

Building Smarter Cities through Social Entrepreneurship

A Construção de Cidades Mais Inteligentes Através do Empreendedorismo Social

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RESUMO

O objetivo do presente estudo é analisar a extensão com que as organizações sociais são capazes de tornar as cidades mais inteligentes. Para alcançar esse propósito é adotada uma metodologia qualitativa, com base no método do estudo de caso, de modo a compreender as diferentes características e estratégias da Associação Cais (uma organização sem fins lucrativos que visa ajudar públicos desfavorecidos em áreas urbanas).

Partindo da análise das atividades desenvolvidas pela Cais, procura-se avaliar em que medida a inovação social prosseguida vai de encontro às dimensões propostas por Giffinger *et al.* (2007) para classificar o desempenho das cidades inteligentes, nomeadamente se baseiam em: (i) economia inteligente; (ii) pessoas inteligentes; (iii) governança inteligente; (iv) mobilidade inteligente; (v) ambiente inteligente; e (vi) vida inteligente. A investigação realizada indica que as ações prosseguidas compreendem elementos de todas as dimensões supra referidas. A análise revela ainda que a Cais é capaz de aumentar a inteligência das cidades onde atua (nomeadamente por via dos atributos vida, economia, pessoas e ambiente mais inteligentes).

Palavras-chave: *Associação cais, cidades inteligentes, empreendedorismo social, inovação social, oportunidade social*

ABSTRACT

The objective of the present study is to examine the extent to which social ventures are able to increase the “smartness” of cities. To achieve this goal, we adopt a qualitative approach using a case study method to obtain valuable insights about different characteristics and strategies of Cais (a non-profit association dedicated to helping disadvantaged people in urban areas).

Through our analysis of Cais’s activities, we assess whether its social interventions match the dimensions proposed by Giffinger *et al.* (2007) to rank smart cities’ performance; specifically, it has smart: (i) economy, (ii) people, (iii) governance, (iv) mobility, (v) environment, and (vi) living. The research shows that the action pursued comprises elements from all the above-mentioned dimensions. Further, the analysis reveals that Cais reinforces the smartness of the city in which it acts (in terms of attributes such as living, economy, people, and environment).

Keywords: *Cais Association, Smart Cities, Social Entrepreneurship, Social Innovation, Social Opportunity*

1. INTRODUCTION

A more sustainable, inclusive, and economical approach to urban growth is needed (Steinert *et al.*, 2011). In this context, smart cities and social entrepreneurship play a crucial role. The economic crisis has created new economic and urban imbalances and has made it clear that today's challenges have taken on an increasingly social dimension (Hoogendoorn & Hartog, 2011; Sachs, 2015).

Nowadays, European cities face the challenge of combining competitiveness and sustainable urban development simultaneously (Giffinger *et al.*, 2007). As stated by Belanche, Casaló and Orús (2016), cities currently face the challenge of attracting resources and increasing their citizens' quality of life. In fact, the 21st century faced a global trend of increasing concentration of the population in relatively few large cities (Harrison & Donnelly, 2011). Even though this urbanization can bring some benefits, such as high productivity or innovation, the rapid transition to a highly urbanized population also offers overwhelming challenges (Caragliu, Del Bo & Nijkamp, 2009; Cocchia, 2014; Harrison & Donnelly, 2011). Cities' density raises social problems such as informal development, traffic congestion, waste management and crime (Harrison & Donnelly, 2011). Other problems include overcrowding, disease, social disorder, conflicts over land and its uses, and lack of infrastructure (Landry & Bianchini, 1998). Further, high-density city populations have higher demand regarding energy, transportation, water, buildings and public spaces. In the face of these problems, cities have to be 'smarter', which means, according to the European Parliament's (2014) vision, being highly efficient and sustainable to achieve social wellbeing.

The term "smart city" refers to clever, innovative and sustainable solutions that promote socioeconomic development (Caragliu *et al.*, 2009; Letaifa, 2015). The main purpose behind this concept is to improve the quality of public services for citizens and the use of resources, as well as to reduce the impact on the environment (European Communities, 2011). As stated by Lee, Hancock and Hu (2014, p. 82) smart cities seek to "revitalize some of the city's structural (environmental and social) imbalances through the efficient redirection of information". The concept also involves an interactive and responsive city administration and a better way of meeting the population's needs. The lasting aim is to create public value, since all the projects and initiatives should be addressed to the citizens (Dameri & Rosenthal-Sabroux, 2014). Smart cities are actively engaged in improving citizens' quality of life at the same time that they aim to attain sustainable growth (Fontana, 2014). This requires the production of economic and social value for different stakeholders that hold different

expectations. Thus, the concept of a smart city addresses the issue of urban development under a triple sustainability approach, where a social, economic and environmental emphasis is pursued (Vesco & Ferrero, 2015).

Smart cities are seen as a new city model and a new way of conceiving cities, which aims to optimize new and available resources to the behaviour of the inhabitants (Harrison *et al.*, 2010; Lazaroiu & Roscia, 2012). These ‘clever solutions’ allow modern cities to achieve important improvements in productivity (Caragliu *et al.*, 2009, p. 2-3). As mentioned by Letaifa (2015, p. 1414), smart cities represent “new socioeconomic environments in which citizens, enterprises, and governments can more efficiently access services and resources”. Likewise, Lee *et al.* (2014, p. 12) argue that smart cities are “envisioned as creating a better, more sustainable city, in which people's quality of life is higher, their environment more liveable and their economic prospects stronger”. They aim to improve the quality of the city and, in the meantime, the quality of life in the city (Dameri & Rosenthal-Sabroux, 2014). In this sense, the smart city paradigm enables people to cope with global sustainability challenges in a local context (Zygiaris, 2012).

Being “smart” is an increasing challenge for many cities and communities (Negre & Rosenthal-Sabroux, 2015). From a Darwinian perspective, cities must evolve according to the new challenges they face (Negre & Rosenthal-Sabroux, 2015). To cope with these problems, new, innovative and creative strategies are needed.

