



Innovating socially through knowledge transfer and university “engagement”

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Introduction

Social Innovation is acquiring rising interest, especially among the stakeholder groups that are joining the party of a new set of technology ventures. Meanwhile, combinatorial innovation is becoming an important source of rapid growth and commercial success. Continuous learning, exploration, co-creation, experimentation, collaborative demand articulation, and user contexts are becoming critical sources of knowledge for all actors in R&D & Innovation (ISTAG, 2010) hence, the current shift towards social innovation also implies that the dynamics of ICT- innovation have changed.

Among other stakeholders, universities have begun to actively contribute to place-making, innovation, economic and social development, getting involved in local regeneration projects and the development of initiatives such as cultural quarters, science zones and media hubs. Even science parks have experienced an urban turn towards sites that are more mixed in function and integrated into the context of the city.

The involvement of universities in business innovation processes is drawing the attention of policy-makers and the private sector, although the way innovation takes place is changing, since the shift from a linear model to a co-production model emphasises the important role of users, service, open and social innovation. The traditional models of linear, top-down, expert-driven development, production and services are leaving the pace to different forms and levels of co-production with consumers, customers and citizens (Arnkil, Järvensivu, Koski & Piirainen, 2010), thus welcoming social innovation patterns. Accordingly, the European Commission's Board of European Policy Advisors (BEPA), has defined social innovation as: *"Innovations that are social in both their ends and their means. Specifically, we define social innovations as new ideas (products, services and models) that simultaneously meet social needs (more effectively than alternatives) and create new social relationships or collaborations. They are innovations that are not only good for society but also enhance society's capacity to act. The process of social interactions between individuals undertaken to reach certain outcomes is participative, involves a number of actors and stakeholders who have a vested interest in solving a social problem"* (BEPA, 2010). Additionally, a shared view claims that social innovation can be defined as *"new ideas that meet unmet needs"* (Mulgan, 2007) driven by a diverse set of players, including politics, government, markets and academia (Mulgan, 2007). Given the fact that a social innovation could represent *"a novel solution to a social problem that is more effective, efficient, sustainable, or just than current solution"* (Phills Jr., Deiglmeier & Miller, 2008), the role of innovation

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for social progress is considered to be extremely relevant (Mulgan, 2007). Also, studies have shown that social innovation contributes considerably to the economic growth (Helpman, 2004) for, the value created thanks to a social innovation “*accrues primarily to society rather than to private individuals*” (Phills Jr. et al., 2008).

The impact of universities and research centres on regional innovation systems has been conceptualised according to evolving theories in the last decades. (Etzkowitz and Leydesdorff, 1999; Leydesdorff & Etzkowitz, 1998; Chatterton and Goddard, 2000; Etzkowitz, 2002; Etzkowitz et al., 2000, 2008, Carayannis & Campbell, 2014). The emergence of the national innovation systems approach (Freeman, 1995; Lundvall, 1992) put in evidence the pivotal contribution of universities and research centres for the economic production system. In the framework of knowledge spillovers (Audretsch and Keilbach, 2007; Lundvall & Johnson, 1994), an extensive literature has shown that knowledge can be effectively transmitted mainly through direct relationships between subjects physically located in the same area, or between individuals characterised by a “cultural” proximity (Caragliu and Nijkamp, 2015). The concept of proximity represents one of the most relevant variables of influence for the improvement of technology transfer processes, facilitating processes mainly based on tacit knowledge, knowledge flows and innovation (Foray & Lundvall, 1996; Lundvall, 1992; Maillat, 1991, 1995, 1998; Maillat et al., 1994, Acs, 2002).

According to the concept of the “Civic University” (Goddard, 2009; Goddard & Vallance 2013; Goddard & Tewdwr-Jones, 2015), universities can be rightfully considered reliable partners with cities, since they acknowledge the linkage to their location as a characterisation of their own identity, notwithstanding the national or international extent of their scope. On their turn, cities are expected to assume further responsibility for the local economy and the social issues implicated in the development process of the communities they are in charge of (Goddard & Tewdwr-Jones, 2015).

Objectives

The present paper summarises the outcomes of the study on an emerging phenomenon occurring in the East area of Naples (Italy) and involving the implementation of a knowledge-intensive hub in the San Giovanni a Teduccio site of the Federico II University, by combining theoretical contributions from the social innovation and the civic university approaches. Said analysis provides an insight into the innovation and knowledge transfer mechanisms engendered by the Federico II University San Giovanni Hub (SGH), herein referred to also as the “Hub”, by detecting the most relevant performance indicators in the framework of service and social innovation conceptualisations. Following the “Civic University” approach, the main re-

search question guiding our investigation concerns whether the San Giovanni Hub third mission experience (Holland, 2001; Molas-Gallart & Castro-Martínez, 2007; Schofield, 2013; Audretsch, 2014) can be considered both a social and a business mission in nature. Thus, the analysis emphasises the specific patterns characterising the San Giovanni Hub and the related policy instruments and entrepreneurial experiences (i.e. Apple, Cisco, Deloitte, TIM, etc.) implemented within it. This is the reason why our analysis addresses a specific notice to technology and knowledge transfer characteristics in the case of the San Giovanni Hub.

