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INTELLECTUAL CAPITAL IN NON-PROFIT ORGANIZATIONS: AN EMPIRICAL ANALYSYS ON THE ROLE OF INTELLECTUAL CAPITAL ON THE PERFORMANCE OF SOCIAL COOPERATIVE ENTERPRISES

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INTRODUCTION

The number of non-profit organizations (NPOs) has significantly increased in recent years (Salomon, 2010) with a growth rate of 28% in Italy from 2001 to 2011 (International Co-operative Alliance, 2016). The increase can be primarily attributed to the growth in the number of paid workers (approximately 681 000), volunteers (approximately 4.7 millions) and an expansion in the services provided (i.e., health care, education, social development).Currently, there are over three hundred thousand NPOs that produce 3.3% of Italy's GDP.

Amongst several type of NPOs, social enterprises are defined as *hybrid organizations,* since they are characterized by an entrepreneurial, social and participatory governance dimension (Defourny and Nyssens, 2012). This means that they have to face the challenge to create social and economic value (Dart et al., 2010; Borzaga and Galera, 2012) and that the realization of the organizational mission is strictly linked to the economic and financial aspects. The entrepreneurial dimension consist of run, principally and continuously, a commercial activity producing goods or services in order to satisfy social needs. Being financially responsible and economically sustainable are conditions to respect in order to accomplish the institutional mission (Costa et al., 2011). The commercial activities are carried out combining a mix of intangibles and tangible resources, internal and external (Ebrahim*et al.*, 2014; Epstein and McFarlen, 2011; Mook, 2014) in order to satisfy the social dimension, preserving the financial and economic sustainability. Therefore, the necessity to introduce accounting practices able to measure not only economic and financial performance, but also a mission-based performance emerges in order to identify the social results (Bagnoli and Megali, 2011; Ebrahim*et al.*, 2014; Manetti, 2014).

The participatory ownership implies that ownership rights and control power are assigned to all of the most relevant stakeholders. This structure increases the organizational efficiency by avoiding opportunistic behaviours, allowing to build social legitimacy, to strengthen the enterprise's social and cultural orientation, to improve public confidence and to guarantee that resources are employed in the stakeholders' interests (Costa et al., 2014).

Social cooperative enterprises (SCEs), which has grown almost 100% in the last decade, represent the most entrepreneurial, articulated and advanced example of social enterprises (Costa et al. 2014; Borzaga and Galera, 2012; Defourny and Nyssens, 2010). To date, in Italy, there are almost 12,319 social cooperatives. Law 381/1991 adopted by the Italian Parliament distinguishes between two types of social cooperatives: those providing social, health and educational services (identifiable in typology A), and those providing work integration for disadvantaged people and supplying other services, such as agricultural and commerce services, as well as general services (identifiable in typology B).

Social cooperatives must be able to operate in economic and financial balance and to effectively manage the available resources in order to survive in the long-term. Thus, they have to be capable to effectively and efficiently employ tangible and intangible resources. The social dimension concerns the strategic goals related to the corporate mission which are not easy to define and measure (Bagnoli and Megali, 2011; Ebrahim*et al.*, 2014). This dimension can be measured through the assessment of the social needs' satisfaction degree. The assessment of mission-based performance has to consider the organizational inputs (tangible and intangible) used to support activities or processes for the production of goods or supply of services (Ebrahim and Rangan, 2010).

In the knowledge-based economy, intellectual capital is considered an essential intangible resource for business success and it is seen as the primary source of sustainable competitive advantage for both for-profit and non-profit enterprises (Teece *et al.*, 1997; Choo and Bontis, 2002; Subramaniam and Youndt, 2005). In more detail, this competitive advantage allows to perform at a higher level than others in the same industry or market. Additionally, enterprises with an efficient and effective management of IC resources show better financial performance than other competitors (Bontis *et al.*, 2000). Intellectual capital produces multiple effects throughout the enterprise and guarantees real benefits, because knowledge-based resources tend to be valuable, rare and neither imitable nor substitutable (Nelson and Winter, 1982; Barney, 1991; Bolino et al., 2002; Kong and Ramia, 2010).

Intellectual capital (IC) is an important resource that SCEs need to develop in order to effectively implement corporate strategy, acquire and maintain a long-lasting competitive advantage and improve corporate performance (Martinson and Hosley, 1993; Lettieri et al., 2004; Murray and Carter, 2005; Hume C. and Hume M., 2008). Intellectual capital is the "glue" that links together external and internal inputs with activities, performance measurement and final outcomes.

According to Kong (2007, 2010), IC can be applied as a conceptual framework for effective strategic management for NPOs; particularly IC can play a strategic role for social cooperatives in order to achieve the mission or the raison d'être for which they have been established and to satisfy the general interest of local communities, persons or social groups, by operating commercial activities. Therefore, investing in IC becomes crucial for the strategic positioning of a NPOs (Kong and Prior, 2008; Kong and Ramia, 2010).

This work contributes to the IC literature in several ways. First, the purpose of this research is to identify the principal components of IC sub-dimensions (human, relational and structural capital) for Italian social cooperative enterprises. Second, the research aims to highlight the effect of IC sub-dimensions on the social and financial performance of SCE.

Additionally, it can be considered original for two reasons: the use of the survey method and the use of not for profit enterprises as research setting.

In fact, the study tries to answer the following research questions:

- which are the principal components of IC sub-dimensions for SCE?
- which elements of IC influence the financial performance of SCE?
- which components of IC affect the social performance of SCE?

The work is structured as follows: chapter one reviews the literature on NPOs and social cooperatives; in chapter two the link between SCE and IC have been developed and investigated; in the third section the performance measurement system of NPOs have been described; then in chapter four the research hypothesis and the methodology of the research are described, then chapter five presents the findings and finally, discussion and conclusions follow.

CHAPTER ONE

Role and characteristics of social cooperative enterprises within NPOs

1.1.Non-profit organizations (NPOs) in Italy

In the past 30 years, the non-profit sector (also called the "Third Sector") has expanded in size in terms of the, number of people involved and the, varieties of legal and societal types. This sector has become the most important key player in providing public and social services in most European and North American countries (Anheier et al., 2013; Defourny & Nyssens, 2010).

The emergence of non-profit organisations (NPOs) in both the United States and Europe increased in the late 1970s, when social needs could not be easily solved or completely satisfied by the Welfare State. In this context, the importance of NPOs emerged in both human and economic terms.

The non-profit sector comprises several organisational forms. These include social enterprises (SEs), non-governmental organisations, associations and cooperatives (Defourney and Nyssens, 2010) aiming at something other than profit maximisation.

According to the definition that Monzo'n-Campos and Chaves A'vila (2012) suggested to the European Economic and Social Committee, NPOs are "private, formally organised enterprises, with autonomy of decision and freedom of membership, created to meet their members' needs through the market by producing goods and providing services, insurance and finance, where decision-making and any distribution of profits or surpluses among the members are not directly linked to the capital or fees contributed by each member, each of whom has one vote, or at all events take place through democratic and participative decision-making processes".

Non-profit organisations in Europe provide more than 14.5 million paid employment (about 6.5% of the working population of the EU-27 Member States), with a higher rate of employment in some countries such as Sweden, Belgium, Italy, France and the Netherlands, where it ranges from 9% to 11.5% of the working population (Monzo'n-Campos and Chaves-A'vila, 2012). However, this is a conservative estimate because some European countries are still collecting information.

These organisations operate for social usefulness, solidarity purposes and without objectives of profit (Airoldi, 1995; Capaldo, 1995; Matacena; 1999). They are based on the absence of the distribution of profits, private legal form, the formal constitution of the organisation, self-government, the presence of voluntary jobs and the democratisation of the organisation (election of the charges and effective participation of the supporters).

In Italy, the number of NPOs has significantly increased in recent years, with a growth rate of 28% in Italy from 2001 to 2011 (International Co-operative Alliance, 2016). This increase can be primarily attributed to the growth in the number of paid workers (681,000), volunteers (approximately 4.7 million), external workers (270,000), temporary workers (5,000) and an expansion in the services provided (i.e., health care, education and social development).

The growth involves all Italian regions. However, the highest increase since 2001 has been registered in the centre (+32.8%) and in the north-west (+32.4%) of Italy, in accordance with the last available ISTAT census in 2011.

There are currently over 300,000 NPOs that produce 3.3% of Italy's GDP. According to Italian law, the Third Sector includes many organisations as follows:

- Non-governmental organisations (L. 49/1987),

- Voluntary service organisations (L. 266/1991),
- Social cooperatives (L. 381/1991),
- Banking former foundations (L. 461/1998),
- Associations of social promotion (L. 383/2000),
- Charities and public attendance institutions (L. 328/2000),
- Patronages (L. 152/2001) and
- Committees and non-banking private foundations (disciplined from the Civil code).

Among several type of NPOs, a great interest has developed across Europe, for social enterprises[1], thanks to a growing recognition of its role in tackling societal and environmental issues, ensuring and fostering inclusive growth.

In Italy, in order to promote the integration of social and economic aims in organizational business model, a legal category of social enterprise was introduced in 2005 in accordance to the Law no. 155/2006[2]. According to the Law, an organisation can be legally recognised as a social enterprise whether are complies the following criteria:

- it is a private legal entity;
- it involves a production and exchange processes of goods and services with social utility and in order to achieve social and public benefits, rather than maximize profit. An organization is considered a social enterprise if it generates at least 70 per cent of its income from entrepreneurial activities;
- profits cannot be distributed to its members or owners (non-distribution constraint) instead, the SE must invest the profits in furthering its main statutory (public and social benefits) goal, or in increasing its assets.

According to Travaglini (2009), social enterprises consider both social and economic aims in the decision-making process and factors such as stakeholder participation, accountability, and transparency are emphasized.

In addition, an SE needs to respect some ethic governance principles such as transparency, openness and participatory decision-making. These enterprises are defined as hybrid organisations because they are enterprises with a social mission, such as NPOs; however, they simultaneously produce income through commercial activities (such as for-profit organisations) to satisfy and pursue the social mission for which they have been established (Cafaggi and Iamiceli, 2008; Haigh and Hoffman, 2011). In hybrid organisations, the mission and the economic aims are integrated into the same strategy and the same value creation processes. All hybrid organisations generate social and economic value.

While for-profit enterprises usually base their business models on revenues generated through trading activity, SEs typically derive their revenues from a combination of market and non-

[1] According to the definition made by European Commission's SBI communication "A social enterprise is an operator in the social economy whose main objective is to have a social impact rather than make a profit for their owners or shareholders. It operates by providing goods and services for the market in an entrepreneurial and innovative fashion and uses its profits primarily to achieve social objectives. It is managed in an open and responsible manner and, in particular, involve employees, consumers and stakeholders affected by its commercial activities"

[2] Art. 1, para. 1, Law 24 March 2006, n° 155, states: «All private organisations, also including those of the Fifth Book of the Civil Code, which carry out a stable and main economic and organised activity with the aim of production or exchange of goods and services of social utility for the common interest, and which meet the requirements of articles 2, 3 and 4, can be considered as social enterprises».

market sources. The revenue streams come from public contracts, direct grants or subsidies, private sources, membership fees, donations, sponsorship and other forms of revenue, for example, income from renting assets (such as property) and non-monetary forms, such as in-kind donations.

The two entities that can be considered to be SEs in the Italian context are 'legally recognised SEs' and 'de-facto SEs'.

Table 1.1. presents an estimate of the number of organisations that fit within the boundaries of the operational definition of SEs. As illustrated below, legally recognised SEs do not represent the full spectrum of SEs in Italy.

Table 1.1: Estimated number of SEs in Italy (Istat, 2011; Wikinson *et al.*, 2014)

Spectrum of SEs	Organizations type	Estimate number
Legally recognised social enterprises	Social cooperatives	12,319
	Social enterprises ex lege	1,348
De facto social enterprises	Other businesses with the term 'social enterprise' in their business name (potentially in the process of registration as legally recognised social enterprises)	404
	Foundations	2,799
	Associations	10,252
	Cooperatives (excluding social cooperatives)	1,576
	For profit enterprises carrying out activities the sectors of social enterprises	8,545

Additionally, organisations that demonstrate the characteristics of SEs can also be found in associations, foundations, cooperatives and mainstream enterprises (de-facto European SEs that are often 'hidden' amongst existing legal forms). However, a social cooperative is the most commonly used legal form.

1.2.The essential characteristics of social enterprises (SEs) : the entrepreneurial, social and inclusive ownership-governance dimensions

The EMES Research Network identifies several criteria that are useful for describing an 'ideal type' of SE (Borzaga e Defounry, 2001; Costa et al., 2014). These criteria are as follows:

- a continuous commercial activity producing goods or services to satisfy social or societal objectives;
- a high degree of autonomy;
- a significant level of economic risk;
- a minimum number of paid workers;
- an initiative launched by a group of citizens with decision-making power that is not based on capital ownership;
- a participatory nature, which involves the persons affected by the activity; and

- limited profit distribution.

According to the EMES's definition of SEs, three dimensions determine whether an organisation may or may not qualify as an SE: the entrepreneurial, the social and the inclusive ownership-governance dimensions (Defourny and Nyssens, 2012). Additionally,

Beginning with the entrepreneurial dimension, SEs are production units that fully belong to the universe of enterprises, and they differ from NPOs, which typically rely on donations and public funds to pursue their institutional and social aims. This means that SEs are engaged in a process in order to create social and economic value, through continuous activity to produce goods and provide services (Travaglini, 2009). In fact, SEs run in a continuous way and principally as commercial businesses, in order to satisfy social objectives.

In contrast to non-profit initiatives, SEs engage in economic behavior to pursue their socially oriented missions. The economic and financial dimension is a means to an end.

Additionally, those who establish an SE totally or partly assume the risk inherent in the initiative. The social creation value is prioritised as important; however, it is strictly linked to the management of the enterprise to be economically and financially sustainable over time (Santos, 2012; Dees, 1998). Being financially responsible, economically sustainable and accountable are conditions that must be respected to accomplish the institutional mission (Travaglini, 2009; Costa et al., 2011).

Contrary to public institutions, the viability of SEs depends on the efforts of their members and workers to secure adequate resources. The activities are carried out through a specific mix of human and financial resources, and they may also combine tangible and intangible resources. Furthermore, social entrepreneurs explore all types of resources, from donations to commercial revenues.

With regard to the social dimension, pursuing social aims is the purpose of these mission-oriented organizations. Social enterprises are involved in the provision and production of goods and services that directly and positively affect the entire community or specific groups of people, and that promote a sense of social responsibility at the local level.

The definition of social objectives is clarified in the mission statement. The set of services delivered to satisfy social needs can comprise work integration, which is the training and integration of people with disabilities and unemployed people); social and healthcare services, including health, well-being and medical care, professional training, education, health services, childcare services, services for elderly people or aid for disadvantaged people; the local development of disadvantaged areas; and other activities, including recycling, environmental protection, sports, arts, culture or historical preservation (European Commission, 2013).