Cities can be viewed as the portfolio of the initiatives that they hold (European Parliament, 2014). A city's economic prosperity and social balance derive from the actions developed in its territories. Many of these initiatives are pursued at the local level, not only by domestic governments and local authorities but also by not-for-profit and private organizations, in which local communities are highly and closely engaged. The instruments focus largely on local problems, where proximity is a critical factor to identify and evaluate the problems and to improve efficiency in the actions taken. These actions relate to the dynamism of the social system, the vitality of the formal and informal local social ecosystem and the emergence of new forms of intervention adopted by local organizations.

Social innovation plays a central role in solving new societal problems. In the policy of the European Union, social innovation is mentioned as a strategic element of a more intelligent, sustainable and inclusive Europe and as a response to the social challenges of the internal market (European Communities, 2011). On the forefront of social innovation is the social

entrepreneur who wishes to create social value in a lasting and sustainable way (Peredo & McLean, 2006; Weerawardena & Mort, 2006). The emergence of social actors' initiatives to satisfy specific social needs and offer solutions to different problems derives mostly from the employment crisis and the reshaping of state interventions (Bouchard, 2011).

Smart city and social entrepreneurship concepts share a major feature: their initiatives are launched and managed in accordance with social, environmental and economic sustainability purposes.

Both fields represent a very promising path toward social value creation and coping with the most pressing (social) challenges that communities and urban areas are facing.

Even though social entrepreneurship and smart cities are a relatively recent phenomenon, the literature on the topic has increasingly flourished in recent years. However, to the best of our knowledge, academic research on the role of social entrepreneurship on the building of smart cities is scarce. The present paper aims to fill this gap by analyzing the extent to which social entrepreneurial ventures are able to transform a city into a smart city.

The analyses of paradigmatic case studies by academics at the operational level could enhance our knowledge base to better understand the mechanisms that lead to the creation of social initiatives in urban areas. Further, it is important to study successful initiatives in urban areas because they could be emulated and adapted to other social contexts and countries. To attain these objectives, the paper begins by discussing the concept of a smart city and explaining whether it can be used as an analytical framework to improve the creation of social and economic value in urban areas. The next section describes the relevance of social innovation in conceiving new ventures that enable cities' development. Next, the role of social entrepreneurs in seizing new social opportunities is discussed. Afterwards, the case study methodology employed is explained. Subsequently, the Cais case is examined, and the research findings are presented and discussed, with an emphasis on 'smart features' and managerial implications. Finally, the conclusion section develops recommendations for social entrepreneurs, local entities and policy makers.

2. A FRAMEWORK TO ASSESS A CITY'S SMARTNESS

Some authors have made efforts to conceive a framework of indicators that allow a city's performance as a smart city to be assessed (Zygiaris, 2012). One of the most commonly cited frameworks (Caragliu *et al.*, 2009; European Parliament, 2014; Ferrara, 2015; Letaifa, 2015) is presented by Giffenger *et al.* (2007). These authors propose a framework based on six

characteristics to rank smart cities' performance: (i) smart economy, (ii) smart people, (iii) smart governance, (iv) smart mobility, (v) smart environment, and (vi) smart living. They suggest that the 'smartness' of a city can be defined by measuring its relative progress in each of these six axes (Giffinger *et al.*, 2007). Therefore, the level of smartness of the city increases when it is better positioned in the abovementioned factors. The six characteristics include 31 factors and 71 indicators, providing an instrument to evaluate the performance of the city. The aim is to describe the attributes that a city must possess to be classified as smart. Table 1 compiles the characteristics and the factors of an "ideal" smart city.

Table 1 – List of characteristics and factors

Characteristics (Axes)	Factors
Smart economy (Competitiveness)	Innovation, entrepreneurship, trademarks, productivity and flexibility of the labor market, integration of the (inter-) national market (Giffinger <i>et al.</i> 2007) Regional/global competitiveness, entrepreneurial skills, economic image or the ability to innovate and to transform, among others (Ferrara, 2015; Negre & Rosenthal-Sabroux, 2015; Steinert <i>et al.</i> , 2011)
Smart people (Social and human capital)	Citizens' level of education and qualification, quality of social interactions, open-mindedness and openness towards the "outer" world (Giffinger <i>et al.</i> , 2007) Ethnic and social diversity, tolerance, flexibility and creativity, engagement, participation in public life and even social capital (Ferrara, 2015; Letaifa, 2014)
Smart Governance (Participation)	Political participation, services for citizens and the functioning of the administration (Ferrara, 2015; Giffinger <i>et al.</i> , 2007) Participation in decision-making, availability of public and social services, transparent governance, good political strategies and perspectives (Giffinger <i>et al.</i> , 2007) Democratic and inclusive processes, transparent decision-making process in which all parties are included, social media, crowdsourcing (Letaifa, 2015; Steinert <i>et al.</i> , 2011)
Smart mobility (Transport and ICT)	Transport and information and communication technology, local and international accessibility (sustainable, modern, innovative and safe transport systems) (Ferrara, 2015; Giffinger <i>et al.</i> , 2007) Urban planning (collective modes of transportation are prioritized) (Letaifa, 2015) Availability of information and communication technology infrastructures (Negre & Rosenthal-Sabroux, 2015)
Smart environment (Natural resources)	Promotion of solutions that enhance the natural environment, such as the innovative use of renewable sources of energy (Letaifa, 2015), pollution prevention and environmental protection (Ferrara, 2015), attractiveness of natural conditions (like climate, green space) and sustainable resource management (Ferrara, 2015; Giffinger <i>et al.</i> , 2007)

Smart living (Quality of life)	Improvement of the quality of life, individual safety, social cohesion, housing quality, health conditions and even cultural facilities or tourist attractions (Giffinger <i>et al.</i> , 2007; Letaifa, 2015; Negre & Rosenthal-Sabroux, 2015; Steinert <i>et al.</i> , 2011).
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Source: Authors` own elaboration

Overall, the characteristics of a smart city proposed by Giffinger *et al.* (2007) are connected with traditional regional and neoclassical theories of urban growth and development (Caragliu *et al.*, 2009) and are built on the ‘smart’ combination of endowments and activities promoted by a group of citizens (Lazaroiu & Roscia, 2012).