Goddard et al. (2016) have summarised the dimensions of the Civic University into seven main items, as shown in table 1.

Table1: Seven Dimensions of the “Civic University”

1. It is actively engaged with the wider world as well as the local community of the place in which it is located.
2. It takes a holistic approach to engagement, seeing it as institution wide activity and not confined to specific individuals or teams.
3. It has a strong sense of place – it recognises the extent to which its location helps to form its unique identity as an institution.
4. It has a sense of purpose – understanding not just what it is good at, but what it is good for.
5. It is willing to invest in order to have impact beyond the academy.
6. It is transparent and accountable to its stakeholders and the wider public.
7. It uses innovative methodologies such as social media and team building in its engagement activities with the world at large.

Source: Goddard et al. (2016), pp. 10-11.

Our research draws from a literature bulk concerning social innovation, university engagement and the service ecosystems perspective (Vargo & Akaka, 2012) in which the role of institutions in value co-creation contributes to the effective connection and interaction of people and technology. The paper focuses on the main features of the social innovation and third mission services provided by the knowledge intensive university Hub settled in a deprived suburb. The outcomes of such a complex observation have contributed to detect relevant qualitative indicators in the framework of service and social innovation core conceits, providing an insight into the engagement mechanisms engendered by the SGH.

Positing that “public support for universities is based on the effort to educate citizens in general, to share knowledge, to distribute it as widely as possible in accord with



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publically articulated purposes” (Calhoun, 2006) both leadership and management positions of universities should seek to mobilise the work of the academy for the public benefit. To do so, a shift towards more effective university business models is needed, as provided by the “Civic University” view. In fact, when analysing current business models of the university, some observation can arise. First, the entrepreneurial university model is characterised by a strengthened centralised control, an enhanced diversified funding base and a stimulated academic core (Clark, 1998). Secondly, in the triple helix model of universities, business and government act with semi-autonomous centres that interface with the external environment supported by specialised internal units (e.g. technology transfer offices) and external intermediaries (e.g. technology and innovation centres) (Etzkowitz et. al., 2000).

Since both models underplay the role of humanities, place-based communities and civil society, and because the way innovation takes place is changing, a new model imprinted on the civic university is needed. In this respect, the quadruple helix (QH) model (Leydesdorff, 2012) attributes emphasis on broad cooperation in innovation, thus representing a shift towards systemic, open and user-centric innovation policy. “An era of linear, top-down, expert driven development, production and services is giving way to different forms and levels of coproduction with consumers, customers and citizens” (Arnkil et.al, 2010).

Methodology

In order to pursue our study, a qualitative analysis has been performed by means of a case study methodology on

the San Giovanni Hub, where data have been gathered by participant observation, narrative documents, 25 in-depth interviews to the main stakeholders of the Hub and a survey administered to the students of the Apple Academy and DIGITA (the Academy in partnership with Deloitte Digital), both located and operating in the Hub. The rationale for the selection is represented by a peripheral and less developed urban area hosting a knowledge-intensive site and the target population is derived from the Stakeholder map of the San Giovanni Hub, mainly involving Academic staff working in the selected research hub, supporting staff, firms located in the area or connected by relational proximity, Apple Academy and Digita Academy organisational staff, a student sample of both academies; local government representative; further primary Stakeholders centres; selected entrepreneurial organisations located in the surrounding area. The collected data have been analysed by means of a thematic analysis (King, 2004) to draw the most relevant themes and concepts useful to describe the SGH phenomenon and provide a glimpse of its main representative characteristics in terms of social innovation and university engagement.

The gap to be filled and the contribution to the theoretical framework reside in assessing the value co-creation of a knowledge intensive university hub embedded in a peripheral and less developed urban context.

Discussion and Results

Recalling the seven dimensions of the “Civic” University, the analysis carried out in the framework of the *case study* on the SGH has verified such patterns in the Federico II

University SGH. Indeed, the thematic analysis outcomes, together with the results of the surveys performed on the Academy students' sample, have supported the initial assumptions of the study. Thus, the civic university concept applied in the San Giovanni Hub embraces the theoretical aspects described in the literature review on the topic. Ta-

ble 2 below enriches the initial enumerations of the civic university dimensions, by adding the specific linkages with the SGH ecosystem.