Social enterprises are characterized by their private nature, and they are autonomous associations of people who voluntarily cooperate for mutual, social, economic and working benefit. This collective dimension involves people belonging to a community or to a group that shares a well-defined need or aim, and it must be maintained over time.

Finally, SEs' inclusive ownership-governance dimension allows them to strengthen their social and cultural orientation. Participatory ownership implies that ownership rights and control power are assigned to all of the most relevant stakeholders, and it increases organizational efficiency by avoiding opportunistic behaviour, since the governance members share the same needs, aims, values or moral beliefs.

The non-profit distribution constraint is conceived as a mechanism for contributing to the firm's capitalisation. This implies that net earnings are reallocated for financing the general-interest activities that the organization carries out.

These constraints help to build legitimacy, improve public confidence and guarantee that resources are employed in the stakeholders' interests (Anheier, 2014). According to Vamstad (2012), the non-profit distribution constraint ensures the quality of the services delivered, attracts stakeholders with the social aims pursued by the SE, allocates efficiently tangible and intangible resources, and ensures social and economic wealth creation for the reference community.

1.3.Cooperative enterprises in the literature on economics and management

Between the end of 80s and the beginning of 90s, numerous studies were conducted to highlight the peculiarities of cooperatives with respect to for-profit organisations. More specifically, three tracks have been developed: classical studies, mutual-type studies and social and economic doctrine.

The classical perspective, which originated with the studies of Pantaleone (1964), affirms that cooperative enterprises are similar to for-profit organisations; both pursue economic and financial goals, but with a prominent difference. In fact, the economic and financial objective of for-profit organisations is to maximise profit, while the objectives of cooperatives are to reach a reasonable level of remuneration and to promote activities that are able to develop the well-being of humans.

In this context, cooperative enterprises are seen as means to promote human capital (HC) and the social, economic and political-national well-being. In the same stream of studies, Tessitore (1968) affirms that cooperatives are autonomous associations of people that employ economic and personal resources to satisfy common goals. The author specifically highlights that all the cooperatives' members assume the entrepreneurial function (as is the case in for-profit organisations), and even the organisational goals are linked to the satisfaction of organisational members (which is different from for-profit organisations, where the strategic goals are linked to the satisfaction of a limited number of stakeholders). Another difference is that for-profit organisations and cooperatives reinvest their profits, rather than maximise them, in their own development (Tessitore, 1968).

According to Vermiglio (1990), the main points that distinguish cooperative enterprises from for-profit organisations are the economic entity, the stakeholder interests and the equity capital. The economic entity is composed of individuals; each member has power and rights, and follows the principle of one member one vote. The stakeholder interests are divided into internal and external interests, and the first group of interests is broader in cooperatives than in for-profit organisations, given the institutional purposes. With regard to equity capital, cooperatives have more difficulties in obtaining economic and financial resources than for-profit enterprises.

The second stream of research refers to mutual-type studies, which affirm that the differences amongst cooperatives and for-profit organisations are based on different final organisational purposes and organisational autonomy. According to Fauquet (1948), these differences are expressed in two types of enterprises. The first is an enterprise for which the maximisation of profit and entrepreneurial benefits (through commercial activities) represent the

primary goals. For the other type of enterprise, the satisfaction of social needs represents the main strategic purpose.

In 1977, Marchini highlighted that the satisfaction of social needs must be correlated to economic and financial viability in order to guarantee the long-term, sustainable development of the cooperatives. The author distinguishes between two types of cooperatives: pure and spurious. Pure enterprises, on the one hand, are 'damno evitando', which means that these enterprises pursue expenditure savings (Manfredi, 1921), and there is no competitor market. In this market, there is no exchange of resources, given that the providers of these resources are the organisational members, and there is a continuous exchange between consumer and producer members. Spurious cooperatives, on the other hand, are 'damno evitando' and 'lucro captando'. The enterprises have market relationships with external partners, which are sources of economic and financial advantages (Marchini, 1977).

Finally, Matacena (1990) is the most important supporter of social and economic doctrine. The author affirms that the final purposes of cooperatives are related to the economic- and social-creation processes. The creation of social well-being is possible through corporate, economic and financial autonomy and long-term sustainability. The underpinning goal of social cooperatives is to pursue social well-being according to criteria of economic efficiency and effectiveness use of available resources (Travaglini, 2007; Matacena, 2017).

In this context, the innovative concept of social-cooperative enterprises (SCEs) emerges, which the International Co-operative Alliances define as "an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise".

1.4. Social cooperatives: the most entrepreneurial form of social enterprises (SEs)

1.4.1. The diffusion of social cooperative enterprises in the European context

Italy was a pioneer in introducing the legal frameworks for SE models with the adopted law in 1991, while other European countries followed later, as is displayed in table 1.2 (Costa et al., 2014; European Commission, 2013).

Two main approaches can be observed across Europe (Wilkinson *et al.*, 2014). Countries such as Italy, Spain and France have created new, legal forms for SEs by adapting the cooperative legal form. Additionally, Portugal, Poland, Hungary and Greece have recognised social cooperatives (or the social purpose of cooperatives) in their existing legislation covering cooperatives, while the UK has developed a legal 'community-interest company' that specifically adapts the company form to an SE.

In Europe, traditional cooperative forms have evolved into cooperative sociali (social cooperatives) in Italy, cooperativa de iniciativa social (cooperatives of social initiative) in Spain, Société Coopérative d'Intérêt Collectif (SCIC) (cooperatives of collective interest) in France, solidarity cooperatives in Portugal and social cooperatives in Poland, Hungary and Greece.

In France, for example, SCICs pursue social and economic purposes, and they are related to the production or the sale of products that offer a social benefit ('caractère d'utilité sociale').

The legal form of the Portuguese 'social solidarity cooperative' (cooperativa de solidariedade social) was created in 1997. This type of cooperative provides services with the aim

of fostering the integration of vulnerable groups. Portuguese social solidarity cooperatives combine the users of the services, the workers and the volunteers in their memberships.

Spain introduced the legal form of 'social initiative cooperatives' in 1999 (National Law 27/1999), following the examples of some other member states, such as Italy. The national law 27/1999 defines social-initiative cooperatives as "those cooperatives that being non-profit and independent, mainly engage in either the provision of welfare services in health, educational, cultural or other activities of social nature, or in the development of any economic activity whose object is the employment of persons suffering from any kind of social exclusion and, in general, they satisfy social needs not met by the market."

In Hungary, social cooperatives (under Act X of 2006 on cooperatives) provide employment opportunities for the long-term unemployed or disadvantaged groups in the labour market.

Social cooperatives in the Czech Republic pursue a wide range of social purposes, from sustainable development to the protection of the environment. However, these enterprises operate with a local focus, fulfilling local needs and using local resources.

The Greek law 4019/2011 has complemented the legal recognition of traditional SEs by introducing three different types of social cooperatives—*Kinoniki Sineteristiki Epihirisi (*'Koin.S.E.P')—categorised according to their purposes, such as the socio-economic inclusion, through work integration, of persons belonging to vulnerable groups of the population (Inclusion Koin.S.E.P); the production and supply of goods and the provision of services in the field of social care to specific groups of the population, such as the elderly, infants, children and people with disabilities or chronic illness (Social-Care Koin.S.E.P); and the production and supply of goods and the provision of services for the satisfaction of collective needs in areas regarding culture, environment, ecology, education, common-interest services, the maintenance of traditional trades and setting off local products (Koin.S.E.P of Collective and Productive Purpose).

There are several factors that are involved in carrying out the development of social cooperatives in the Italian Welfare services.

First, the development of these types of services is triggered by the substantial growth in demand from society to satisfy the needs of welfare services (Thomas, 2004; Galera and Borzaga, 2009). Since the 1970s, social cooperatives began to operate in large segments of social services, and they have become substitutes for the public administration that was unable to offer adequate solutions for a large part of the population (Borzaga and Santuari, 2001).

The second factor is the willingness of groups of people to provide an entrepreneurial response to the increase in social-assistance needs in the local community. This social cooperation arises from moral beliefs, ideals and values of solidarity from people who decide to commit themselves to the pursuit of common social and economic well-being (Borzaga and Santuari, 2001).

Finally, the growth of these enterprises was supported by favourable political and social contexts in terms of legislation, social capital and willingness to create an effective local welfare system (Borzaga and Santuari, 2001; Picciotti *et al*., 2014).

In the context of Italian NPOs, social cooperatives represent the most entrepreneurial, articulated and advanced example of SEs (Borzaga and Galera, 2012; Defourny and Nyssens, 2010). In fact, in accordance with the legislative decree n. 155/2006, these organisations belong to the overall SE category.

Table 1.2. : Legal form of European social enterprises adopted by country (Travaglini, 2009; Costa et al., 2014; European Commission, 2013).

Country	Legal forms used	Law/Year	Activities
Italy	Social cooperative	381/1991	Social services (A-type) and Work integration (B-type)
Spain	Social cooperative societies Labour integration Cooperative societies	National law 27/1999 and regional laws in 12 autonomous regions (1993-2003)	Assistance services in the fields of health, education, culture or any activity of social nature work integration
Portugal	Social solidarity cooperatives	Cooperative code (L. No. 51/96 of 7 September 1996) and Legislative Decree No. 7/98 of 15 January 1998	Work integration for vulnerable groups
France	General interest cooperative societies	Law of 17 July 2001	Production or provision of goods and services of collective interest
Poland	Social cooperative	Law and Social Cooperative 2006	Work integration of a wide category of disadvantage workers
Hungary	Social cooperative	Law 2006. X.	Create work opportunities and facilitate the improvement of other social needs of its disadvantage members
Greece	Social cooperative	Law 4019/30-9-2011 on "Social Economy and Social enterprises"	Engagement in three fields: work integration, social care and provision of services that satisfy collective needs and local development

Even the United Nations recognised the importance of the cooperative sector by declaring 2012 to be the International Year of Cooperatives (IYC), highlighting the strengths of the cooperative business model as an alternative entrepreneurial means of doing business while furthering socio-economic development. According to Borzaga and Galera (2012), it is also possible to recognise the increasing importance of the role of cooperatives during the economic crisis.

The authors emphasised the robustness of the cooperative model: "in most countries, cooperatives have responded more effectively to the crisis than investor-owned firms. The resilience of cooperatives has increasingly been acknowledged, and policy and opinion makers are eager to understand how cooperatives can play a role in tackling the dramatic consequences of the global crisis and reforming the system that has contributed to generating it".

Legally, social cooperatives were established under law 381/1991, and since that time, they have acquired a key role in addressing citizens' needs that were previously ignored and not satisfied because of the low level of commitment of the Welfare State (Defourny and Nyssens, 2008; Costa and Carini, 2016). Social cooperatives represent third sector managerial dimension (Travaglini, 2007).

According to law 381/1991, which the Italian Parliament adopted, social cooperatives "pursue the general interest of the community in promoting personal growth and in integrating people into society by providing social, welfare and educational services (A-type), and carrying out

different activities for the purposes of providing employment for disadvantaged people (B-type)".

It is possible to distinguish between two types of social cooperatives (Thomas, 2004): those providing caring activities (A-type), which include social, healthcare, educational and cultural services, and those providing training activities, such as work integration for disadvantaged people, and supplying other services, such as agricultural and commerce services, as well as general services (identifiable in typology B). These activities are developed in collaboration with State and local Government, especially by projects financed by them (Travaglini, 2007).

Additionally, for social cooperatives, registration is demanded in the registry of prefecture in the field of the activity in which they operate, and in the registry of prefecture for social cooperatives.

Over the past decade, social cooperatives have increased in number and have demonstrated the ability to create new employment even in times of crisis—more than the economy as a whole and more than other types of cooperatives (Euricse, 2013). They gradually became economic organisations of small to medium size, deeply integrated into the local environment in which they happen to develop.

At a national level, the highest number of active social cooperatives is registered in the northern regions (35.8%), while it is 27.7% in the South. At regional level specifically, the highest concentrations of social cooperatives are in Lombardy (14.6%), Sicily (12.5%), Latium (9.2%), Veneto (6.8%) and Emilia Romagna (5.9%).

Additionally, there are mainly type A cooperatives (60.2%) in the northern regions. In the South, there are nearly as many type A cooperatives as type B, while type B cooperatives are prevalent (60.3%) in the central regions (Carini *et al.*, 2012).

Between 2007 and 2011, the general trend in the Italian labour market has registered a decrease in the total number of workers occupied (-1.2%). This is in contrast to the number of workers employed by social cooperatives, which increased by 17.3% over the same period.

The 12,319 SCEs (in the latest ISTAT census 2011) employ 402,610 workers, of which 30,534 are disadvantaged workers. More specifically, social cooperatives belonging to typology A employ approximately 267,380 people, while those belonging to typology B employ about 73,845 individuals.

Additionally, in 2013, social cooperatives presented the following characteristics (Centro Studi Unioncamere and Si.Camere, 2014): a broader proportion of part-time personnel; mainly female employees (in 2013, 61% of part-time employees in social cooperatives were female, as compared to 47% in other enterprises); a greater orientation in hiring immigrant workers (20% in social cooperatives, as compared to 15% in other enterprises); a lower proportion of new hires under 30 years old (17% *versus* 30%); and an increasing need to employ staff with planning, managing and commercial skills (34% of new hires in SEs were highly skilled employees, as compared to 17% in all enterprises).

At the same time, the social-cooperatives sector had a turnover of 10.1 billion euros, and it had an invested capital of 8.3 billion euros (Euricse, 2013).

The activities that social cooperatives undertake include a wide range of services, such as socio-medical home care; educational activities and rehabilitation, social and cultural activities, childcare services, management of community housing and family homes, management of centres and residences, and training and mentoring for the employment of disadvantaged people.

1.4.2. Principles inspiring social cooperative enterprises

The International Co-operative Alliance[3] (ICA) set up the base for the development of fundamental values that guide the operational activities of cooperative enterprises. Those values include democracy in the organisational management based on the one-member-one-vote principle, and from this, participatory governance depends on the element of mutuality. The latter refers to the organisational attitude of satisfying social purposes by providing goods, services and revenues and to running these activities without profit objectives (Matacena, 2006; Marchini, 1977). Finally, the solidarity element is seen as the help that cooperatives offer to specific groups of individuals and to the reference community in order to create broad social and economic well-being.

Additionally, the operational activities of cooperative enterprises follow the principles of voluntary and open membership, democratic member control, member-economic participation, autonomy and independence, education, training and information, cooperation amongst cooperatives and concern for community (Matacena, 2017; Mazzotta and Sicoli, 2013).

The principle of voluntary and open membership implies that cooperatives are voluntary organisations of people who share the same values and goals. These people must accept the responsibilities of membership, without gender, social, racial, political or religious discrimination.