A report of the European Parliament (2014) on mapping smart cities across the EU-28 finds that European smart city initiatives are spread across all six dimensions, even though they are frequently focused on the smart environment and smart mobility axes. The same study notes that the older EU Member States (such as France, Spain, Germany, the UK, Italy and Sweden) are more likely to have smart governance projects.

3. RESEARCH DESIGN AND METHODOLOGY

Smart cities derived from the different fragmented, independent and often small initiatives that social entrepreneurs have developed in order to help particular urban communities organize their economic assets and build productive, resilient relationships across the public and civil sectors. Common to the concepts of both social entrepreneurs and smart cities is the purpose of creating social and economic value in a sustainable and enduring way.

This study examines how social entrepreneurial initiatives are able to increase the smartness of a city. Specifically, the objective is to ascertain whether social ventures contribute to improving the attributes of a city in order to build a smarter city, especially through its economy, people, governance, mobility, environment and living. To achieve this goal, we adopt a case study methodology. Case study research in some areas, such as social innovation, is a very useful method of gaining insight about well-managed initiatives known for their ability to innovate and execute in cases where there is little theory available to serve as a guide (Eisenhardt, 1989; Ghauri, Gronhaugh & Kristianslund, 1995; Yin, 2013). Further, innovation is a social fact (Cosseta & Palumbo, 2014), and therefore it should be considered as a process embedded in a given context and society.

A single case design is considered appropriate when we can observe the unique characteristics of the case and gain useful insights about the phenomenon (Ghauri *et al.*, 1995). However, single case designs are often regarded as somewhat suspect, as heavy sample bias implies

problems of external validity (Bryman, 2001). Nonetheless, a basic lack of knowledge about the phenomenon often warrants explorative research based on a single case (Jonsson & Foss, 2011). Also, the use of qualitative methods offers the opportunity to help move the field forward and assist in providing theoretical grounding (Doz, 2011). As Dyer and Wilkins (1991) noted, if executed well, case studies can be extremely powerful, particularly when authors are able to describe a general phenomenon so well that others have little difficulty seeing the same phenomenon in their own experience and research. Dyer and Wilkins (1991) also argue that the ultimate goal of case study research is to provide a rich description of the social scene, to describe the context in which events occur, and to reveal the deep structure of social behavior. The qualitative methodology also gives the researcher great freedom, both in case selection and in the choice of information sources and analytical techniques. Such freedom makes it imperative for the researcher to clarify, from the beginning of the investigation, the main goals and structure of the research in order to avoid including unsuitable information.

The present case study is informed by the a priori framework developed by Giffinger *et al.* (2007), which relates our analysis to the smart cities literature. This approach helps to organize data collection and interpretation and metaphorically serves as a dialogue partner for the data (Jonsson & Foss, 2011). We contribute to the growing need for qualitative research within the smart city field, and especially research focusing on the role of social entrepreneurship and social innovation in smart cities.

The data for this study were collected from two different sources: desk research and in-depth, semi-structured interviews. These sources were triangulated to improve the accuracy of judgments and strengthen the validity the results (Ghauri *et al.*, 1995).

Initially, desk research was conducted based on secondary data previously obtained by the authors about the Cais organization, as well as information displayed in the organization's website and covered by the statutes and annual reports of the selected institution. Then, to clarify some aspects of the analysis and enhance the content of the case study, two interviews were conducted with the members responsible for the management of the Cais organization.

The reasons for focusing on this case were as follows: first, it represents a successful social venture developed in two of the most important urban areas of Portugal; second, it may help to explore ideas about the role of small-scale social initiatives in the smart city literature. Thus, this case may elucidate the different impacts (economy, people, governance, mobility,

environment and living) that the activities of the Cais organization have produced in the development of the smart attributes of two major Portuguese cities (Oporto and Lisbon).

The script for the interviews was developed by the authors, bearing in mind the framework proposed by Giffenger *et al.* (2007). The two interviews started with open questions about the Cais organization and other aspects related with past, present and future projects. As the interviews progressed, the questions gradually became more structured, delving into more precise questions about the organizational processes and activities developed. The first interview took place in July 2013, and the second was carried out in February 2016. The interviews lasted between 45 and 60 minutes each. The interviews were audio-recorded and transcribed. The data obtained in the interviews were triangulated with the data collected by desk research, which allowed us to control for memory bias.

To analyze the data, we followed the Giffinger *et al.* (2007) framework. In this approach, the empirical patterns of the case were compared with those of the framework. In the next section, these patterns are used to present an account of the contribution of the Cais organization to the smartness of the city of Porto.

4. ANALYSIS OF THE CAIS ASSOCIATION CASE

Cais is a non-profit social welfare association that aims to promote the wellbeing of disadvantaged people. It intends to provide support to marginalized citizens, based on its support for human dignity, and to allow them to regain access to fundamental rights.

This charity was founded in 1994. Its name refers to the Portuguese acronym for ‘circle of support for the integration of homelessness’. Currently, the association aims to provide support not only to homeless people but to all disadvantaged groups, who experience hardship due to family disruption, loss of employment or any other reason. Support is also extended to individuals at risk of social exclusion (and not only to those who are already excluded). The acronym Cais (which means ‘quay’ in Portuguese) aims to be a ‘safe harbour for someone who is lost at sea’. Its mission is to contribute to the improvement of the overall living conditions of homeless people, socially and economically vulnerable people, and people in situations of deprivation, exclusion, or risk. To achieve its mission, Cais has four main purposes: (i) to promote social integration through the empowerment and increased employability of marginalized people; (ii) to be a place (a “safe haven”) that helps people in need to transform themselves into active change makers; (iii) to encourage and support reflection on the most suitable social solutions for these individuals; and (iii) to promote

values such as a spirit of sharing, citizenship and social responsibility, which are important for a more solidarity-conscious society. Thus, we can observe that the association acts in two different axes: public intervention and inclusion.

