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## Editorial

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## 1 The question

This special issue of *International Journal of Strategic Change Management* is devoted to analyse and discuss different perspectives of sustainable innovation and change management in services and manufacturing industries.

In the last decade, a significant number of long-term challenges including climate change, population ageing, desertification, water scarcity, pollution, unsolved chronic diseases, hydro-geological urgencies and scarcity of critical raw materials calls for companies and organisations – both in services and manufacturing – to rethink their

development models along two complementary dimensions: from one side, the necessity to use more accurately the resources at their disposal; from the other side, the commitment to see beyond the direct production of economic value, and envisioning the positive impact of their activities at social and environmental level.

Actually, short-term profitability strategies with related mindsets, policies and actions of individuals and firms often contribute to increase the negative effects of global economic, ecological and social/ethical crises.

Companies, institutions, universities and research centres, profit and non-profit associations, individuals and citizens have to build valuable ecosystems and operate as nodes of global multiple networks for contributing to reach the ambitious vision and results designed by the sustainable development goals (ICSU, ISSC, 2015). These constitute a universal, integrated and transformational set of 17 global SDG<sup>1</sup> and 169 targets for sustainable development, as well as the political declaration on the post-2015 development agenda. They cover very big and complex issues such as poverty, nutrition, instruction, sanitation, employment, economic growth, innovation, climate change, preservation of natural resources and justice.

It is evident that most goal areas are interlinked each other. Many targets might contribute to several goals and there are important trade-offs among several goals and targets (e.g., progress on ending poverty – SDG 1 – cannot be achieved without progress on the food security target – SDG 2).

The SDG framework addresses key systemic barriers to sustainable development (inequality, unsustainable consumption patterns, weak institutional capacity and environmental degradation) and provides effective indications that balance the three dimensions of sustainable development (social, economic and environmental), with the institutional and governance-related aspects.

The SDG framework designs recommendations and proposals around six essential elements for delivering the sustainable development goals. They are:

- people, to ensure healthy lives, knowledge and the inclusion of women and children
- planet, to protect the ecosystems for all societies and future generations
- partnership, to catalyse global solidarity for sustainable development
- justice, to promote safe and peaceful societies, and strong institutions
- prosperity, to grow a strong, inclusive and transformative economy
- dignity, to end poverty and fight inequality.

By considering the SDG, it appears evident that most of the firms today are called to abandon and modify their current business models that are not sustainable, and to transform these global challenges into real business opportunities, by leveraging on the generation of new knowledge and the experimentation of sustainable innovation.

Sustainable innovation represents then an omni-comprehensive concept that merges three complementary issues: the economic sustainability, the technical feasibility and the environmental compatibility. Sustainable innovation improves both economic and environmental performance and generates benefits for the overall society (Carrillo-Hermosilla et al., 2010).

However, despite this relevance, the research on these topics is still open and requires further investigation. In particular, research is called to improve its analysis about the

resources, the assets, the processes, the factors and the contingency conditions playing a role in determining the improvement of the sustainable innovative capacity and consequently change management and performance improvement of the economic players, such as services and manufacturing organisations: these elements, in fact, can strongly stimulate or decrease the change management and, for these reasons, their understanding is more and more essential to plan coherent and effective performance improvement plans.

The special issue aims to propose, analyse, discuss and transfer different models and connected operative tools to plan, project and implement actions and initiatives able to support innovation processes and change management within services and manufacturing organisations. Most analysis shares a knowledge-based approach and emphasise aspects related to the exploitation of intangible assets and cognitive processes levered to support innovation performance improvement within the organisations.

The selection of papers collected in this special issue is based on the works of the conference “International Forum on Knowledge Assets Dynamics – IFKAD 2014” organised in June 2014 in Matera, Italy. At this conference, leading experts explored the challenges of managing knowledge and innovation to support change management, performance improvement and sustainability of private and public organisations.