All members are active participants in the decision-making processes and in the planning and controlling processes. This dimension of open participation expresses the principle of democratic member control.

To satisfy the social needs expressed in the mission statement, an effective cooperative must respect the economic and financial viability (Matacena, 2017). The cooperative's primary scope is not to maximise profit, but to produce profit as a means to achieve successful organisational performance. The operating profit obtained by the organisational operations activities will be divided, in a limited size, to several members, and then, it will be invested in the development of new activities in the form of additional benefits for all the beneficiaries. This is the expression of the member-economic participation principle.

The principle of autonomy and independence refers to the opportunity for a cooperative to make agreements with the reference communities (such as public and private organisations, enterprises and financial institutions) and at the same time, maintain its autonomy.

One of the main purposes of cooperatives is to provide education, training and information to their members and the reference communities in order to promote the benefits of cooperation.

Finally, the principles of cooperation amongst cooperatives and concern for the community relate to sustainable development at the local, national and international levels of the society.

1.4.2. The essential characteristics of social cooperative enterprises

Social cooperatives operate in a highly competitive environment, which is characterised by increasing requests for social services from the community, growing competition with public and for-profit sectors, declining volunteer support and mostly, tighter government funding (Craig et al.,

[3] The International Co-operative Alliance (ICA) is a non-governmental co-operative federation or, more precisely, a co-operative union representing co-operatives and the co-operative movement worldwide. It was founded in 1895 to unite, represent and serve co-operatives worldwide. The Alliance provides a global voice and forum for knowledge, expertise and co-ordinated action for and about co-operatives.

2004; Flack and Ryan, 2005; Keating and Frumkin, 2003).

Social cooperatives are naturally, but not automatically, SEs. In fact, the legal status is subject to conditions such as recognition by the Chamber of Commerce, the engagement of members and stakeholders in the governance, and finally, the adoption of social reporting (Costa and Carini, 2016).

Several criteria are useful to describe the main characteristics of social cooperatives, which can be synthesises in the dimensions presented in table 1.3.

Table 1.3: Social cooperatives' main dimensions (adapted from Wilkinson *et al.*, 2014)

Dimension	Criterion	Social Cooperatives
Economic	Engagement in economic activity	Social cooperatives are enterprises engaged in economic activities (Articles 2511[4] and 2082[5] of the Italian Civil Code). The nature of the economic activity is closely connected to the social mission.
Social	Explicit and primary social aim	Strong focus on fulfilling social-utility and work-integration objectives. The realisation of the organisational mission is linked to the economic and financial viability.
Governance	Multi-stakeholder	The institutional setup considers the engagement of various stakeholders.
	Asset lock	Any surplus assets, minus the possibly accrued dividends for the members, must be allocated to mutual funds for promotion and cooperation development. Members can receive only what is owed to them in connection with dividend payments.
	Limits on profit distribution	Social cooperatives are allowed limited profit distribution. More specifically, the net income of social cooperatives can be distributed as follows: 20% must be mandatorily allocated to legal reserves, and at least 3% must go to mutual funds for the promotion and development of social cooperatives; profit can be optionally distributed to the free increase of share capital, to ordinary and financial members, and to extraordinary reserves or mutual funds.
	Organisational autonomy from the state and for-profits	Public or private legal entities with the statutory objective of financing and supporting social cooperatives may become members of social cooperatives (Article 11 of Law no. 381/1991).
	Inclusive governance—democratic decision making and/or participatory governance	A social cooperative must have general meetings, a board of directors and the supervisory body, or an external auditor. Every member has one vote in the general assembly, regardless of his contribution to the fixed capital, in conformity with the principle of democratic governance. However, there are some exceptions. Although the law does not oblige social cooperatives to be multi-stakeholder organisations, 70% of them involve diverse classes of stakeholders in their memberships, and one-third of them include workers, volunteers and other classes of stakeholders in the board of directors. Social cooperatives also tend to be involved in networks and collaborations with local institutions and the community.

Social cooperatives are characterised by their private nature. They are autonomous associations of people who voluntarily cooperate for mutual, social, economic and working

[4] The legal framework on the cooperatives in Italy is based on a Constitutional provision (article 45) and on Title VI of Civil Code (articles 2511-2548).

[5] Art. 2082, Civil Code, states: «The entrepreneur professionally carries out an economic and organized activity with the aim of production or exchange of goods and services».

benefits[6]. These enterprises may rely on public subsidies; however, they are not managed, directly or indirectly, by public authorities or other organisations. They have the right to manage, continue and terminate their activities autonomously. These businesses are owned and managed by partners, and their purpose is to satisfy the needs of people who have been ignored (or whose needs have been inadequately fulfilled) by the private or public sectors. Social cooperatives are enterprises engaged in economic activities to deliver goods and services of social utility and work integration in an entrepreneurial way (Matacena, 2017; Travaglini, 1997).

According to art. 2082 of the Italian Civil Code, their activity must therefore be productive, professional, economic and organised. The concepts of social utility and work integration consider activities regarding social utility sectors, such as welfare, health, education, instruction, culture and environmental protection[7]. Regarding the work integration of underprivileged or disabled people, the sector of activity is irrelevant, since the activity is carried out by employees, of whom at least 30% are disadvantage people.

Therefore, the main aim of SCEs is to create social value, boost cultural wealth, promote socio-economic development and stimulate social change (Matacena, 2017). Intangibles become a crucial lever for corporate performance and effectiveness (Onyeiwu, 2003; Kong, 2010).

Furthermore, they are mission-driven organisations. This means that most decisions and operational activities are based on the corporate mission, vision and strategic plan. The strategic goals are linked to the creation of social value for society, and the economic and financial viability is a means to accomplish the mission (Costa et al., 2016).

Furthermore, the role of HC in achieving the mission is crucial. In fact, SCEs are characterised by human-capital intensive processes. Employees, members and volunteers are directly involved in the production and in the provision of services. Strong, strategic, human-resource management practices are required to optimise the effectiveness and efficiency of the organisation (Mook, 2014; Travaglini, 1997; Matacena, 2017) and to guarantee the quality of the provided services. The supplied services and goods are tailored to meet the user needs, and they are characterised by high relational-capital (RC) content (Lettieri et al., 2004; Costa et al., 2011).

The governance and ownership structures consider the active involvement and engagement of all relevant stakeholders, such as users or beneficiaries, employees, volunteers and other partners. In fact, the investors are not the only ones who have ownership rights and control power. Through their commitment, all stakeholders are empowered and can ensure adequate quality in order to meet the existing needs (Borzaga and Galera, 2014; Matacena, 2017). Additionally, a high level of stakeholder cohesion empowers the local community, enhances social cohesion, fosters a more participatory democracy and allows for strategic decision making (Pestoff, 2008).

In addition, the decision-making power is not based on capital ownership but on the principle of one member one vote. SCEs adopt an open and participatory governance model in which members, workers, volunteer and donors have ownership rights and control power.

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[6] Cooperative is defined by the International Cooperative Alliance (ICA) as "an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise

[7] More precisely the sectors are: a) welfare; b) health; c) welfare-health; d) education, instruction and professional training; e) environmental and eco-system protection; f) development of cultural heritage; g) social tourism; h) academic and post academic education; i) research and delivery of cultural services; l) extra-curricular training; m) support to social enterprises.

Furthermore, the engagement of various stakeholders, and operating in a cooperative network with public and private institutions, attracts a mix of resources that are able to help with SEs' low capitalisation and difficulties in accessing the credit sector (Borzaga and Galera, 2014). The increase in available resources allows for improvements in efficiency and the provision for social-interest services.

Moreover, thanks to the interactions that they establish with other business sectors, private and public institutions, and other SEs or NPOs, they have the ability to transform and shape the social and economic system in which they operate to the entire community's advantage (Galera, 2009).

Additionally, these organisations require a broad consensus in terms of agreed values and high motivation of the human resources and reference community because a quality relationship and a reliable reputation are essential for the legitimacy of enterprises looking for external funding, volunteer support and public trust (Lettieri et al., 2004; Defourny and Nyssens, 2010).

The ownership structure of social cooperatives may simultaneously include several categories of associates, and the discipline of social cooperatives previews the existence of two of these categories: the members and the financial backer. Members are those who are interested in the mutuality of the relationship that was established with the cooperative to obtain a good or a service at a lower price so that one or other market benefits (Matacena, 2017; Lionzo, 2002; Agliata *et al.,* 2014). This category has limitations with regard to the following: the remuneration of equity; the prohibition of the distribution of the reserves during the life of the company; and the devolution, at the dissolution of the cooperative, of the resources that exceed equity capital to other relationships based on mutuality in order to promote the development of the cooperation.

Additionally, the members can be divided into ordinary and voluntary members.

First, ordinary members are those who carry out an activity for which they receive remuneration, and they are also equal to the employees. In this category, it is possible to identify the disadvantaged members, and their presence must represent at least 30% of the members (this is compulsory for B-type cooperatives). Second, volunteers are members whose working activities fall into the scope of solidarity; their numbers must be previewed in the statute of the cooperative, and they have the right to be reimbursed for the expenses they incur in relation to their working activities for the cooperative. This category may not constitute more than 50% of the total workforce.

While the financing members are legal entities or individual investors who bring money to the cooperatives with investment aims, these members are defined as suppliers of capital with limited rights to participate in the decision-making and governance of the organisation. Furthermore, legal entities, "eligible as members of social cooperatives, are public or private legal persons whose statutes provide for the funding and development of cooperative activities"(Lionzo, 2002).

Members can choose between two types of rewards: variable or fixed (Lionzo, 2002). The first, variable reward is related to the reward distribution to members based primarily on the operating results; in this way, they participate in the share of capital risk. The second reward is fixed, and it is based on a specific national employee contract.

Additionally, social cooperatives can benefit from fiscal incentives attached to the legal form, depending on their characteristics (Wilkinson *et al.*, 2014):

- social cooperatives are either exempt from the payment of corporate income tax, or

a reduced rate applies;

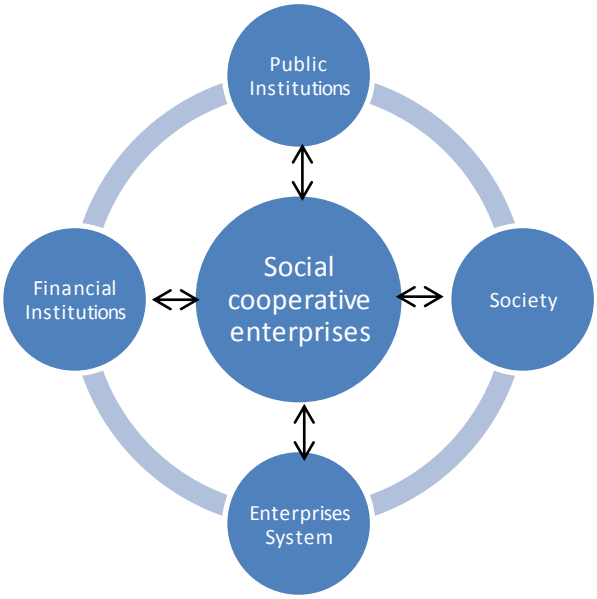
- social cooperatives that are defined as type-B are exempt from national insurance contributions for the disadvantaged workers that are employed;
- in social cooperatives, the status of preferred providers in local authority procurement is agreed with the European Commission, which allows local authorities to enter into direct agreements with type-B and type-A cooperatives for contracts up to €300,000 and €200,000 respectively;
- there are tax exemptions for private donations to social cooperatives, and these cooperatives can also benefit from a reduced value-added tax (VAT) rate for any health, social and educational services offered;
- the portion of surpluses that is allocated to the mandatory reserves is not taxed, and in some regions, there is the reduction or exemption of the regional tax;
- a reduction by one quarter of cadastre and mortgage tax.

According to the previous literature, the features distinguishing SCEs from other organisations originated from the configurations of their institutional structure (Lionzo, 2002). Specifically, these elements are represented by the structure of social cooperatives, the multiple interests involved in the business process, the remuneration system and the economic risk.

Social cooperatives operate in a political, social and economic environment in which value, a code of ethics, reciprocal trust and the personal characteristics associated with the stakeholder of an organisation help to establish cooperative interactions, social exchange, commitment and responsibility for shared purposes.

The 'way of being' of social cooperatives depends, directly or indirectly, on the reference community, as highlighted in figure 1.4.

Figure 1.4. : The social cooperatives environment (Adapted from Lionzo, 2002).



Public and financial institutions, the enterprise's system and the society all represent the interest of the community. All of these involved stakeholders contribute to the promotion of the

development of SCEs (Lionzo, 2002; Matacena, 2017). The potential developments of SCEs mainly depend on the political, social and economic systems.

The structure of the reference community; the quality and strength of the ties between partners within the network; the intensity of the shared goals and values amongst partners; and the collaboration between organisations, communities and public and private institutions are the base of the development of intellectual capital (IC).

CHAPTER TWO

Intellectual capital: a focus on NPOs

2.1. Intellectual capital (IC) : a brief background on the literature

2.1.1. The origins of IC in the literature on economics and management

From an economic point of view, Adam Smith (1776) set up the foundation for a solid platform for the analysis of IC, starting with the concept of human capital. According to Smith the production factors (inputs) were divided into: land (such as natural resources), labour (successively called human efforts or human capital) and capital stocks (machinery, tools, buildings etc.). Smith's classification included under capital stock factors such as machines and instruments of trade, profitable buildings, improvement of lands and especially "the acquired and useful abilities of all the inhabitants or members of the society. The acquisition of such talents, by the maintenance of the acquirer during his education, study, or apprenticeship, always costs a real expense, which is a capital fixed and realized, as it were, in his person. Those talents, as they make a part of his fortune, so do they likewise of that of the society to which he belongs. The improved dexterity of a workman may be considered in the same light as a machine or instrument of trade which facilitates and abridges labour, and which, though it costs a certain expense, repays that expense with a profit." (Smith, 1776). The author of 'In the Wealth of Nations' underlined the key role of workers' and employees' knowledge and skills regarding the effectiveness of a production process and the quality of its output. In fact, he noticed that the productivity of skilled workers was higher than that of unskilled ones, and he recognised how education and workers' skills can increase the well-being of a state and the success of an enterprise. Economics needed almost two centuries before to return to Smith's remark that investments in people's knowledge and skills leads to profits and enrichments of a nation.

Adam Smith was the first classical economist to recognise the importance of human capital as a source of social and economic growth and Smith's study forms the basis of human capital theories and the developing point for the formulation of an IC framework.

In the mid-1970s, Kendrick[8] also recognised that the accumulation of physical capital, by itself, could not explain the performance or the growth of a country or an industry. In fact, many other 'residual factors', such as investment in social care and health-care, education and skills, and research and development; and the acquisition and transmission of knowledge assets, could affect the growth, development and productivity of a nations or a company.