Cais is a Private Institution for Social Solidarity (IPPS), which is recognized by the Portuguese government as an institution of public interest status. It also has received several awards for the positive social impact of its activities, such as the Civil Society Prize of the European Economic and Social Committee or the recognition as a high potential social entrepreneurial initiative (ES+) by the Portuguese Institute for Social Entrepreneurship (IES).

The association has been successful in pursuing its social mission. In 2014, 19 out of its almost 200 users had achieved ‘autonomy’, having found a legitimate means to ensure their economic sustainability for a period of at least 12 months. Moreover, the association has a high demand for its social services, and it has only been able to respond to about half of the requests received.

Below, in table 2, we present the Cais case on the basis of the six axes proposed by Giffinger *et al.* (2007).

Table 2 – Synthesis of the Cais’ smart attributes

Characteristics	Factors
Smart people	Empowerment and capacity building of individuals Generic knowledge and work-applied training Learning by doing in a business environment Encouraging lifelong learning Reinforcement of individuals’ dignity, self-confidence and entrepreneurial skills Socio-professional inclusion Development of work habits and of a more proactive attitude Stimulus of relational and social skills (within and outside the association) Reinforcement of individuals’ engagement by means of tutorial and mentoring programs Enhancement of individuals’ networking
Smart economy	Development of a set of economic activities (portfolio of products and services available) Economic-sustainability purposes (both for Cais and for its users) Creation of different sources of income generation Financial reward of individuals in accordance with their performance Establishment of a wide range of partnerships and protocols of cooperation Strong connections with stakeholders (business sector, public sector, other social organizations and the community as a whole) Development of a communication strategy and a trademark

	Use of innovation in the design of all organizational practices Training programs aimed to foster users' quality and flexibility of work
Smart living	Strong desire to improve individuals' wellbeing Purpose of solving social problems in a sustainable way Desire to break individuals spiral of poverty and social exclusion Reduction of dependency relationships between the social provider and its beneficiaries Stimulus for participation in cultural activities Positive indirect impact on the quality of life of all urban citizens
Smart governance	Collective decision-making shared by all members Democratic and inclusive processes Monthly reporting to all employees and volunteers Annual accountability and information disclosure on the website and social media Public scrutiny due to the social nature of the association Strong political and civic participation by means of awareness-raising and education campaigns Creation of public and collective value to the city's inhabitants
Smart mobility	Focus on the use of public transport Use of ICT to appeal to donations and volunteering Use of ICT and social media to pursue the communication strategy Use of ICT in the internal communication Development of the ICT skills of users through training programs and access to a computer room
Smart environment	Launch of an initiative to reuse waste materials Water consumption concerns (dry car washing) Use of eco products Some concerns about energy consumption

Source: Authors' own elaboration

4.1. Smart people

In 2003, the association built the so called Cais Centres, first in Lisbon (where its headquarters are located) and then in Oporto, where the idea was replicated. The main purpose behind this project was to encourage individuals at risk of social and economic exclusion to develop their personal potential, by means of innovative strategies for inclusion that are based on human recognition, valorization and affection. The Cais Centres consist of a social response built upon psychosocial support/counseling and professional and educational retraining, which is provided to the Cais users during the daytime. The aim is for individuals to use their (spare) time as well as possible in order to get empowered and to foster their labour market inclusion. Through daily training, the association aims to integrate its target audience into society, whereas the ultimate goal is for them to get access to housing and work. In fact, these centres are insertion communities (with no dormitories), which seek to help people in situations of extreme social vulnerability to rebuild their own lives by means of

processes that increase their autonomy and reduce their social disadvantage on the basis of competency training and empowerment.

The capacity-building programs developed aim to develop individuals' personal valorization and social emancipation. The formation programs comprise the learning of some school disciplines (such as Portuguese, English or mathematics), the development of computing skills, handcrafting and the performance of arts. The integration area, in turn, is built upon work developed on the ground and upon direct support of the most vulnerable population. These activities are intended to help individuals learn to do, to know, to be and to live together.

After promoting individuals' training, Cais aims to foster individuals' active inclusion in professional activities by means of micro-businesses launched by the association, based on the development of activities in a labor context. These micro-businesses contend to give support during the transition into working life by encouraging individuals' dignity and sustainability when other labor market alternatives do not arise. The ultimate goal is to achieve effective integration of the individuals into the labor market.

The underlying purpose is to empower individuals and to encourage their socio-professional inclusion. At the same time, these projects (which are coach-oriented) foster individuals' dignity, self-confidence and entrepreneurial spirit through the development of an activity at the same time that they promote the development of work habits and a more proactive attitude.

These programs aim to facilitate and accelerate the return to productivity and to reduce the opportunity gap that the labour disruption could have created. In all cases, empowering is seen as the best strategy for fighting against poverty and social exclusion.

Even though not all Cais users necessarily have an 'employable' profile, Cais seeks to prepare them to return to the labour market as soon as possible. All the users, from the moment they join the association, are involved in a process of empowerment toward employment. A specialized technical team maps different stages of personal development, built in accordance with the users' profile evaluation. The association developed a scale to measure the degree of 'employability' (where 0 corresponds to minimum employability and 3 to maximum). The scale is built upon individuals' motivation to return to the labor market, their ability to take on responsibility and their personal, social and professional skills.

Each user has a mentor, who helps him/her to discover the most important skills to make it possible to return to the labor market. Then they outlined the skills that they need to develop or to stimulate.

The Cais users must follow a code of conduct, established by the association, which helps to enforce the values and attitudes the association intends to instil in its target audience. Some work-oriented team activities are provided, which stimulate individuals' relational and social skills.

