli and Za present a pragmatic approach to defining a model aiming at facilitating the design and implementation of e-business for SMEs. This is an interaction-based model which distinguishes between different levels of interaction among internal (the entrepreneur, employees) and external (clients and suppliers) actors. Indeed, understanding and engaging external and internal customers and how those relationships differ from the online ones is a central anchor of digital innovation. Adopting the external customers perspective, Pennarola, Caporarello and Magni perform a comparative study among four companies in the jeans manufacturing and retailing industry in Italy operating both in the online (e-commerce websites) and offline (stores) channels. The authors analyze how the product return strategies differ among online and offline retailers and the effect of such strategies on consumers' attitude to purchase again and to return the product. With a focus on internal customers, Galanaki, Lazazzara and Parry try to classify configurations of e-HRM actually existing at the global level. By combining the actual degree of technological presence and the degree to which the technology is used to enable HRM activities, they identify four types of e-HRM configurations named "non-usage", "HR primacy", "Integrated e-HRM", and "IT primacy". Creating value for employees and managers is one of the main drivers for new technology adoption for HR purposes but the lack of cooperation between IT and HR departments generates hybrid and unsuccessful e-HRM configurations.

Moreover, within the context of digital innovation social media constitute important platform for stakeholders' engagement and may reshape marketing and communication strategies. Metushi and Fradeani perform content analysis on social media posts by large Albanian companies in order to analyze how companies adopt social media. Although social media usage has an important role in increasing company's audience and there is a positive relationship between a company's social media activity and sales. Companies adopt social media mainly for marketing purposes but are still not considered as a communication tool able to increase firms' transparency. In the same vein, Gesuele and Celio analyze social media adoption in a specific context, namely municipality, as a means for citizen engagement. Using the case study methodology, they explored the official Facebook Municipality account activities of the City of Naples in terms of contents disclosed and impact on

citizens. They reveal that through social media usage municipalities are enhancing their social image and improving the citizens' participation, but a true adoption for co-design purposes is yet to come.

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