## **2 Rationale for a new perspective of sustainable innovation and change management in services and manufacturing industries**

Coherently with the European Commission (European Commission, 2009, 2010; OECD, 2011, 2012), sustainable innovation allows for producing and exploiting novelty in products, processes or services, by creating wealth and richness, and ensuring that throughout its lifecycle, environmental risk, pollution and other negative impacts of resource usage are prevented or substantially reduced.

Transforming existing companies and organisations into producers and promoters of sustainable innovation means introducing and experimenting inside them significant changes at organisational, inter-organisational and societal level (Boons and Lüdeke-Freund, 2013).

At organisational level, the change should focus on the internal capabilities and culture to adopt new technologies and integrate them with the organisational processes, connecting internal and external sources of knowledge and expertise to come up with a new marketable value proposition (Schiuma et al., 2008).

At inter-organisational level, the main area of change should refer to the relationships with stakeholders (i.e., suppliers and customers) and the regulatory standards that govern the exchange of information, financial and knowledge flows.

At societal level, the main challenge would be related to the sensitisation and diffusion, penetration and adoption of sustainable innovation at large scale, thus making citizens autonomous in accessing and usage of the new products, processes or services.

Implementing sustainable innovations and bringing them to the market calls for firms to rethink and redefine their business model, by offering a more extended value proposition through combining the upstream and downstream of the value chain, and setting up coherent revenue and financial model. Each component of the business model need to be actively managed in order to create customer and social value by integrating social, environmental and business activities (Schaltegger et al., 2012).

Moreover, the increasing of natural resources' productivity, the imitation of biological production models and the reinvestment in natural capital (Lovins et al., 1999) complete the alignment of business practices and scope with environmental needs and societal expectations. More in detail, four main elements of the business model could generate new insights for determining successfully marketing sustainable innovations (Boons and Lüdeke-Freund, 2013; Boons et al., 2013):

- value proposition, which provides measurable environmental and social value in concert with economic value (e.g., balancing the three kinds of value to provide an integrated and highly appreciated offerings)
- supply chain, which involves suppliers who take responsibility towards their own as well as the focal company's stakeholders (e.g., supply of recyclable materials to avoid and reuse wastes)
- customer interface, which motivates customers to take responsibility for their consumption (e.g., configuration of personal consumptions and behaviour to respect sustainability challenges of different markets)
- financial model, which has to distribute the economic costs and benefits among all the actors involved in the business model, trying to balance business, environmental and social impacts.

In such a way, designing, implementing and marketing sustainable innovations are configured as a business model challenge. The product–service–system (PSS) configuration seems to be the most valuable offering to realise sustainable innovation. PSS can be defined as a smart configuration of tangible products and intangible services designed and combined so that they jointly are capable of fulfilling specific customer needs (Sakao and Lindahl, 2009).

Thus, the business model becomes a market device (Doganova and Eyquem-Renault, 2009; Callon et al., 2007) that integrates and merges different and heterogeneous actors such as companies, financiers, research institutions and customers to shape new configurations of networks for sustainable innovations.

At the same time, the business model can be conceived as an entrepreneurial tool: it allows for designing and experimenting new configuration of internal and external processes, tangible and intangible resources, people-to-people, people-to-machine and machine-to-machine relationships, in the final aim to innovate the overall value proposition of the organisation. This causes changes at the business scope level (product, process, service and system), at the beneficiaries level (employees, customers, stakeholders, society and environment) and at the value generated level (economic, social, ecological and environmental).

Finally, the business model can be also conceived as a research framework to explore new models, strategies and tools supporting the emerging of sustainable innovation. Definitely, going beyond the business model renewal, sustainable innovation in products and services should require a long-term vision and a distributed leadership within companies and organisations that involves managers and employees at all levels, in order to remove the internal barriers and change the rules of the game within the specific industry.

### 3 Overview on contributions to this issue

The contributions to this special issue deal with different aspects, relevant for a better understanding of the factors and processes driving sustainable innovative dynamics and change management in services and manufacturing organisations.

Main topics are traced back in the challenge to link companies' intangibles portfolio to the degree of openness of their innovation processes, taking into account biopharmaceutical and technology hardware and equipment industries, on the role and use of applications in health knowledge management and how technological innovation may modify the interactions between actors by ensuring knowledge access, on the knowledge and innovation dynamics in a network supply chain of metallurgic products, on the innovation of the management models of the social enterprises.