The ultimate goal of the association is for people to achieve autonomy and ensure their economic sustainability for a reasonable period of time. This means that people could empower themselves through work, which enables them to achieve reintegration into society. When this occurs, individuals can leave the social centers. Notwithstanding, the association ensures regular technical monitoring for these individuals for at least two years.

Relational skills are fostered in several contexts, job-related or otherwise, through the development of some leisure activities. This increases individuals' ability to interact, fosters their integration into society and improves their social networking. The interaction with other people (beyond the Cais users) is intended to enlarge their openness towards new things and the "outer" world, rather than limit their contact with disadvantaged groups.

In order to achieve social impact in a more efficient way, Cais coordinates and articulates as well as possible the social activities developed, namely the training programs and work-oriented activities, as well as other additional support provided by the association.

4.2. Smart economy

The portfolio of social responses held by Cais comprises, in addition to the training program, several micro-businesses. These micro-businesses are projects built on an economic basis that rely on the usefulness of the service provided. They include:

- Cais magazine: This was the association's first major project, consisting of a monthly street magazine, which covers social, cultural and scientific issues. The magazine is sold by the Cais users or by other social partners (to a lesser extent).
- Car Dry Washing (Lavauto): A manual car washing service, performed by previous reservation (by phone or by e-mail), in accordance with the client's convenience and at their own address. The main targets are companies that aim to wash their vehicle fleets or their employees' cars, even though the service is also available to residential customers.

- Cais recycling atelier (Cais recicla): This micro-business aims to develop eco-design products (such as personal organizers, storage cases, and other gifts), created from waste materials that are provided by several companies under a protocol of cooperation. The idea for this project arose from the recognition that it would be worthwhile to produce something that could (re)use the many existing waste materials, such as paper, plastic, leather, tissues, wool, and cork, among others. Some products are designed and sold under the Cais label, while others are specifically manufactured for other companies in accordance with their merchandising programs.
- Cays Buy@Work: A social micro-business in which the Cais users provide a convenience-shopping service (e.g., supermarket, pharmacy, laundry) to the employees of participating companies (located at selected business parks). Cais users do this convenience shopping on the behalf of individuals who are busy with office activities that prevent them from getting out to perform these tasks.

The Cais micro-businesses enable individuals to re-enter labor activities. All these businesses are expected to be economically sustainable. A percentage of the revenues attained are given to the Cais users (e.g., 70% of the price of each Cais magazine or car-washing service). This provides these individuals a transitory source of income, which could even complement other social payments provided by the welfare state. This income enables some financial independence when a more stable work situation has not been achieved. Such revenues allow individuals to support their basic human needs, such as to pay for their meals, accommodations or public transportation, as well as foster their transition towards an active life. Further, these payments are computed in accordance with individuals' commercial or production performance and, therefore, are an instrument of motivation and recognition.

A social expert of the association outlines the individuals' personal objectives and sets their sales or production goals in accordance with the reintegration program established specifically for each user.

The remaining sales revenues goes back to Cais, in order to cover its expenditures. This is an important financing source, as it is more stable/predictable and does not rely solely on donors' benevolence. Membership is another fundraising strategy pursued, in which members pay annual membership fees. Even though the association aspires to attain financial autonomy, this is a very ambitious purpose. In fact, its own revenues represent only about 6% of the organization's financial needs (Cais Annual Report, 2014).

Donations are also recognized as an important source of income and are made either regularly or sporadically. The association appeals through its website and communication materials to financial donations, as well as in-kind or service donation. In addition to bank transfers, donations can also be made through a value-added telephone line. The main advantages of this system are the fact that donors are sporadic and in a reduced amount and that it is very easy to implement. In accordance with patronage law, individuals can give 0.5% of their personal income taxes (already paid) to Cais, with no additional tax payment, if they assign this intention in their individuals' personal income declaration.

Cais has received donations from individual and corporate donors. In recent years, following the economic and financial crisis, the amount of corporate donations has been reduced. The individual donations, in turn, have been increasing, due to the efforts that Cais has made to appeal to citizens' contributions. Cais has also received some important donations provided by some foundations in recognition of its actions in the conception of innovative social answers in the employment area (e.g., Fundação Montepio). It also receives some grants. An example of this is the protocol of collaboration established with the social security authorities, in which a payment is made for each user of the Lisbon Centre.

To pursue its social mission, Cais has established a wide range of partnerships and protocols. The aim is to create synergies with various public and private institutions, which makes it possible to achieve a higher social impact. An example is the protocol established with Unicer (an important company in the beverage sector in Portugal) for the launch of the Recycling Atelier, through which an investment was made related to the recovery of the location of the project and which ensures the provision of materials (Fagundes, 2014). Another example is the establishment of a protocol with an international petrol station (BP) for the integration of 300 Cais users at several fuel stations over a period of 10 years. Partnerships were also created for the distribution of the company's products (Cais Recicla and Cais Magazine).

The implementation of each project is followed by the constitution of different partnerships and protocols, guided by specific purposes. Several companies, under its corporate social responsibility programs, have provided resources, goods and services on a pro bono basis. These actions cover a wide range of areas such as consulting, advertising, training in information technologies, provision of optical products, and dentist consultations, among many others.

Sponsorship is also used to reduce the costs supported by the association. An example of this is the offering of the magazines' printing or the vendor's jackets by other companies, or the coverage of the negative operating results of one of the Cais micro businesses.

Cais also establishes cooperation with other social institutions. Some individuals who are faced with pressing social needs and who were not admitted to the Cais' centers are directed to these other social institutions, according to their individual characteristics and specific social needs. Cais also build cooperation agreements with some public institutions, such as the social security authorities, as previously mentioned.

Further, the association has strong institutional relationships, incorporating various important national and international networks, such as the homeless planning and intervention department in Oporto and Lisbon (NPISA), the International Network of Street Papers (INSP), the European federation of national organizations which work with homeless people (FEANTSA), the Confederation of National Institutions for Solidarity (CNIS) or the European Anti-Poverty Network (EAPN).