From a managerial perspective, the value of human resources, in terms of skills, competencies and personal value, represents a vital source of corporate performance. Therefore, people simultaneously become the necessary condition for the corporate's existence and the final purpose of the realisation of business activities (Zappa, 1927).

[8] Kendrick J.K., "The treatment of intangible resources as capital", The Review of income and wealth, n.1, 1972; Id., "The accounting treatment of human investment and capital", The Review of income and wealth, n.4, 1974; Id., The foundation and stock of total capital, NY, 1976.

Human beings are no longer considered to be "machines" or means of production but rather highly skilled resources who must be valorised and satisfied in order to increase their value and the organisation's wealth (Kendrick, 1956). In fact, human willingness always underpins growth in terms of technological, innovation and organisational development. Human capital is the value driver of both economic and social-creation processes (Ciambotti, 2015).

The Department of Economic Affairs of the United Nations (1953)[9] defines investments in HC as direct investments that are able to increase the productivity of the human workforce. It also highlights how the wealth of a state depends on investments in tangible capital, especially in education, training activities, knowledge processes and other intangible factors that can positively affect productivity (Vittadini, 2004).

The concept of HC has become one of the main investment areas for the development of knowledge economy, and it represents the starting point for the formulation of IC involving RC, structural capital (SC) and HC.

The important contribution of immaterial resources to corporate success and value creation was also recognised by Thorstein Veblen in 1904, when he wrote that "the substantial foundation of the industrial corporation is its immaterial assets". The author provided an avant-garde illustration of intangible resources, such as the source of organisational sustainability and competitive advantage, as important productivity factors.

In 1969, John Kenneth Galbraith first used the term "intellectual capital" in a letter to the economist Michael Kalecki (Feiwel, 1975; Stewart, 1991; Bontis 1998). The letter stated the following: "wonder if you realise how much those of us in the world around have owed the IC you have provided over these past decades". Intellectual capital began to be recognised as an asset with a decisive impact on the generation of wealth and on economic growth.

Since the beginning of the 1990s, IC has undergone a remarkable development.

Thanks to Tom Stewart publishing the article 'Brain Power—How Intellectual Capital Is Becoming America's Most Valuable Asset[10]' in 1991, the concept of IC became known worldwide. The author pointed out how knowledge comprising "patents, processes, management skills, technologies, information about customers and suppliers, and old-fashioned experience" was the most valuable asset for every company. This quote is even more important now, when the conditions under which organisations operate in the marketplace have changed through knowledge, intangible assets and advanced technologies (Meritum, 2002), and they have become fundamental strategic issues.

The sum of all of these components that are identifiable as IC are the source of value and competitive advantage on which every organisation depends.

Since then, a wide range of studies have focused on the field of IC, which is also known as intangible assets. Therefore, there is no generally accepted definition of IC.

Table 2.1 presents some of the literature that has proliferated over time, with different terms to describe the meaning of IC and its synonyms. This timeline is a simplification of the rich development process (Kaufmann and Schneider, 2004; Tan et al., 2008). Although the labels utilised are different, the content of the categories is more or less similar (Bontis, 2001).

[9] United Nations, Departments of Economics Affair, "Concept and Definitions of Capital Formation", Studies in Methods, series F, N.3, 1953.

[10] Stewart, T. A. (1991). Brain Power: How Intellectual Capital Is Becoming America's Most Valuable Asset. Fortune 247, 44-60.

Table 2.1 : Use of terms and definitions of intellectual capital (Kaufmann and Schneider, 2004; Tan et al., 2008).

Year	Authors	Title	Term/Concept	Meaning
1991	Itami	Mobilizing invisible assets	Intangible assets/Invisible assets	Intangible assets are invisible assets that include a wide range of activities such as technology, consumer trust, brand image, corporate culture and management skills.
1992	Hall	The strategic analysis of intangible resources	Intangible assets	Intangible assets are value drivers that transform productive resources into value-added assets.
1996	Brooking	Intellectual capital	Intellectual capital	Intellectual capital is divided into market assets, human-centered assets, intellectual property assets and infrastructure assets.
1997	Edvinsson and Malone	Intellectual Capital: Realizing Your Company\'s True Value by Finding Its Hidden Brainpower	Intellectual capital and intangible assets	Intangible assets are those that have no physical existence but are still of value to company
1997	Sveiby	The new organizational wealth: Managing & measuring knowledge-based assets	Immaterial values	Intangible assets are divided into internal structure, external structure and human competence
1998	Nahapiet and Ghoshal	Social capital, intellectual capital, and the organizational advantage	Intellectual capital	Intellectual capital is a mix between knowledge and knowing capability of a social collectivity
1998	Stewart	Intellectual capital: The new wealth of organizations	Intellectual capital	Intellectual capital is collective brain power made of knowledge, information, experience, intellectual property, able to create wealth for an organization
1998	Bontis	Intellectual capital: an exploratory study that develops measures and models	Intellectual capital	Intellectual capital can be categorized into human, organizational and customer capital.
1999	Granstand	The economics and management of intellectual property	Intellectual property	Intellectual property is related to the creativity, knowledge and the identify of an individual
2000	Brennan and Connel	Intellectual capital: current issues and policy implications	Intellectual capital	Intellectual capital is knowledge-based equity of a company
2000	Harrison and Sullivan	Profiting from intellectual capital: learning from leading companies	Intellectual capital	Intellectual capital is knowledge that can be converted into profit
2001	Heisig *et al.*	Intellectual capital	Intellectual capital	Intellectual capital is invisible but valuable
2001	Lev	Intangibles: management, measurement, and reporting	Intangibles	Intangible assets is a source of future benefits but without physical embodiment.
2001	Gu and Lev	Intangible assets: measurement, drivers, usefulness	Intangibles	Intangible assets are defined by value drivers such as product or services, customer relations, human resources and organizational capital
2002	Choo and	The strategic	Intellectual	The stock of knowledge and

	Bontis	management of intellectual capital and organizational knowledge	capital	capabilities is defined as "the organization's intellectual capital"
2003	Pablos	Intellectual capital reporting in Spain: a comparative view	Intellectual capital	A broad definition of intellectual capital states that it is the difference between the company's market value and its book value. Knowledge based resources that contribute to the sustained competitive advantage of the firm from intellectual capital.
2004	Mouritsen *et al.*	Reporting on intellectual capital: why, what and how?	Intangible assets	Intellectual capital is composed by human capital and structural (organizational and customer) capital.
2004	Marr and Chatzkel	Intellectual capital at the crossroads: managing, measuring, and reporting of IC	Intellectual capital	It seems that awareness of the importance of IC has been created. It is now the role of researchers as well as practitioners to move to the next level. This next level involves issues around taxonomies as well as research methodologies.

Itami (1991) provided a significant contribution to the field from an accounting perspective by saying that "intangible assets are invisible assets that include a wide range of activities such as technology, consumer trust, brand image, corporate culture and management skills". In particular, he emphasised the role of invisible assets as a means to successfully achieve corporate goals.

The accounting angles successively evolved into new methods of reporting that enable one to measure and report items of IC alongside traditional, quantifiable, financial data.

From a strategic perspective, Hall (1992) was the pioneer in defining intangible assets as intellectual property and knowledge assets. Intellectual property includes trademarks, patents, copyrights, registered designs and networks, while knowledge assets comprise know-how, skills and organisational culture. The author highlights the contribution of intangible assets, in terms of value added, to organisational performance. Intellectual capital is used to create and use knowledge to enhance firm value.

Brooking (1996) recognised the importance of dividing IC into market, human, intellectual property and infrastructure components. These assets contribute to the value-creation processes and help the organisations to achieve their ends.

Edvinsson and Malone (1997) identified the key features, measures and management approaches related to IC. According to the authors, IC takes three forms: HC ("the capabilities of the company's employees necessary to provide solutions to customers, to innovate and to renew"), SC ("includes the quality and reach of information technology systems, company images, databases, organisational concepts and documentation") and customer capital, such as the external and internal interaction of the company's employees.

This new accounting taxonomy attempts to identify the hidden market value of a company, and it provides an organisation with a competitive advantage.

In 1997, Erik Sveiby stated that the real assets of a knowledge organisation are mostly intangible and related to external and internal structures as well as human competence. Managing knowledge and its intangible assets creates new sources of competitive advantage. An organisation creates value from what it captures during the processes of knowledge creation; this process is

unique and firm-specific, and it depends on an organisation's learning and experiences.

Similarly, several authors (Nahapiet and Ghoshal, 1998; Stewart, 1998; Bontis, 1998; Granstand, 1999; Brennan and Connel, 2000; Harrison and Sullivan, 2000; Heisig et al., 2001; Lev, 2001; Gu and Lev, 2001; Choo and Bontis, 2002; Pablos, 2003; Mouritsen et al., 2004) emphasise the pivotal role of IC and its effective management in organisations, particularly knowledge-based organisations, for ensuring their long-term, sustainable development. Knowledge possesses IC attributes that contribute to the value-generating processes of the company and the concept of IC is closely related to the creation, sharing and management of knowledge within companies (Mouritsen et al., 2005; Guthrie et al. 2012).

More specifically, the IC area has evolved over the past two decades in three distinct stages (Dumay, 2009; Demartini, Paoloni , 2013; Chiucchi et al., 2016), as shown in table 2.2.

Table 2.2: Intellectual capital evolution (Author's elaboration).

First phase	• **What IC is?** • In order to create awareness on the strategic relevance of IC in creating and managing competitive advtage.
Second phase	• **What IC does?** • In order to gather information about the impact of IC on the corporate performance and value-creation processes.
Third phase	• **How is IC in practice?** • In order to highlight the use of IC measurement with regard to different social and economic context.

The first stage, in the early 1990s, developed awareness regarding the components of IC as a driver in creating a sustainable competitive advantage in terms of corporate market value (Dumay, 2009). The second stage, at the beginning of the 2000s is characterised by deeper research on the implications of managing IC and its external and internal disclosure. In this phase, several methods were developed to gather information about the impact of IC on the corporate performance and value-creation processes of for-profit organisations. However, case and empirical evidence were inconclusive and could not find a solid, scientific consensus (Dumay and Garanina, 2013).

The third stage highlights the need to move the research question from "What is IC?" to "How is IC?" in the different industry sectors in which it is utilised (Veltri and Bronzetti, 2015; Dumay and Garanina, 2013). The question deals with how IC can be applied in practice according to the economic and social issues.

According to Secundo *et al.* (2016), this phase relates to the evolution of IC boundaries around a new perspective on value-creation processes that include environment and social value.

In this new ecosystem, there is a call to create new methods to measure the value created in these fields (Käpylä et al., 2012; Bardy and Massaro, 2013; Wasiluk, 2013).

There is a need to increase the utilisation of rigorous statistical analyses in order to develop specific studies that do not translate methods and theories that are already indistinctly utilised across the fields of research, but that take into account the reference- and context-specific nature, in terms of the characteristics and the activities of the organisation, the management philosophy and the value creation mechanism of its business sector (profit and non-profit).

2.1.2. Categories of intellectual capital

As stated earlier, the definition of intangibles is equivalent to the concept of IC. Both are applied to non-physical sources that may or may not appear in corporate financial reports or balance sheets.

According to Lev (2000), the terms intangible assets, knowledge assets and IC are interchangeable and "widely used: intangible assets in accounting literature, knowledge assets by economists, IC in management and law literature; and on the whole, they come to the same: to the future benefits that are not embodied materially" (Lev, 2000). However, when the term 'asset' is associated with 'intangible' and defines the set of intangibles or elements of IC that are susceptible to being recognised as assets in accordance with the current accounting model.

Intangible assets can be divided into 'hard' intangibles and 'soft' intangibles. The first type is tractable in the marketplace, and the second type cannot be sold or negotiated.

Intangible assets are presented in balance sheets[11], with a great focus on the information disclosed in the footnotes. The financial statements have an incomplete picture of the intangibles of the organisations. In fact, they only disclose the intangible investments that fulfil the accounting criteria for recognition as assets (Meritum, 2002).

As a result, the concept of IC (embracing all types of intangibles—either formally owned or used, or informally deployed and mobilised) will be the focus of this research.

Intellectual capital is a driver of long-term competitive differentiation and advantage. However, it can also be considered an intangible liability that could have a negative impact on the organisational business (for example, bad reputation, lack of quality management and leadership, and barriers to knowledge transfer).

Intellectual capital is divided into internal and external assets. Internal assets involve competencies, skills, leadership, routines, procedures, databases and know-how, while external assets are image, brands, stakeholder alliances, and customer and employee satisfaction. These resources are linked to several forms of knowledge in and around the organisation (OECD, 2013).

These intangible resources are dynamically interrelated and they allow the organisation to transform a set of tangible, financial and human resources into a system that is able to pursue sustainable value creation (Zambon, 2004; WICI 2016). The value-creation process of an organisation is the result of the dynamic interaction between tangible and intangible resources.

Numerous researchers and practitioners have attempted to categorise intangibles (Sveiby, 1997; Brooking, 1997; Edvinsson and Malone, 1997; Stewart, 1998; Petty and Gutrie, 2000; Lev, 2001; Pablos, 2003; Marr and Chatzel, 2004). Sveiby (1997) classified intangibles into three categories: employee (individual) competencies, which include skills, education, experience, values,

[11] While FASB (2001), through its SFAS n.142, has established the obligation to disseminate information on R&D expenses that are imputed to earnings, there are still many intangible investments that do not satisfy the accounting criteria for recognition and therefore do not appear clearly identified in the financial statements.

social skills and the capacity of the human resource to act in various situations; internal structure, which refers to what the organisation 'owns' in terms of patents, concepts, models, and computer and administrative systems; and external structure, such as the relationships with stakeholders, the brand names, the trademarks and reputation. Compared to Sveiby, Brooking (1997) added a fourth category named intellectual property assets.

According to Edvinsson and Malone (1997), IC is "the possession of knowledge, applied experience, organisational technology, customer relationships and professional skills that provide [...] a competitive edge in the market", and it is divided into human, organisational and customer capital.

Pablos (2003) adopted the same classification, but termed 'customer capital' as 'relational capital'. Even Stewart (1998) accepted the classification of Edvinsson and Malone (1997), while Petty and Guthrie (2000) used only two of the three categories of IC (human and organisational/structural capital).

Lev (2001) stated that IC consists of innovation, human resources and organisational practices. Marr and Chatzel (2004) found that researchers often classify intangibles into HC (employees' skills, experience and knowledge), information capital (database and computer systems) and organisational capital (leadership, organisational culture and teamwork).

According to the various definitions, it is possible to say that the stock of knowledge and capabilities is defined as "the organisation's intellectual capital" (Choo and Bontis, 2002). Intellectual capital is typically categorised into three main components. These are HC, RC and SC, and they are the intangibles that most crucially influence the value of an organisation (Nahapiet and Ghoshal, 1998; Bontis, 2001; Mouritsen et al. 2003; Youndt and Snell, 2004; Dumay, 2014; WICI, 2016).