The first paper written by Emilia Lamberti, Francesca Michelino, Antonello Cammarano and Mauro Caputo is aimed to examine the composition of companies' intangibles portfolio and relates it to the degree of openness of their innovation processes, assessed after an accounting perspective. The analysis is performed on a sample of 234 world top research and development (R&D) spending firms in the biopharmaceutical and technology hardware and equipment industries for the period 2010–2012, for a total of 702 consolidated annual reports examined. Results show that the intangibles portfolio of open companies contains mainly R&D and patents. Conversely, firms registering a significant amount of goodwill on balance sheet are less open in their innovation processes.

The second paper authored by Rocco Reina, Marzia Ventura, Concetta Lucia Cristofaro and Fabrizio Ambrosio provides a description of the state of art in the use of applications in health knowledge management. The topic is very interesting since the widespread use of this tool and its diffusion in everyday life permits a new development of the healthcare industry and patient's care. Moreover, it represents a great example of how technological innovation may modify the interactions between actors by ensuring knowledge access.

The third paper written by Marzena Kramarz and Włodzimierz Kramarz aims at presenting a study into strategies of strengthening the resistance in a network supply chain of metallurgic products. The research was carried out in the years 2011–2014. Network supply chains include key chain links for building the resistance. These chain links affect material flows of the whole supply chain through silencing disruptions. Those predisposed to form a strategy strengthening the resistance of the whole network supply chain are organisations fulfilling the assumptions of material decoupling points.

Finally, the fourth paper written by Roberto Linzalone and Laviero Saganeiti highlights that, although in the last decades the competitive environment has deeply changed, no significant changes occurred in companies' management models. This inertia results even more in companies' crisis, reduction or shutting down. In this scenario, the social enterprise (SE), instead, is increasing the production and the opening of new units, distinguishing for its surviving capability and competitiveness. This paper indeed investigates the reasons at the basis of such SE's performance, identifying in its management model setting the main reasons, in terms of multi-stakeholder structure, balanced value creation among stakeholders, integrated management of compliance, process performance, knowledge and learning.

#### 4 Final remarks

The relevance of managing innovation drivers and processes is increasingly related to its impact on change management and organisational business performance improvement. Nowadays, to get gains, private and public organisations have to be able to transform their knowledge and innovation domains into profitable products and services as well as they have to dynamically renew their capabilities. For these purposes, they have to continuously and actively identify, acquire, organise, share, apply and assess their innovation sources. In this perspective, a critical issue for organisations is how to extract and generate the greatest value from these sources.

Although the relevance of the innovation sources and processes has been extensively analysed and discussed in the strategic, organisational and managerial literature, currently the debate on their role both in services and manufacturing is still lively. This special issue has intended to provide new insights about how through managing new factors and drivers it is possible to enhance innovation and change management dynamics and organisational performance.

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## Note

<sup>1</sup>SDG 1 – End poverty in all its forms everywhere; SDG 2 – End hunger, achieve food security and improved nutrition and promote sustainable agriculture; SDG 3 – Ensure healthy lives and promote well-being for all at all ages; SDG 4 – Ensure inclusive and equitable quality education and promote life-long learning opportunities for all; SDG 5 – Achieve gender equality and empower all women and girls; SDG 6 – Ensure availability and sustainable management of water and sanitation for all; SDG 7 – Ensure access to affordable, reliable, sustainable and modern energy for all; SDG 8 – Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all; SDG 9 – Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation; SDG 10 – Reduce inequality within and among countries; SDG 11 – Make cities and human settlements inclusive, safe, resilient and sustainable; SDG 12 – Ensure sustainable consumption and production patterns; SDG 13 – Take urgent action to combat climate change and its impacts; SDG 14 – Conserve and sustainably use the oceans, seas and marine resources for sustainable development; SDG 15 – Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss; SDG 16 – Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels and SDG 17 – Strengthen the means of implementation and revitalise the global partnership for sustainable development.