Cais has also benefited from available funding programs, such as the active citizenship program, managed at the national level by the Calouste Gulbenkian Foundation, and the Human Potential Operating Programme (POPH).

The association has made efforts to consolidate its brand. All the projects are developed under the Cais umbrella (Cais Magazine, Cais Lavauto, Cais Recicla and Cais Buy@Work). In 2014, taking advantage of the commemoration of the 20th anniversary, the association relaunched the Cais magazine. According to the new communication strategy, each month the magazine has an invited Director (a public figure selected by Cais). The aim is to achieve a wider dissemination and visibility. The association also took this opportunity to change its signature to 'everyone matters'.

The organization also sets partnerships to pursue its communication programs. Under the signature of protocols of cooperation, some media companies (under its corporate social responsibility strategies) have offered free space in their magazines and television programs to publicize the social activities developed. Such promotion is also fostered through participation in fairs, such as the Lisbon International Fair (FIL), especially at particularly appropriate moments like the Christmas market.

4.3. Smart living

To improve disadvantaged people's wellbeing is Cais's main purpose. The association intends to improve the quality of life of people living in severe economic and social deprivation. The organization seeks to do this in a sustainable and enduring way, rather than just addressing the most basic social needs in an immediate and unilateral manner. Rather than rely on dependency-based service provision, the aim is to find a new approach through which individuals can break the spiral of poverty they entered at some point in their lives. This approach seeks to create no dependency between the individuals and the association while, at the same time, not impairing individuals' human dignity. The solution found is built upon the exploitation of the individuals' potential.

The strategies pursued aim for the personal and professional rehabilitation of very vulnerable individuals, in order to enable them to restore their life projects. In this way, Cais creates conditions for individuals to achieve their own wellbeing and attain a significantly higher quality of life.

When reintegration into society and the labor market are achieved, individuals have the economic ability (purchasing power) to deal with their social needs. Until this happens, the Cais centers also provide access to basic services, such as bathing or food, for which they are charged only a symbolic price. Some meals are offered for free, under the social emergency plan financing.

Cais also includes cultural issues in its strategy. As a result of sponsorship from some theatre and cinema companies (which offer tickets), the Cais users often attend cultural activities. Further, some of the users participate, as actors, in community productions, which have a positive impact on the development of their personal skills.

4.4. Smart governance

According to the Cais statutes (2005), the association comprises the following bodies: (i) general assembly, (ii) board members, (iii) fiscal council, and (iv) advisory boards. The general assembly is the highest organ of the association and is composed of all Cais members. The deliberations of the general assembly are determined by a majority of the votes, according to the principle of one member, one vote. Some decisions require a qualified majority (at least two thirds of the votes), such as the definition of the association's action guidelines, annual budget, and program of activities. The members' general meetings occur at least twice a year. Other extraordinary general meetings can also be scheduled. Thus, as we

can observe, the main decisions are made in a collective, democratic and inclusive way, being shared by all the association members.

In day-to-day operations, the Cais employees have a high degree of autonomy to perform their tasks and to make decisions, although teamwork is encouraged. The identification of new opportunities is made mainly by the Cais employees, through a continuous alertness to the target's audience needs, the personal characteristics of the users and the resources that are available in the surrounding community. Sometimes, the users who have a higher degree of autonomy make some suggestions about the activities developed at the Cais centers. Every last Friday of each month, there is a meeting with all the people involved in each centre (users, employees and volunteers) in which the current activities are discussed and analysed to ascertain if things are not going well.

The Oporto and Lisbon Centres are constantly in contact with each other, by means of physical and on-line meetings. The employees of both Centres are involved in the planning process and the establishment of some goals. Every month, a report of the outcomes attained is made and sent to all the employees by means of an internal newsletter.

Scrutiny of its activities also arise from its public exposition, through media coverage or social media (e.g., Facebook, Twitter). The activities developed are also assessed by other external entities, such as the Portuguese Institute for Social Entrepreneurship. Since its foundation, Cais has had high political and civic participation. In fact, since it was created, Cais has developed several campaigns to increase public awareness of minority rights, discrimination and particular groups at risk, to encourage civil society, institutions and private companies to give these people the chance to get a job. This includes, for instance, holding conferences to discuss social issues, the realization of a cultural festival vindicating the right to culture (AventurArte), social inclusion through sport (street football), or a photo competition for the whole community (Reflex). The Cais Magazine is also an awareness-raising tool for its readers (as well as the whole society), since its editorial policy reflects Cais's main concerns. In all the cases, the aim of these activities is to build a 'smarter' and more inclusive society.

Cais has offered a wide portfolio of social services that create public value, since the value appropriation occurs outside association boundaries. The association has sought to offer a consistent and sustainable solution, together with other social providers (public sector and other social organizations). In this sense, its programs have produced a positive outcome for

the citizens of the urban areas where the association acts. Cais has impacted not only its target audience but the community as a whole, by reducing most of the greatest social scourge the cities face.

4.5. Smart mobility

Cais uses ICT in the development of its economic activities, since the service provision is made by reservation via e-mail or phone. This makes it easier to access the Cais services, avoiding the need for customers to go to the association headquarters. This scheduling mechanism also facilitates the administrative procedures of Cais.

The association is aware of the benefits of ICT for communication. In the future, the organization aims to develop an online store, in which the products recycled in the Cais Atelier could be sold (Fagundes, 2014). This would improve the products' visibility and make them accessible to a vast number of customers.

ICT is also used to appeal to financial contributions. The association has a website where the activities developed and the positive social impacts attained are disclosed. The website displays all the documents needed to give financial support or become a member of Cais.

Being aware of the current importance of ICT, Cais uses ICT (e.g. e-mail, Skype) to communicate and coordinate the activities between the two centers. Also, improving and disseminating the use of ICT by providing training courses at the Cais centers is another main concern of the managers. These short courses are practice-oriented, in order to encourage the application of ICT to everyday activities such as building and sending a curriculum vitae or contacting other people. Each center provides a computer room where the users have free access to internet.