The term HC is broadly recognised by social, economic and management researchers, and it is "generally understood to consist of the individual's capabilities, and the knowledge, skills and experience of the company's employees and managers, as they are relevant to the task at hand, as well as the capacity to add to this reservoir of knowledge, skills, and experience through individual learning" (Dess and Picken, 2000).

Human capital refers to the capital that is created through the knowledge embedded in the minds of the employees of an organisation (Bontis, 1999; Bontis et al., 2002; Guerrero, 2003) and through their intellectual competencies, attitudes, agility, skills, experiences, ethics and behaviours. Additionally, HC is a source of innovation and strategic renewal, and it is the profit lever of a knowledge-driven economy (Bontis, 1999; Webster, 2000; Guerrero, 2003). Human capital can facilitate the creation of different forms of well-being: it is the engine of economic activity and competitiveness, and it is a creator of wealth for companies (Russ, 2014).

In fact, according to Stiglitz et al. (2011), "the concept of human capital enters contemporary debates in a variety of forms: as a driver of economic growth and innovation; as an investment to secure greater access to jobs, higher income and lower poverty; and as one of the assets that should be preserved and developed—on par with natural capital and other types of resources—to secure sustainable development".

Structural capital includes the non-human storehouses of knowledge embedded in routines, electronic databases, repositories and structures that support employee work. It includes systems that are able to empower and leverage the capabilities of the organisation, such as key executive processes, organisational culture, leadership and management styles (Ordóñez de Pablos, 2003;

Grasenick and Low, 2004). Structural capital allows knowledge within the enterprise to be captured and shared across all levels within the organisation (Chiucchi, 2002), and it is the supportive infrastructure for human resources (Benevene and Cortini, 2010) in terms of organisational culture, organisational processes and systems of information.

Finally, RC represents the knowledge embedded in formal and informal relationships that organisations establish with external and internal stakeholders (Bontis, 1998; Fletcher et al., 2003; Grasenick and Low, 2004). This includes engagement, dialogue, partnership and community development amongst suppliers, customers, and other related firms within the value chain. Relational capital is based on common values and behaviours, and it is built on key relationships where trust, loyalty and willingness play strategic roles in the quality of the relationships established with the reference community. These intangible resources influence the mechanism of value creation, and they have a positive impact on several dimensions of corporate performance (Knight, 1999; Bontis et al., 2000; Chen et al., 2005; Cheng et al., 2010).

The three IC sub-components are interrelated (Subramaniam and Youndt, 2005).

Structural capital interacts with HC and RC through organisational culture because it provides the basis for the organisations' management and defines the organisation's field of intervention (Lynn, 2003).

Human capital depends on developing, maintaining and nurturing high-quality relationships with customers, suppliers, employees, public and private institutions, other stakeholders and, sometimes even competitors.

Human capital and RC are strictly linked because the people within and without the organisation shape the network of the business.

In recent years, several authors (Inkinen, 2015; Kianto et al., 2010; Maditinos et al., 2010), have highlighted one criticism of the three-dimensional model of IC, stating that separation of the IC dimensions would allow for a more accurate representation of the phenomena. The expansions to the classic three-dimensional IC categorisation include:

- internal and external capital,
- renewable capital,
- entrepreneurial capital, and
- trust capital.

First, RC is divided into internal and external components, referring to the relationships with intra- and extra-organisational stakeholders.

Second, renewable capital refers to the organisation's ability to renew its processes through knowledge-based activities such as learning and creativity (Kianto *et al.*, 2010). This capital is also called innovation capital (Chen et al., 2004), and it represents the capacity of the organisation to create, develop, share and transfer knowledge (Maditinos *et al.*, 2010) in terms of the development of new products, services and skills. However, renewable capital should be studied separately from SC because the first assesses renewal through learning and knowledge creation, while SC or organisational capital involves strategies, databases, information systems, processes, routines and other structural arrangements (Inkinen, 2015).

Entrepreneurial capital is related to entrepreneurial behaviour in terms of the value, ethics codes, reciprocal trust and personal characteristics associated with entrepreneurs and exerted by the members of the organisation. This capital comprises the following: the firm's pro-activeness in picking up signals from the market to land new opportunities, the acceptance of the risk-taking

ability and the capacity to gain competitive advantages through improved cohesion, loyalty, shared values and trust amongst the employees of the organisation (Cesaroni *et al.*, 2015; Inkinen *et al.*, 2017).

Trust capital is the main source of efficiency and effectiveness in a network. It stems from the same previously mentioned factors on which the development of IC is based, namely, the quality and strength of the ties between partners, their shared goals and values, and the collaboration between them, and it assumes a strategic role in the intangible socio-cultural aspect of organisations.

This capital has some interconnections with the three-dimensional IC concept. First, trust is an essential part of the organisational climate and culture, and it is strongly related to both SC and RC. Second, trust is embedded in an organisation's relationships and members, which makes it an attribute of RC (Nahapiet and Ghoshal, 1998). Trust capital is also the base for the development of social capital.

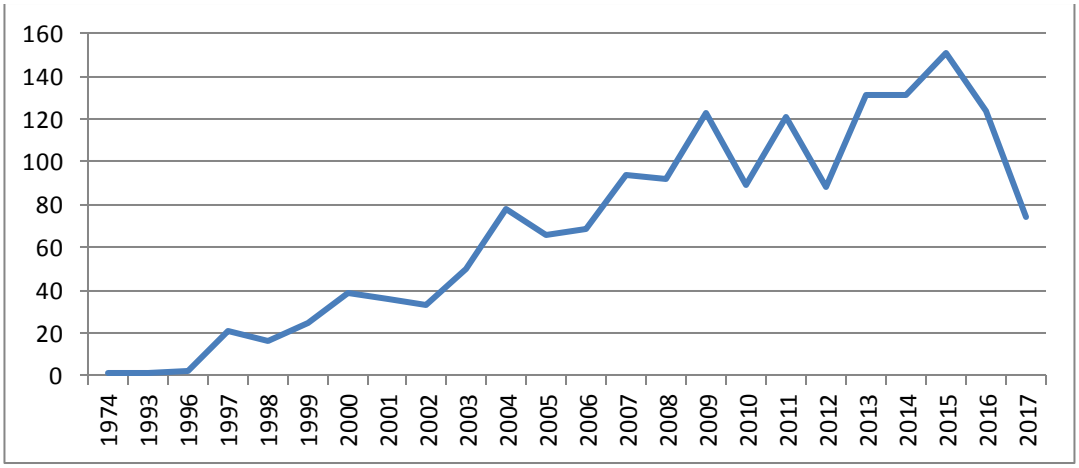
The concept of IC is dynamic (Grojer, 2001; Anskaitis & Bareisis, 2005) and researchers continuously add new components to the IC categories, but as is argued by Edvinsonn and Malone (1997) and Sveiby (1997) is not possible provide a full and comprehensive list of a company's intangible assets.

In fact, the IC sub-components are different based on the sector, industry, typology, size of the firm etc. In other words, IC is a firm- specific issue (Kianto, 2010; Inkinen *et al*, 2017).

2.2. Intellectual capital in NPOs : a brief literature descriptive review

In the business and management literature, the interest on intellectual capital, has begun to grown during the time frame 1974-2017, as show table 2.3.

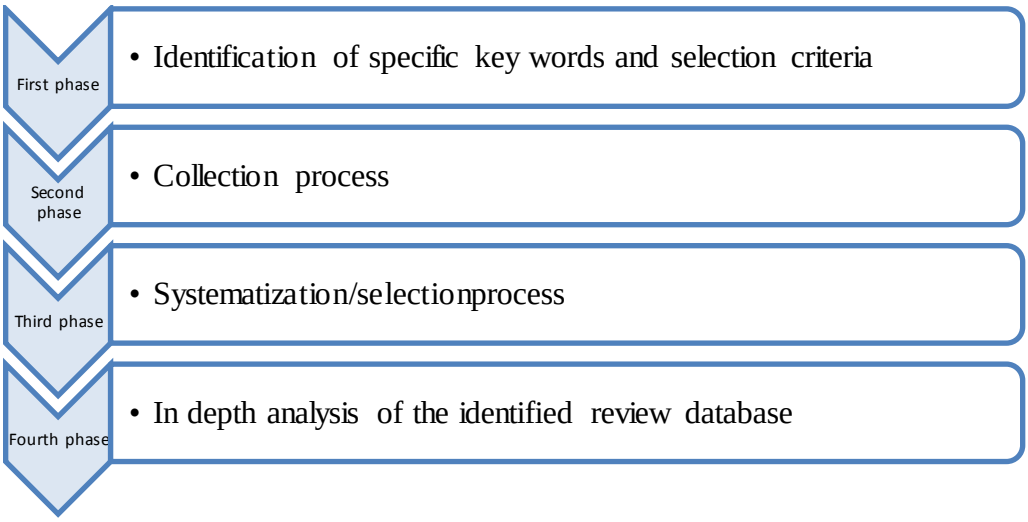
Table 2.3 : Trend of IC articles per year



In the business and management literature, there is a lack of studies regarding intellectual capital and its key performance indicators (KPIs) in the non-profit sector. In fact, not many studies has been developed on the organizational representation of HC, SC and RC among NPOs.

In order to outline the evolution of the business and management literature devoted to the intellectual capital in NPOs, the present dissertation adopts a process of literature review structured in the following phases (Tranfield et al., 2003; Marr *et al.*, 2003): collection, systematization/selection and an in-depth analysis of the identified review database (table 2.4)

Table 2.4 : Literature search process (Tranfield et al., 2003; Marr et al., 2003).



To this purpose, the following paragraphs aims to individualize the gap in the literature about the role of IC into NPOs and to map the main value drivers of intellectual capital (i.e. human, relational and structural capital) which can affect the value creation process by social cooperatives, through some KPIs.

In order to outline the literature devoted to IC in NPOs, through the identification of specific keywords and terms, the most appropriate search strings have been identified ("intellectual capital" and "Non-profit organizations"), and then employed in a subsequent systematic research.

The scientific database selected for the review is Scopus, which have allowed to filter the results for subject area (Business, management and accounting),document type (Article) and time frame (1997-2017), as show in table 2.5.

Table 2.5: Literature review's selection criteria

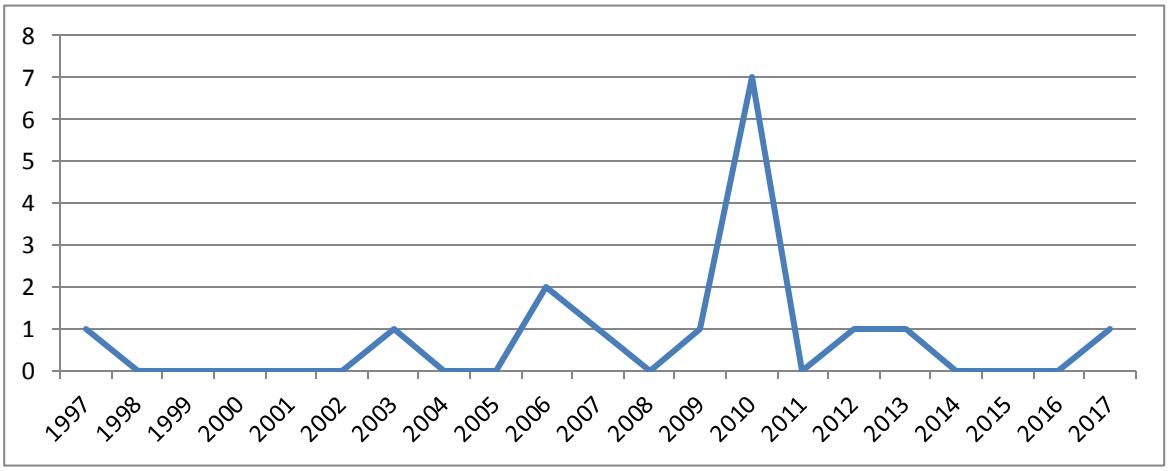
Selection Criteria	
Key Word	"Intellectual capital" and "Non-profit organizations" (in Title, Abstract, Key words)
Document type	Article
Subject area	Business, Management and accounting
Time frame	1997-2017
Data base	Scopus

Starting from this panel, the abstract or full text (when needed) of the identified papers have been read in order to select the articles specifically focused on the intellectual capital in NPOs topic. In this phase, the papers that do not deal with the analysed theme were deleted.

Through the application of the selection criteria, the literature search identified 17 articles and it emerges that the research regarding IC into NPOs has begun to grow during the time frame 1997-2017.

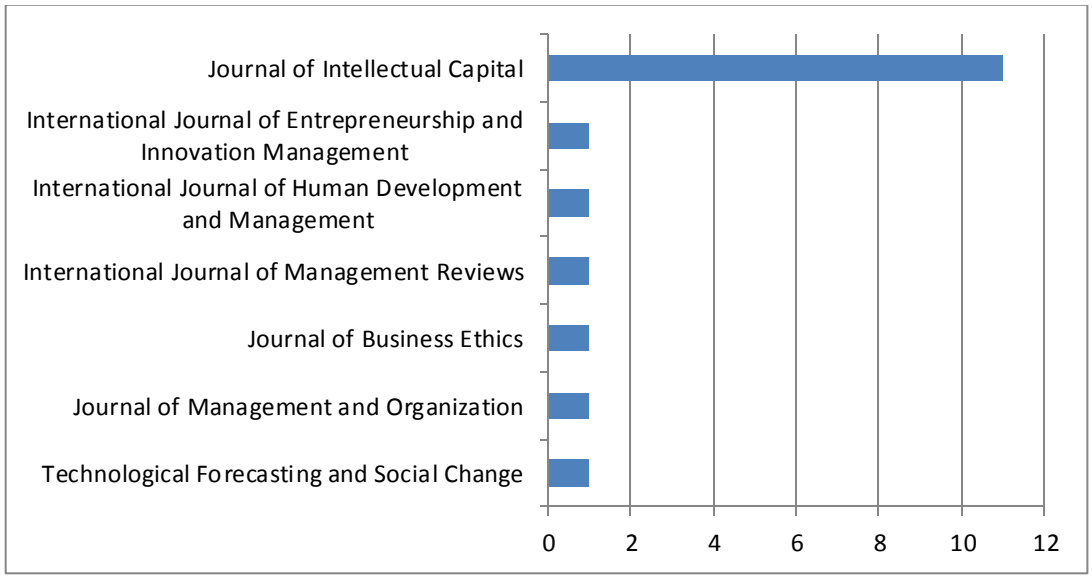
The following figure (figure 2.1) shows the papers' frequency per years for the articles found in the Scopus database with the "intellectual capital" and "Non-profit organizations" search strings.