Table 2: Seven Dimensions of the “Civic University” verified in the Federico II San Giovanni Hub

#	Seven Dimensions of the “Civic University”	Evidences from the “Federico II” University SGH	Themes from which the evidence is drawn	Evidences from the surveys
1	It is actively engaged with the wider world as well as the local community of the place in which it is located.	Local and global dimension of the stakeholders interacting with the Hub.	Knowledge-intensive hub that has bypassed territorial borders.	Both Apple Developer Academy and DIGITA Students define themselves as Stakeholders of the SGH, thus recognising the value of the whole context surrounding their very experience within the Academy.
2	It takes a holistic approach to engagement, seeing it as institution wide activity and not confined to specific individuals or teams.	Engagement approach claimed by the very statute of the Federico II University.	Education and aggregation role; Combination of cultural and relational proximity.	Most of the interviewed students recognise a high value to the social impact of the SGH.
3	It has a strong sense of place – it recognises the extent to which is location helps to form its unique identity as an institution.	Hub open to the local community and embedded with the local social and entrepreneurial context.	Knowledge-intensive hub; Role of knowledge attractor and diffuser; Open and usable space.	Most students agree with the leading propositions of the study, claiming that the SGH is a place where knowledge is created, concentrated and shared beyond its physical borders. Thus, implicitly supporting the knowledge spillover and geographical proximity paradigms described in the theoretical framework.
4	It has a sense of purpose – understanding not just what it is good at, but what it is good for.	Third mission and civic engagement purposes.	Example of Third Mission; Aggregating role.	
5	It is willing to invest in order to have impact beyond the academy.	Partnership with both public (Institutional) and private (Companies) subjects.	Investments in physical space of the surrounding areas.	
6	It is transparent and accountable to its stakeholders and the wider public.	Official annual reviews and three-year University strategic planning.	University and the private sector as the main development drivers for the Hub.	

#	Seven Dimensions of the “Civic University”	Evidences from the “Federico II” University SGH	Themes from which the evidence is drawn	Evidences form the surveys
7	It uses innovative methodologies such as social media and team building in its engagement activities with the world at large.	University – Industry Academies (Apple Developer Academy, DIGITA; FS Mobility Academy, etc.)	Matching professional profiles with companies' needs; Social impact boosted thanks to dissemination in schools, university and civil society.	Students' agreement on the capability of both the Apple Academy and DIGITA to improve students' knowledge.

Linkages among actors vary according to the purposes and projects to be implemented within the system (or ecosystem). The most important thing is the existence of linkages, i.e. a relationship built on a plan tailored to the systems of actors interested in the Hub. For, the ability to attract investments and create value in term of economic returns depends on the existence and strength of said linkages. First, it is necessary to leverage on elements of differentiation, subsequently, a linkage can be envisaged or added since the implementation of new projects must consider a thorough knowledge of such linkages. More specifically, the process should:

- i. detect what every single stakeholder is able to bring in terms of diversification for the benefit of the system, for instance: distinctive elements on the international level;
- ii. understand the best way to combine such elements (in this phase one ought to pay attention to the competitors within the system).

For the sake of the study, extracts of the in-depth interviews are reported below to provide a flavour of the sentiment of some of the stakeholders of the San Giovanni Hub:

“I agree with the setting of the “Civic University”, especially here in SG, although I see a good synergy between the local government, the regional institutions and the governance of the university in terms of ecosystem” (Uni-Academic-09).

“SGH is the future that no one knows yet in which way will reveal itself” (UniAc-03/Ent-03)

“An effective example is provided by the settlement of Cisco in Naples that has engendered linkage on the educational level for the first time” (Ent-09).

“In a win/win logic, the gaps among academia, industry and civil society can be filled through a third mission (or CSR) logic” (Ent-09).

“University represents a proximity element among people, social state and institutions.” (Ent-06)

The investigation on the role of the University as partner and collaborator in a peripheral and deprived urban suburb has provided a first understanding of the nature of the Hub in terms of social innovation, as well as the innovation strategy implemented or planned by the university governance and local government institutions according to the civic university purposes. Thus, the outcomes of the

analysis can be used as a valuable tool for both the University governance and managers of local urban institutions to promote or enhance knowledge transfer and socially-oriented entrepreneurial activities in the selected area.

Limitations and indication for future research

Prompting university engagement issues within the social innovation discourse appears to be an effective way to face the challenges of evolving innovation processes. In fact, the function of modern Higher Education Institution (HEIs) cannot but adhere to missions and purposes that go beyond the very scope of teaching and researching, thus in order to keep up with the social and cultural context in which they are embedded. The analysis only considers the presence and effects of the interactions of the territory with a research centre, whereas further elements can be included and further patterns can be examined, i.e. engaging in a broader longitudinal study and implementing a larger scale multiple case evaluation. Further variables and KPIs could be added to build the evaluation tools and to enrich the scoring process with a stronger focus on social innovation impacts. Therefore, quantitative data can be gathered from the periodical testing of the innovation and engagement performance of the Hub. Future studies starting from the hypothesis developed in the present research can lead to more general assumptions, notwithstanding the specific knowledge-intensive site taken into account. Thus, attaining a shared and grounded conception of such an engagement model would add sound theoretical elements to support the social role of universities in a continuously changing innovation framework.

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