Due to the location of the Oporto and Lisbon Cais centers, the association's members travel to the activities and micro-businesses by walking or via public transport. The only exception is the users who participate in the Cais Buy@Work micro-business. Owing to the high mobility that this service requires, a car (offered by sponsors) is used in this project.

4.6. Smart environment

In the development of its strategy, Cais has had some environmental concerns. This is particularly evident in waste recycling, which was one the main motivations for launching of the recycling atelier. By means of this project, Cais has sought to give a new use to the waste produced by private companies and to reduce their negative environmental impact. The car-

washing project also aims to be eco-friendly, by use of a vehicle dry wash (with no water), made with eco products and without soiling the location where the vehicles are washed. In addition, Cais has concerns about the reduction of energy consumption in its centers, having developed some actions to improve its energy efficiency.

5. DISCUSSION

Cais is a recognized social entrepreneurial initiative that has developed its activities in two of the most important Portuguese cities (Lisbon and Oporto), which are faced with very pressing social problems.

Cais focuses its strategy on human development, by considering empowerment as the element par excellence of its action, which is blended with innovative strategies for financial sustainability. By enhancing practical competences (i.e., capacity building), individuals can return to the labour market as soon as possible and can generate an income on the basis of their work. The link between the social action carried out and income generation is critical, both for the association and for its beneficiaries' (users') financial autonomy. In fact, economic sustainability is seen as an important pillar in the social strategy of Cais, and the projects' design always comprises income-generating strategies.

For users, the pursuit of a business activity provides income sources that will then be used to acquire essential goods such as food and housing. This approach enables the development of a sustainable and enduring social solution, since the social response does not consist of merely giving goods in a unilateral and dependent manner. The creation of income sources is seen as the only way to remove (or at least to reduce) dependency relationships between disadvantaged groups and the social providers. In this way, the obligation relies on the individuals (users) themselves, who will have to create conditions to be self-sustainable. The solution found, in addition to being more long-lasting, is also built on individuals' human dignity; the individuals are not just receiving charity but transforming themselves into change-makers.

Cais deals mainly with "found opportunities" (Hechavarría & Welter, 2015), since it works on already existing social problems that are not being adequately addressed by the remaining social responses. The action developed by Cais has been characterized by a high level of innovation, as observed in the problem-solving process (transforming problems into opportunities for social value creation), the active search for new products or services to cope

with social needs, the constitution of an articulated portfolio of social services, the development of an assortment of income sources and the establishment of a wide range of partnerships with several stakeholders. The Cais *modus operandi* is based on incremental rather than radical innovation (European Parliament, 2014; Okpara & Halkias, 2011).

The association has tried to diversify its income sources as a strategy for fundraising and risk management. Some revenues are related to the volume of activity developed (e.g., magazine sales), while others (e.g., donations) are not.

The association has developed its activity on the basis of a trademark (Cais), seeking to strengthen its positioning in the society through increasing awareness of its image. The association has a high sense of opportunity and seeks to capitalize on the great historical landmarks by reinforcing its strategy and taking advantage of the emotional attachment triggered on the public opinion.

The activity developed has been characterized by collective and inclusive processes, involving the participation of the local community and the members of the association, as frequently mentioned in social entrepreneurship literature (Defourny & Nyssens, 2010). The association seeks to be transparent and to deliver accountability by disclosing an annual report and financial statement on its website, as well as a monthly internal report.

The social venture has environmental concerns, even though they are not the association's major purpose. Even so, as far as possible, Cais adds this concern to its strategy and seeks to reduce the negative environmental effects caused by its activities or by the activities of the surrounding community. Further, Cais makes use of ICT, due to its benefits for efficiency improvement.

Through its actions, Cais has improved the quality of life of its target audience as well as of the urban population as a whole, since beyond the direct benefits of its activity, indirect impact is also widespread through the reduction of urban imbalances and the reinforcement of social cohesion.

As we can observe, Cais's action could be characterized as 'smart', since it is based in on a smart people, smart economy, smart governance, smart mobility, smart environment and smart living approach. Notwithstanding, some of these dimensions are more relevant for its strategy than others. In fact, the analysis of the case reveals that smart economy and smart people are the two central pillars for achieving the association's ultimate goal of improving the wellbeing of (potentially) socially and economically vulnerable people (smart living).

Thus, a symbiosis of the ‘smart people’ and ‘smart economy’ attributes is critical in order for ‘smart living’ to be achieved more efficiently and effectively.

As argued by Zygiaris (2012), the case analysis shows that this kind of initiative allows citizens to cope with global sustainability in a local context, whereas the actions are conceived in accordance with local specificities, endogenous resources and endowments. The strategic fit achieved makes it possible to produce a higher social impact.

The aim of the present research is to understand the extent to which social entrepreneurial initiatives are able to increase the smartness of a city. The analysis performed indicates that Cais has enabled Oporto and Lisbon to have a ‘smarter economy’, since the actions pursued enhance disadvantaged people’s employability and their reintegration into the labor market. As a result, the local unemployment rate could be reduced. Likewise, training programs improve the productivity and quality of work of the population involved in the programs, as well as its entrepreneurial skills. The requalification of very vulnerable citizens fosters regional development of the cities covered by the programs and makes these territories more competitive. Thus, a greater business dynamism is achieved, and dependence on the welfare state and public authorities is decreased.

The activity developed by Cais also contributes to Oporto and Lisbon having ‘smarter people’. The strategy pursued clearly improves the citizens’ level of qualification, both in generic knowledge (math, language or ICT) and in specific and work-oriented skills. It also increases individuals’ awareness of the relevance of lifelong learning and continuous adaptation. Training and relational programs foster individuals’ creativity, flexibility and openness to new experiences. They also encourage individuals’ participation in public life and trigger their civic sense. The actions pursued by Cais improve not only the ‘smartness’ of people covered by the programs but also society as a whole, by means of raising awareness of issues such as social and ethnic plurality, tolerance and respect for minorities and vulnerable groups. Cais has also drawn citizens’ attention to a more egalitarian society and to the need to give a second chance to individuals who, for whatever reason, had seen their life project to be disrupted.