Figure 2.1: Articles on IC in NPOs per year



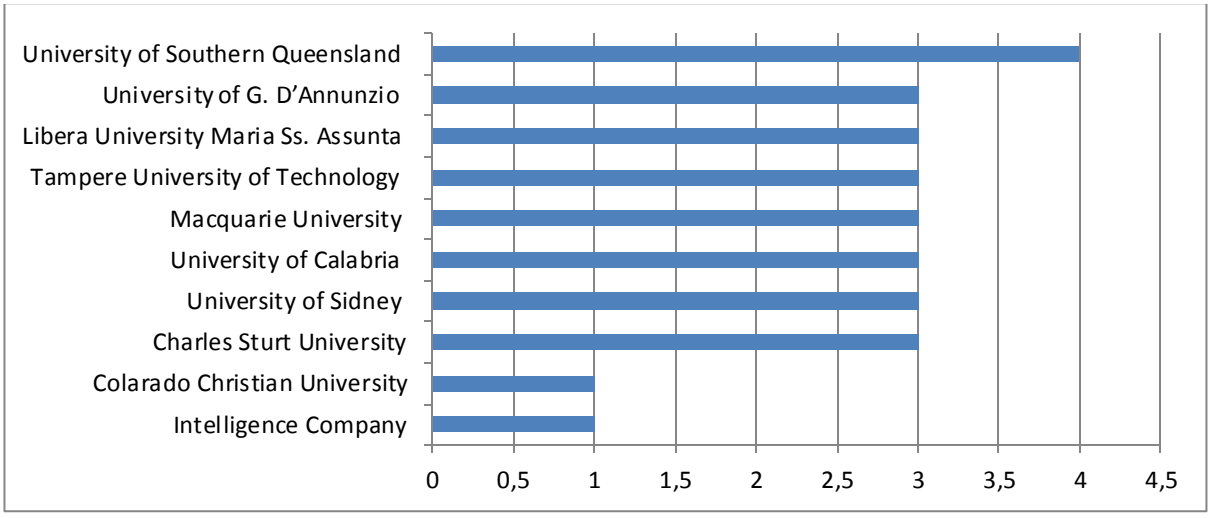
The descriptive analysis allowed to identify the journals that have published the largest number of articles on intellectual capital into non-profit organizations. In particular, Journal of intellectual capital has the major number of published researches on the topic (11 articles), as shows figure 2.2.

Figure 2.2: Most recurring Journal analysis on IC in NPOs



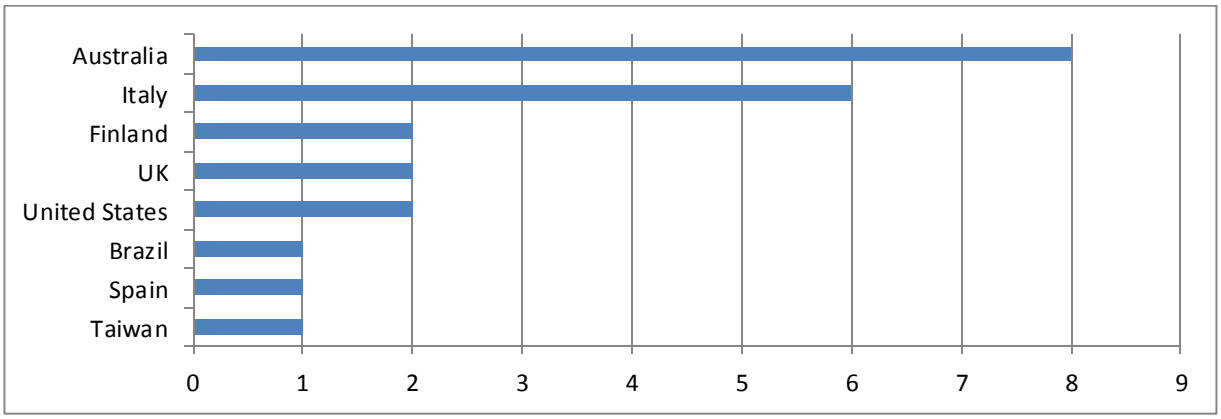
Focusing on the authors, the University of Southern Queensland (4), the University of G. D'Annunzio Chieti and Pescara (3), the Libera University Maria Ss. Assunta (3), the Tampere University of Technology (2), the Macquarie University (2), the University of Calabria (2), the University of Sidney (2) and the Charles Sturt University (2) represent the first affiliation schools, where come from the authors devoted to the intellectual capital into NPOs literature (figure 2.3).

Figure 2.3: Most recurring affiliate universities for authors research.



From a geographical point of view (Figure 4), Australia (9), Italy (6), Finland (2), UK (2), United States (2), Brazil (1), Spain (1), Taiwan (1) are the countries with the highest number of universities of origins of the authors (figure 2.4).

Figure 2.4: Authors universities' analysis: Most recurring countries.



In order to identify the most important work devoted to IC in NPOs in terms of citation, the following articles has been identified, as show table 2.6.

Table 2.6: Overview of timeline for most cited works in the literature on intellectual capital into NPOs.

Citations	Year	Authors	Title
94	2008	Kong	The development of strategic management in the non-profit context: Intellectual capital in social service non-profit organizations
50	2007	Kong	The strategic importance of intellectual capital in the non-profit sector
40	2006	Chu et al.	Intellectual capital: An empirical study of ITRI
34	2010	Benevene and Cortini	Interaction between structural capital and human capital in Italian NPOs: Leadership, organizational culture and human resource management
26	2006	Kong and Thomson	Intellectual Capital and Strategic Human Resource Management in social service non-profit organisations in

			Australia
18	2009	Guthrie et al.	IC reporting in the Australian Red Cross blood service
15	2010	Sillanpää et al.	The role of intellectual capital in non-profit elderly care organizations
14	2010	Kong	Intellectual capital and non-profit organizations in the knowledge economy: Editorial and introduction to special issue
14	1997	Agor	The measurement, use, and development of intellectual capital to increase public sector productivity
11	2010	Kong	Analysing BSC and IC's usefulness in non-profit organizations
10	2010	Benevene and Cortini	Human resource strategic management in NPOs: An explorative study on managers' psychosocial training
6	2010	Kong and Ramia	A qualitative analysis of intellectual capital in social service non-profit organisations: A theory-practice divide
5	2003	Fletcher et al.	Mapping stakeholder perceptions for a third sector organization
3	2013	Bronzetti and Veltri	Intellectual capital reporting in the Italian non-profit sector: Analysing a case study
2	2010	Mesa	The composition of intellectual capital in non-profit orchestras
1	2015	Veltri and Bronzetti	A Critical Analysis of the Intellectual Capital Measuring, Managing, and Reporting Practices in the Non-profit Sector: Lessons Learnt from a Case Study
1	2017	Benevene et al.	Representation of intellectual capital's components amongst Italian social enterprises

The previous research could be divided into two key approaches: the financial-statement approach and the organisational and managerial approach (Guthrie *et al*., 2012). The first approach is interested in the conditions for and solutions to the external accounting and disclosure measures of intangibles, whereas the latter focuses on organising and managing intangibles into NPOs.

Works that are studied under the financial-statement approach specifically examine the possible reporting practices of IC (Chu *et al*, 2006; Guthrie *et al*., 2009; Bronzetti and Veltri, 2013; Veltri and Bronzetti, 2015) from an external stakeholder perspective (Fletcher *et al.,*2003).

Additionally, studies belonging to the organisational and management approach focus their attention on the following research themes: the strategic role of IC in NPOs (Kong, 2007; 2010; Kong and Ramia, 2010; Sillanpää *et al.*, 2010), the representation and perception of IC's components amongst NPOs (Mesa, 2010; Benevene and Cortini, 2010; Benevene *et al*., 2017) and the applicability of strategic management concepts to the NPOs (Kong, 2008, 2010; Kong and Thomson, 2006).

In particular, Kong (2007, 2010), Kong and Ramia (2010) and Sillanpää et al., (2010) underlined the strategic importance of IC as a resource that NPOs need to develop in order to gain a sustained strategic advantage.

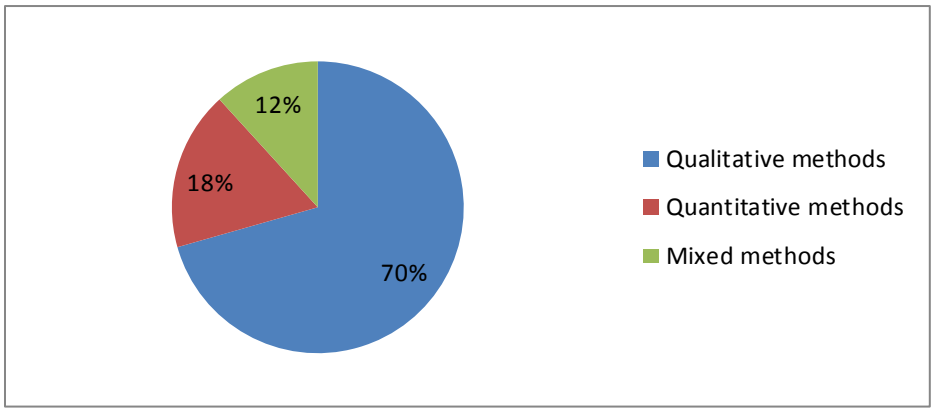
In their paper, Benevene and Cortini (2010) defined organisational culture and training activities as the most important IC dimensions for NPOs. Benevene *et al.* (2017) successively tried to understand the perceptions that senior managers of Italian SEs have about their organisation's IC, precisely about HC, RC and organisational capital.

The investigation of the applicability of strategic-management concepts, such as SWOT analyses, the resource-based view (RBV), the balance scorecard, strategic human-resource management and the IC topic, to NPOs represents the focus of Kong (2008, 2010) and Kong and Thomson, (2006). These papers help to build a nascent body of literature that suggests that the concept of IC is the most effective strategic-management concept in NPOs.

These studies mainly refer to IC as a whole concept, without exploring the characteristics of IC's sub-components or considering specific NPO enterprises (Sillanpää et al., 2010).

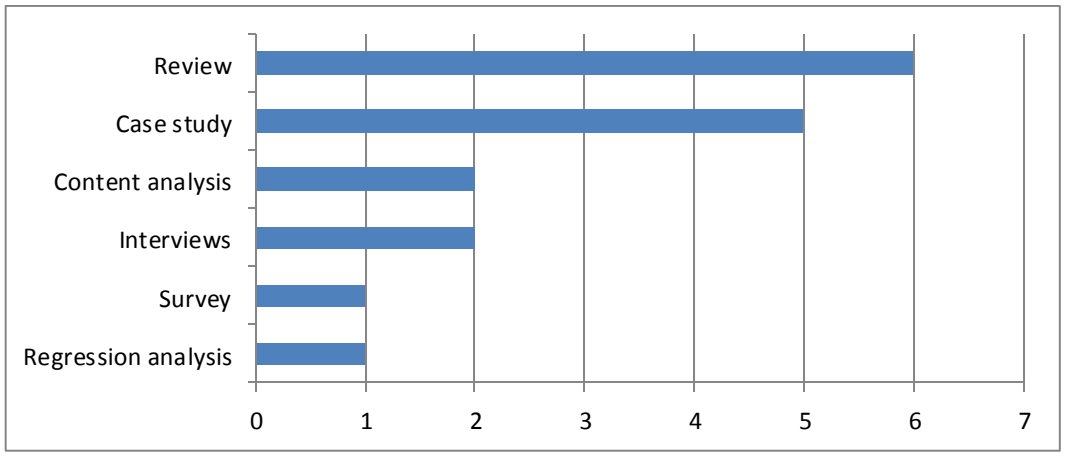
Through an in-depth analysis of the 17 papers under review, it was possible to identify the nature and type of the adopted methods. Overall, 12 papers adopt qualitative methods, three utilise quantitative ones, and the remaining two adopt mixed methods (figure 2.5).

Figure 2.5: Methodologies analysis: Nature (QUAN; QUAL; MIX)



In particular, the review (6), case study (5), interview (2), content analysis (2), survey (1) and regression analysis (1) represent the most-adopted methodologies amongst the papers of the review panel (figure 2.6).

Figure 2.6: Methodologies analysis: Typology – Overall Database



The following work adopts the organizational and managerial approach to IC, since it allows for the conceptual and empirical assessment of the IC effects at detailed firm-level.

2.3. The strategic importance of intellectual capital in non-profit organizations

In today's economy, knowledge has become the leading factor in social, economic and cultural development, and it is the largest form of business investment and a key contributor to growth in advanced economies (OECD, 2013). According to Andriessen (2004), the main characteristics of this knowledge era as follows:

- the value of goods, services and companies is created by assets based on all types of knowledge as intangibles, and knowledge replaces labour and capital as a fundamental resource in production;
- the content of the products and services provided relies on knowledge, and it is growing rapidly;
- the concept of ownership of resources has changed due to the knowledge core, which includes culture, people and technologies in both tangible and intangible values. Knowledge assets mainly reside in the minds of people; and
- the effectiveness and the efficient management of intangibles form a substantial part of a company's value-added offerings.

Knowledge is seen as a strategic asset with the potential to be a source of competitive advantage and a means to reach better business performance. Intellectual capital represents the collective knowledge that is embedded in an organisation's personal, organisational culture, routines and network relationships. These non-physical resources generate value for the organisation in the short, medium and long term, and they are mainly linked to various forms of knowledge inside and outside the organisation and its people (OECD, 2013).

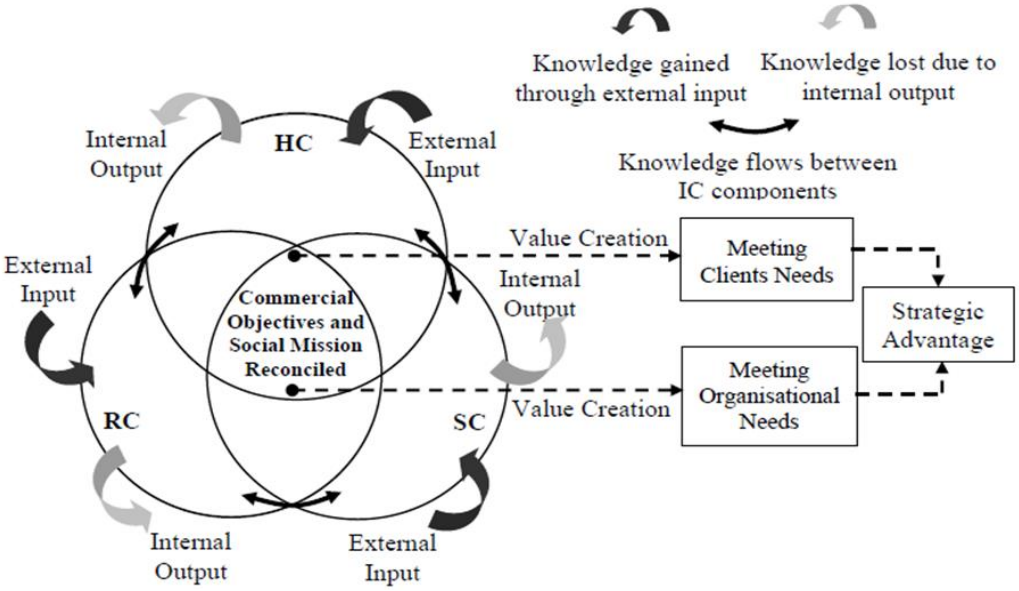
In the Third Sector, IC allows NPOs to enhance their performance in terms of the social and economic dimensions by providing meaningful information about the drivers of the value-creation process.