The management approach adopted by Cais is in accordance with the smart governance axis proposed by Giffinger *et al.* (2007). However, the association does not contribute in a direct manner to reinforcing the smartness of the cities’ governance. Instead, the unique contribution is made by the example the association gives to other organizations (in the various sectors) by

employing inclusive, democratic and participatory processes. If all the organizations are smarter in this area, cities would also be smarter. In addition, since it was founded, Cais has created a public and social service for the inhabitants of the cities where it acts.

The contribution of Cais to improving cities' smart mobility is also low. Nothing is observed in relation to mobility beyond its users' awareness of the relevance of using public transportation. Concerning ICT, the association does not create further development in this area, but ICT is used to achieve more effective management of everyday operations. Further, Cais has improved its users' ICT skills by means of training programs.

Cais has contributed to the enhancement of the environmental smartness of the cities where it acts by recycling and reusing industrial wastes. As a result, it has helped in the industrial waste management and in the reduction of its environmental impact. Moreover, Cais has raised public awareness of the value of these materials (if properly reused), thus raising awareness about recycling. Cais also offers an environmentally friendly alternative to car washing and, once again, raises social awareness about such concerns.

Finally, Cais has made a major contribution to 'smart living' in Oporto and Lisbon. Due to the actions developed, a meaningful and lasting improvement of its users' basic living conditions is being attained, such as nourishment and housing. By means of the purchasing power that individuals get, they are able to address their basic needs. In addition to improving the wellbeing of the target audience (direct beneficiaries), Cais also has improved the quality of life of the inhabitants of the two cities where it operates. In fact, the reduction of social gaps and imbalances enables the strengthening of social cohesion in urban areas and avoids the appearance of other social problems such as illicit economic activities, crime, health problems, and homelessness. Thus, the actions pursued improve the cities' overall safety and transform them into a better place to live. Further, the increased safety and social cohesion could also reinforce the cities' touristic attraction.

In brief, the analysis of the case shows that Cais has made a positive contribution to building smarter cities. The smartness of the cities has been mainly reinforced in the smart living, smart people and smart economy axes, as well as smart environment to a lesser extent. The smart governance and smart mobility attributes, in turn, have been improved indirectly, by means of providing an example (a model to follow) and raising awareness.

Thus, the empirical results attained confirm the role that successful social entrepreneurial initiatives could perform in building smarter cities. As argued by Letaifa (2015), we observe

that smart cities could emerge from social ventures. Nevertheless, the impact these projects could produce is enhanced if cooperation with other organizations (public, private and social) is pursued. Likewise, the engagement of a wide range of players, who perform different functions in society, is also critical (Letaifa, 2015; Steinert *et al.*, 2011).

Public policy could also play a significant role in the construction of smart cities, especially in attributes in which the effect of social organizations is minor. In this regard, the investments in infrastructures that allow for smarter mobility are critical. Furthermore, public entities, acting as facilitators, could establish and reinforce the links between existing social organizations, avoiding overlapping actions among these institutions.

6. CONCLUSIONS

Social entrepreneurship and smart cities are two areas that have recently experienced fast growth and development. Social entrepreneurship aims to create social value in a sustainable and enduring way, either for society at large or for a given group of people who face particular social issues. The smart city is a relatively new concept, which is intended to solve some of the problems that most dense urban areas face and to improve the wellbeing and quality of life of its inhabitants. According to the literature review, a smart city is based on six main features: smart economy, smart people, smart governance, smart mobility, smart environment and smart living. Common to both the concept of social entrepreneurship and that of smart cities is the explicit desire to create a public value – that is, to create social value for people outside of the organization. Social innovation is also required in both cases in order for strategies to be built and for complex social problems to be addressed in an enduring way. Cities could be analyzed as a portfolio of the social and smart projects they hold, which often arise from the initiative of an individual or group of individuals (the social entrepreneur) interested in solving a social problem. These initiatives are usually context-dependent and result from a bottom-up process. Thus, attending to the high potential they have for social value creation, it is critical to have a deeper knowledge about the management of the successful initiatives in order to be replicated by other social entrepreneurs. Further, it is important to understand the extent to which social entrepreneurial initiatives are able to transform the profile of a city into a smarter one. Thus, based on the Giffinger *et al.* (2007) framework, we draw up a case study analysis of a recognized successful social organization that developed its activities in two major urban areas in Portugal. The analysis reveals that Cais has developed an integrated solution to face social and economic problems, as well as (if to a lesser extent) environmental issues, in a holistic and simultaneous manner. The empirical

analysis shows that the six axes or dimensions proposed by Giffenger *et al.* (2007) appear in the strategy pursued by the association. Notwithstanding, we observe that some dimensions are afforded higher relevance in the company's approach. Specifically, we note that smart economy and smart people are two important strategic pillars for the association's lasting goal of improving population wellbeing (smart living) to be attained.

By analyzing the contribution of Cais to the construction of a smarter city, we observe that the association positively impacts the smart living, smart people, smart economy and even smart environment attributes. The strategy pursued does not have an active and direct role in the development of the smartness of a city related to mobility and governance.

Social entrepreneurship can be seen as a powerful path to transform cities into smarter cities. If more social ventures are created, the cities' profile will likely evolve into a smarter one. Through the intensification of social entrepreneurial ventures, cities could get smarter, and most of the urban social and economic imbalances could be corrected. The Cais association is an outstanding example of the way the concepts of social entrepreneurship and smart cities converge and reinforce each other. The description and analysis of this successful initiative brings new insights regarding how cities' smartness could be improved and gives some clues about how it could be emulated or replicated in other urban contexts. Further, the research provides some guidance regarding how public policy could be designed to improve the contribution of social entrepreneurship to smart cities.

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