Non-profit organisations operate in a highly competitive sector. This sector is characterised by the presence of multi-stakeholder organisations that are seeking legitimacy and transparency in the satisfaction of unfulfilled needs, which are the result of the weak welfare state and growing competition between public and private operators. These intangible resources help the organisations to foster strategic advantages in competitive environments.

Additionally, these organisations are competing for public support, limited resources, volunteers, employees and donations; they are required to exploit their existing core resources, which, according to the RBV, are rare, valuable, imperfectly imitable and non-substitutable. Intellectual capital becomes a critical strategic resource that NPOs need to recognise, acquire and maintain in order to gain a strategic advantage, create new business opportunities, increase their effectiveness in serving their multiple stakeholders and shape their role in the future competitive environment.

According to Kong and Prior (2008), the interactions between HC, RC and SC create the organisational value of NPOs, and the flow of knowledge between the IC sub-components determines the competitive advantage through the satisfaction of client and donor needs (Kong and Prior, 2008; Kong and Ramia, 2010), as demonstrated in figure 2.6

Figure 2.6: The IC-framework for NPOs (Kong and Prior, 2008)



According to Kong (2007, 2010), IC can be applied as a conceptual framework for the effective strategic management of NPOs. There are several strategic advantages that result from its application (Kong and Prior, 2008; Kong and Ramia, 2010).

First, the stock and flows of knowledge within and outside the organisation help to maximise the process of value creation. The sub-components of IC acquire, maintain and transfer knowledge, and they interact with each other to properly allocate resources to commercial and social objectives. Second, the framework provides a better understanding of the flow of strategic resources, and it leads to an improved strategic planning. Third, a shared strategic plan that takes into account the core value of the organisation helps to achieve strategic alignment between organisational performance and the value-creation processes. The author emphasises the stocks and flows of IC components within and outside the NPOs and the implications in the value-creation processes.

There are several reasons that justify the adaptability of the IC framework as a strategic management tool in the social-cooperatives setting. Two of these reasons prove to be motivations for the strategic importance of IC in this setting.

First, IC is strongly related to the concept of corporate identity, mission and vision. This concept is emphasised in social cooperatives. In fact, the corporate mission guides the decision-making process, provides a strategic path, incentivises donations and improves the efforts of workers and volunteers. These factors become key components in executing a strategy and maintaining high levels of organisational performance. Intellectual capital relates to the ability of an organisation to achieve its strategic objectives.

The second reason is related to the social cooperatives' value-creation process, and it involves inputs and outputs that are both internal and external, and tangible and intangible. The achievement of the organisation's mission is connected to the employees' and volunteers' motivations, skills, knowledge and experiences (Hudson, 1993), which are the key factors for the implementation of the strategy and high levels of corporate performance.

In this context, IC becomes one of the most important resources to exploit and effectively

manage in order to pursue economic, financial and social objectives (Serenko and Bontis, 2013). Intellectual capital helps to avoid the displacement of goals and resources.

Allocating proper investment to the IC sub-components becomes a crucial factor for the strategic positioning of a business (Kaplan and Norton, 2001; Kong and Prior, 2008; Teece, 2002, 2006; Kong and Ramia, 2010).

2.4. Measuring methods of intellectual capital

In the management literature, several studies have evaluated the various models for measuring intangibles. However, they are inadequate, too complex and costly to implement (Bontis et al., 1999; Bontis, 2001; Andriessen, 2004; Huang, 2014; Sangiorgi and Siboni, 2017)

Several authors have classified these models differently and according to some of their characteristics. Based on Sveiby (2010), the methods that are useful for measuring IC could be divided into four main groups (Sangiorgi and Siboni, 2017): direct intellectual-capital methods (DICMs), market-capitalisation methods (MCMs), return-on-assets methods(ROAMs) and scorecard methods (SCMs).

The DICMs try to estimate the monetary value of intangible assets by identifying their sub-components, which can then be directly evaluated, either individually or as an aggregated coefficient. The main disadvantage of these methods is that due to the particularity of the various categories of IC of an organization, comparison between different enterprises is hard. Anyway, these methods are able to assess the different components of intellectual capital in order to highlight the specificity of several categories.

The MCMs calculate the value of IC or the intangible assets of a company through the difference between a firm's market-capitalisation value and its book value. These methods have some strengths and weaknesses. The main advantage is that they can be used for simple comparisons between companies in a similar industry, and they place emphasis on the financial aspects; however, they are suitable for non-profit undertakings.

The ROAMs estimate the value of IC through a comparison of the company-specific return on assets to the industry average. The difference is multiplied by the company's average tangible assets to calculate the average annual earnings from intangibles. By dividing the above-average earnings by the company's weighted average cost of capital or an interest rate, one can derive an estimate of the value of its intangible assets or IC. These methods are based on traditional accounting principles, so are suitable for comparisons between enterprises, but are unable to measure the IC value of different categories of IC sub-components of non-profit organization.

The SCMs identify various components of intangible assets or IC through the use of indicators and indices. However, every organizations has its unique measuring index. These metrics are non-standard and not additive within and between the various scorecard perspectives and due to the creation of a large quantity of documents, comparison between enterprises is hard.

Numerous researches reveal that the application of these models is lacking in the field, and that these IC measurement methods are not able to explain the value-creation process triggered by intangible assets (Mouritsen, 2006; O'Donnell, 2006; Dumay, 2009). These methods are not able to identify how the different elements of IC create value in terms of successful organisational performance, and there are no general methods conceived expressly for the non-profit sector (Bronzetti *et al.* 2011)—they mainly focus on private-sector organisations.

The measurement process should focus primarily on the relation between the intangible assets that contribute to corporate success, and each company should develop its own process.

Therefore, there is a need to develop industry-specific key performance indicators (KPIs) related to IC components in order to measure and quantify their contributions to the organisational outcomes and to generate a more complete picture of an organisation's overall performance.

2.5. An innovative multidimensional measuring system of IC for NPOs

2.5.1. A proposal of the main components and measures of IC for NPOs

An innovative IC measuring system, able to identify and measure the IC sub-dimensions of NPOs, can follow three phases:

1. the identification of the strategic IC components,
2. a proxy of the measurement of the chosen IC components, and
3. the set-up of the consolidation of the IC management system into the organisation's management routines.

Intellectual capital is the 'glue' that links external and internal inputs with activities, performance measurement and final outcomes. Furthermore, a strong relationship exists between strategies, measures and actions (Dixon et al., 1990). Intangible assets become a crucial lever for a firm's management performance and effectiveness (Kong, 2010).

The first step in identifying the strategic set of IC sub-dimensions is represented by the definition of the organisational objectives from top to bottom, and by the definition of the mission and vision that characterise every company structure.

Those strategic IC components are the critical factors and the key drivers that contribute to the value-creation processes, and they involve the core competencies that the company owns or requires, to achieve the strategic objectives.

The starting point for the formulation and implementation of the corporate strategy is the analysis of the mission, vision, historical profile, main corporate purposes and set of values (which qualify the corporate identity). Through these details, the corporate goals and consequently the performance to achieve them can be identified.

Intellectual capital KPIs are strongly related to the concept of corporate identity, to questions such as "Who are you? What do you want to be? What makes your product or service unique?" (Mouritsen et al., 2005). The identification process shapes an accurate picture of the strategic IC components and of the activities to develop in order to reach the organisational goals.

The second step consists of developing a measurement system for these IC components. To identify the impact on the business's performance, the set of indicators should be consistent with the organisational resources and the strategic objectives (Grasenick and Low, 2004).

The management of IC is a strategic issue for any type of organisation, and it is strictly linked to the organisation's capacity to create, share and transfer value.

The efficient and effective management of intangible resources allow for better strategic planning and a better implementation of the management control system.

The identification of IC through KPIs improves awareness about the key role of this asset in the value-creation process and in the success of corporate performance.

The use of a set of KPIs highlights how intangibles influence and contribute to success in

different areas of corporate performance, and how they contribute to the achievement of corporate goals. In this context, it would be appropriate to implement a cause-effect multidimensional measuring system that takes into account IC resources, tangible resources and business performance.

These IC KPIs could reinforce the narrative description of a company's own value-creation mechanisms, which are closely linked with its business strategy (Mouritsen, 2006). This measurement system could capture the dynamics of IC. In fact, it is possible to measure the IC components and the relationships that they develop with each other and with other variables of the specific business in which they are used. This perspective would ensure the availability of information to support and guide the value-creation processes and the efficient and effective management of business performance and IC dimensions.

The last phase involves setting up the integration of the IC management system into the organisational routines. During this process, the IC strategic components are evaluated, and the strengths and weaknesses of the system are identified, as are the additional IC KPIs, where they are missing. This process has a medium- and long-term orientation.

Based on the previous articulation of IC into HC, RC and SC, the peculiarities of the sub-categories of IC are now specified through some KPIs in order to identify the factors that affect corporate value creation and to integrate them into business reporting to make the data and information more accessible, comparable and credible for the effective and efficient management of the resources and in order to execute a successful strategy.

Intellectual capital produces multiple effects throughout the organisation and guarantees real benefits because knowledge-based resources tend to be valuable, rare and neither imitable nor substitutable (Nelson and Winter, 1982; Barney, 1991; Bolino et al., 2002; Kong and Ramia, 2010). Intellectual capital is an important resource that SCEs need to develop to effectively implement corporate strategy, acquire and maintain a long-lasting competitive advantage and improve corporate performance (Martinson and Hosley, 1993; Lettieri et al., 2004; Murray and Carter, 2005; Hume C. and Hume M., 2008).

A much broader and more interconnected disclosure of information requires integrated thinking and decision making that is based on measures that provide a clear and concise representation of how an organisation demonstrates sustainability and creates value.

Key performance indicators may be financial or non-financial in nature; they may also be market-oriented, industry-specific and company-specific indicators. The integrated disclosure of financial and non-financial data or information allows one to monitor, manage and communicate the full complexity of the value-creation process and how it contributes to success over time (IIRC, 2013).

Both financial and non-financial information are able to explain the company's corporate value-creation mechanism and strategy as well as their potential impact on current and future performance. The value-creation process of an organisation depends on numerous value drivers, many of which are now intangible (WICI, 2016).

Based on the main elements of the value-creation process, the KPIs can be related to leadership, innovation, organisational knowledge, processes, risk management, governance, relationships, teamwork and others. However, these types of indicators may be included only if they are relevant to a specific company's value-creation mechanism.

Since every company has its own way of creating value and utilising resources, the same

KPIs are not applicable to all companies in general nor in a specific industry.

The WICI group[12] has set up the most frequent KPIs, which are useful for the for-profit sector, as informative examples to guide companies. These KPIs are available for the oil and gas, the electricity, high-tech, pharmaceutical, ICT, and fashion and luxury sectors.

The utilisation of IC KPIs in NPOs is scarcely recognised.

Therefore, the purpose of the following paragraph is not to define a set of KPIs for mandatory disclosure to any organisations, but to identify some frequently used KPIs as informative examples to guide NPOs. It aims to provide a conceptual IC framework that is valid to fulfil the gap in the literature about KPIs for NPOs.

Over time, this IC-KPIs framework could be modified as needed in response to significant changes in the industry-specific or business environment.

2.5.2. Human Capital in NPOs

Human capital is one of the most important resources for NPOs (table 2.7). NPOs are intensity-labour organisations and the effective management of the workforce are crucial for corporate performance, since the workforce is mostly responsible for the quality of the provided services. People within an organisation play a fundamental role in the realisation of its mission (Veltri and Bronzetti, 2015; Russ, 2014).

Training and education are the most important investments in HC. Organisations are made up of people, and HC, which entails knowledge, skills, capabilities, problem-solving abilities, personal traits, creativity and willpower, comes from education and training (Hudson, 1993; Bontis et al., 2000).

These knowledge assets are the most important production factors in increasing HC as a determinant of economic and social growth (Schultz, 1960; Becker, 1964; Kong, 2010; Ciambotti et al. 2016). Furthermore, they promote the sharing and transmission of knowledge, they help in the development of social and business interactions, and they encourage technological innovation (Nelson and Phelps, 1966; Benhabib and Spiegel, 2005; Kong, 2010; Defourney and Nyssens, 2010). A high number of specialised employees guarantees more competences, stability and a high quality of services, while a high number of volunteers inspires confidence, motivates employees, and reduces the costs associated with the supply of services.

An effective and efficient enterprise needs people with experience. In fact, the contribution of a collaborator increases over time as a result of the learning process from experience if adequately integrated with specific investments in staff development (Bontis et al., 2000; Kong, 2010; Defourney and Nyssens, 2010; Bronzetti et al. 2011; Ciambotti et al., 2016).

Every company has its own organisational culture, and it refers to the mission, vision, beliefs, ideologies and values that the members of an organisation share (Denison, 1990; Schein, 2010). Therefore, meetings that are opened to all corporate collaborators are able to improve the cultural atmosphere that promotes organisational commitment and a cross-functional integration amongst board members, employees and volunteers. Additionally, having a shared culture helps to keep employees motivated and loyal to the management of the organisation, and it contributes to

[12] WICI proposes an enhanced business reporting framework which focuses on the core part of the company's unique value creation mechanism. Under this framework, WICI hopes more and more companies will be able to easily present an integrated and comprehensive report on material financial and non-financial elements of the company's performance. The most frequently KPIs, useful for the for-profit sector, are available at www.wici-global.com

increasing employee satisfaction, which affects the organisation's effectiveness (Bhatti and Qureshi, 2007; Schein, 2010).

Table 2.7: Human capital KPIs (Author's elaboration)

Human capital KPIs	Measures	Benefits
Training	The number of yearly training hours for employee.	Increase motivation. Improve skills and competencies.
Graduate	The number of graduated employees scaled by total employees.	Improve the quality of the management processes.
Employee satisfaction	The employee satisfaction is assessed through a 1-to-8 Likert-type scale and it represents the judgement given by the respondent about the degree of employees' satisfaction.	Improve the internal and external communication and production systems.
Value added_Emp	The total value added (total revenues minus external operating costs) scaled by the total employee cost.	Increase organizational outcomes.
Meetings	The number of meetings reserved to social cooperative members scaled to number of meetings open to members and volunteers.	Increase organizational cohesion. Improve employee and board members commitment.

2.5.3. Relational capital in NPOs

With regard to RC, inter-firm relationships shape an effective network which is able to gain and develop new resources and additional abilities, this sets up the foundations for competitive and sustainable growth within the specific territorial system. Non-profit organisations are heavily involved in external relationships with government agencies, business corporations, different types of NPOs, potential donors, employees, volunteers, customers and end users. Therefore, the sustainability and successful performance of NPOs depend on their community reputation.

The strength of relationships with and loyalty amongst customers and public and financial institutions, the cooperation amongst partners, the continuous flow of information between the network of businesses and the opportunities for resource sharing all improve the economic-financial and mission-based performance of social cooperatives (Ordóñez de Pablos, 2003; Kong, 2010; Ciambotti et al., 2016).

Being part of a network provides many opportunities in terms of information sharing, image promotion, new business opportunities, credibility and legitimacy. Additionally, it allows for access to supporting services that would otherwise be impossible to acquire.

Having an online web presence is essential in every business, since it provides organisations with opportunities to reach out to and engage with existing and prospective members, and with new collaboration opportunities. It also helps with the sharing of information, and it is able to spread the organisational mission (Greenberg and MacAulay, 2009). Additionally, on-line communication reinforces the relationship between citizens and NPOs.

For social cooperatives, the RC sub-dimension has been examined by measures that focus on social-networking relationships and involvement in the network through the exploitation of provided services, as presented in tables 2.8 and 2.9.

Table 2.8: Relational Capital KPIs (Author's elaboration)

Relational capital KPIs	Measures	Benefits
Environments	The quality of relationships with environments. It is measured through a 1-to-8 Likert-type scale and it represents the judgement given by the respondent about the quality of relationship with the environments.	Improve company reputation. Strengthen co-operation.
Customer	The quality of relationships with customers. It is measured through a 1-to-8 Likert-type scale and it represents the judgement given by the respondent about the quality of relationship with users.	Acquire new clients. Increase client loyalty Customer. Enlarge co-creation.
Financial institutions	The quality of relationships with financial institutions. It is measured through a 1-to-8 Likert-type scale and it represents the judgement given by the respondent about the quality of relationship with financial institutions.	Increasing investors' attention. Increasing financial analysts attention. Better market trust. Access to ethical indices. Improve company reputation.
Community	The quality of relationships with the reference community. It is measured through a 1-to-8 Likert-type scale and it represents the judgement given by the respondent about the quality of relationship with the community.	Improve company reputation. Strengthen co-operation.
Suppliers	The quality of relationships with the reference suppliers. It is measured through a 1-to-8 Likert-type scale and it represents the judgement given by the respondent about the quality of relationship with the suppliers.	Improve company reputation. Strengthen co-operation. Improvement of supplier ethical and social profile and performance.
Public Institutions	The quality of relationships with public institutions. It is measured through a 1-to-8 Likert-type scale and it represents the judgement given by the respondent about the quality of relationship with public institutions.	Increasing the level of company transparency. Improve company reputation. Strengthen co-operation.
Partnership	The quality of relationships with partners. It is measured through a 1-to-8 Likert-type scale and it represents the judgment given by the respondent about the quality of relationships with partners(other social cooperatives, for-profit enterprises, associations, universities, government agencies, users, etc.).	Strengthen co-operation. Increasing the level of company transparency. Improvement of quality of processes.
Web presence	The quality of presence on web. It is measured through a 1-to-8 Likert-type scale and it represents the judgement given by the respondent about the quality and effectiveness of web presence through a site, blog etc.	Improve company reputation and collaborations.
Institutional meetings	The quality of engagement with external partners through institutional meetings . It is measured through a 1-to-8 Likert-type scale and it represents the judgement given by the respondent about the quality and effectiveness of institutional meetings.	Increase information on national and regional activities, resources and funding and employment opportunities.
Investigating external partners	The quality of engagement with external partners through direct collaborations, studies etc . It is measured through a 1-to-8 Likert-type scale and it represents the judgement given by the respondent about the quality and effectiveness of investigations.	Improve the communication system. Increase new business opportunities.
Network	The belonging to a network. It is a dummy variable that takes the value 1 if the social	Improve information sharing, image promotion, new business opportunities,

	cooperative enterprise belongs to a network (Consortium, association, etc.), otherwise 0.	credibility and legitimacy.

Table 2.9: Services provided by the social cooperatives network (Author's elaboration)

Network Services/Support	Measures
Strategy support	It is assessed through a 1-to-8 Likert-type scale and it represents the judgement about the exploitation of strategy support. These services involve strategic support in terms of creation of structure and processes for day-to-day operations.
Image promotion	It is assessed through a 1-to-8 Likert-type scale and it represents the judgment about the exploitation of image promotion services.
Information sharing	It is assessed through a 1-to-8 Likert-type scale and it represents the judgment about the exploitation of information sharing services.
Training services	It is assessed through a 1-to-8 Likert-type scale and it represents the judgment about the exploitation of training services.
Competition support	It is assessed through a 1-to-8 Likert-type scale and it represents the judgment about the exploitation of competition support.
New services promotion	It is assessed through a 1-to-8 Likert-type scale and it represents the judgment about the exploitation of new services promotion.
General contracting	It is assessed through a 1-to-8 Likert-type scale and it represents the judgment about the exploitation of general contracting services.
Commercial services	It is assessed through a 1-to-8 Likert-type scale and it represents the judgment about the exploitation of commercial services.
Administration services	It is assessed through a 1-to-8 Likert-type scale and it represents the judgment about the exploitation of administration services.
Recruitment support	It is assessed through a 1-to-8 Likert-type scale and it represents the judgment about the exploitation of recruitment support.

2.5.4. Structural capital in NPOs

Structural capital is a supportive infrastructure for human resources (Benevene and Cortini, 2010). Different aspects are relevant, such as innovative behaviour, investment in networking activities, sustainability certifications and the dissemination of the corporate culture amongst workers, volunteers and board members, as shown in table 2.10.

Innovative behaviour strongly affects the success of the enterprise and makes people and organisations able to continually adapt to environmental changes. In NPOs, innovation is considered to be a key factor in creating value, and it is assessed through the capacity to develop new services that can satisfy different needs and beneficiaries (Knight 1999; Skandia 1994; Bontis 1998; Ciambotti et al. 2016).

The adoption of sustainability or quality certifications (ISO 9001, EMAS, SA8000 etc.) can represent a fundamental change in business philosophy and corporate practices, generating a common language amongst different partners of the organisation. Furthermore, investment in ICT promotes the acquisition and transfer of knowledge and the development of skills through faster creation, distribution and consumption of information (Ciambotti et al., 2016).

Table 2.10: Structural capital KPIs (Author's elaboration)

Structural capital KPIs	Measures	Benefits
Services	The number of provide services scaled by total employees.	Satisfy social needs.
New services ability	The ability to provide new services. It is measured through a 1-to-8 Likert-type scale and it represents the judgement given by the respondent about the capacity to supply new services to users.	Increase innovative processes.
Certifications	The certifications holding by the social cooperative enterprise. It is a dummy variable that takes the value 1 if the cooperative enterprise holds one or more certifications (ISO 9001, ISO 14001, EMAS, SA 8000, etc.), otherwise 0.	Improve changes in business philosophy and corporate practices, generating a common language among different partners of the organization.

2.6. The importance of IC for a firm's performance

According to the RBV, a strategic asset is one that is rare, valuable, costly to imitate and non-substitutable. It is also the main source for improving corporate performance through gaining firm-specific competitive advantages.

Sustainable competitive advantages are based on IC, which encompasses the organisation's knowledge resources and capabilities (Kong, 2010). These assets allow one to promote creativity, facilitate innovation and improve corporate performance.

According to Wiig (1997), a company's viability depends on "the competitive quality of its knowledge-based IC and assets and the successful applications of these assets in its operational activities to realise their value to fulfil the company's objectives". The author underlined how the key factor of successful enterprises relies on their effectiveness in gathering and utilising knowledge through IC sub-components.

Knowledge plays a key role in achieving strategic goals, performance success and innovation in NPOs. Since knowledge is seen as the base of a firm's capabilities, it can be improved over time through the management, development and transfer of knowledge assets. The continuous improvement of knowledge asset will generate higher levels of value and competitive advantages by improving the performance of the processes.

The main issues for an organisation are measuring the impact of IC on performance and understanding how to improve the company's ability to exploit and create knowledge and intangible assets in order to increase the value for its stakeholders, the long-term organisational success and survival.

Organisations should try to measure their IC in order to help with the formulation of successful business strategies, to assess the execution of these strategies, to support the decision-making process and finally, to improve communication with external and internal stakeholders

(Marr *et al*., 2003).

For these purposes, it is important to identify the link between the IC sub-components and business performance in order to support the effectiveness and management of the IC investments. Understanding the effects of IC on the organisation's value-creation processes can contribute to improvements in performance.

In todays' economy, managing NPOs has become much more complex due to both increasing competition with private institutions and for-profit enterprises in offering services to communities and declining monetary support from the Welfare State.

Intellectual capital contributes to NPOs' strategic positioning by providing information on the allocation of organisational resources to achieve successful business performance (Kong, 2010), to make well-informed strategic decisions and to be reliable with regard to organisational stakeholders and the reference community.

Given the recognised strategic importance of IC in an organisation's success, several researchers have investigated the influence of IC on business performance, focusing on for-profit organisations. However, none have empirically studied the impact of IC sub-components on NPO performance. The analysis of the theoretical and empirical contributions concerning the link between IC and performance could highlight the most important factors for guiding NPOs strategies. It would be useful to implement a multidimensional measurement system that is able to help management to focus on the critical IC resources and their contributions to business performance.

This exploratory paper thus aims to fill this gap by investigating the effects of the IC sub-components on the performance of social cooperatives.

CHAPTER THREE

Intellectual capital and NPO firms' performance

3.1.Organizational performance

3.1.1.Role and evolution of managerial performance

The nature of organisational performance and its performance-measurement system (PMS) have been the most difficult aspects in the management of an organisation in terms of the choice of measures that are able to represent the effective achievement of the company's goals. In fact, a method for determining an organisation's efforts in achieving its desired outcomes with regard to corporate performance is at the heart of numerous scholars' and practitioners' research.

According to Neely *et al*. (1995), a *performance-measurement system* is a process that is able to quantify the efficiency or effectiveness of an action through a set of measures related to specific objectives. The term *performance* identifies the results of organisational and management choices, the word *measurement* refers to the objectives' value, and *performance measurement* indicates the organisation's ability to achieve specific aims. Finally, the term *measurement system* refers to the sum of structures, methodologies and processes that define and drive performance in order to communicate, explain, orient and evaluate the organisation's behaviour.

More generally, the performance measurement system is a balanced and dynamic system able to gathering, elaborating and analysis information in order to support the decision-making processes.

The performance measurement system was designed and created primarily for profit-based organisations (Speckbacher et al., 2003). Based on this traditional approach, corporate performance mainly refers to the economic and financial dimensions as measures of organisational success (Ghalayini *et al*., 1997).

Performance measures are generally expressed in terms of cost-effectiveness, through efficiency and effectiveness indicators (Neely et al., 2002). The effectiveness measures indicate the ability to achieve organizational goals, while the efficiency one, refers to the achievement of the output in relation with the amount of resources utilized for its achievement. Both measures can be represented by quantitative indexes.

From an information point of view, these measures are based on information coming from the balance sheet, the financial statement and the market; however, these traditional financial measures do not completely match the competencies and skills that companies require to face today's business environment. For-profit organisations summarise their economic and financial performance in financial statements because profit represents the company's mission; in contrast, for an NPO, the achievement of the organisation's mission does not have an automatic relationship with financial performance (Moore, 2000). In fact, the main criticism of traditional performance measurement system, refers to the uni-dimensionality focusing on financial measures, which tends to concentrates the attention mainly on cost reduction at the expense of achieving competitive performance.

The main limitations of traditional financial measures in particular are as follows: a short-term vision, a lack of strategic focus, favouring the minimisation of costs over continuous

improvement, not encouraging an integrated vision amongst external and internal features, and not being competition oriented (Johnson and Kaplan, 1987; Kaplan and Norton, 1992; Reheul *et al.*, 2014). Furthermore, they fail to provide data on quality, responsiveness and flexibility (Hayes and Abernathy, 2007). The role of a conventional measurement system becomes increasingly meaningless for NPOs because of its multi-stakeholder nature and its aims to promote and foster the social well-being of people (Ebrahim, 2003; Moore, 2000).

There are four phases that can be identified for setting up the path of PMS evolution. First, from the 1920s to the 1950s, PMSs mainly focused on the production field to highlight cost-efficiency processes (Bititci et al., 2011; Arena and Arnaboldi 2012). In the second phase, between the 1950s and the 1960s, attention was given to economic and financial performance related to divisional and departmental areas with the development of organisational budgets (Bititci et al., 2011). At that time researcher developed a traditional management accounting system focus on financial measures such as budgeting, costing and variances analysis and cost volume profit. The main focus of performance measurement system was devoted to monitor organization cost. Between the 1960s and the 1980s, the third phase emerged; it is characterised by a nascent body of literature related to the integration of new performance dimensions such as time, quality, flexibility and customer satisfaction (Kaplan, 1984).

According to Kaplan (1984), a PMS requires financial and operational measures to evaluate overall organisational performance. At the same time, the idea of the existence of a link between performance indicators and business strategy arose (Kaplan and Norton, 1996), leading to the creation of key performance indicators, which are able to measure and monitor companies' success factors. Over time, several researchers have tried to understand whom the organisation should perform for, and which measures can be used to investigate the effectiveness and efficiency of a for-profit organisation's performance.

Barnard (1938) highlights that the capacity to survive over time is the primary organisational purpose, and that measures such as effectiveness and efficiency are functional aspects in the realisation of long-term, sustainable organisational performance. Organisational effectiveness is seen as the accomplishment of corporate purposes, while the author defines efficiency as the individual's satisfaction due to the level of performance achievement.

Even Drucker (1954) argued that an organisation's survival is the ultimate purpose of corporate performance, and he stated that there were eight organisational performance dimensions that must be investigated: the current and future market potential, innovation, productivity, physical and financial resources, profitability in order to cover the risk of business, manager performance and its development, workers' development and attitude, and finally, public responsibility. Contrary to Bernard, Drucker's performance perspective can be considered to be multidimensional.

In contrast to both Barnard and Drucker, Ansoff (1965) proposed that the main aim of an organisation is the return on investment, given that each organisation is constrained by stakeholder willingness and objectives. As a consequence, to lead the maximisation on return on investment, each organisation must also take into account its non-economic objectives to guarantee the organisational flexibility that is limited by stakeholder perspectives.

Freeman (1984) and Porter (1985) highlight the importance of relationships with internal and external stakeholders in accomplishing organisational objectives. The authors consider the stakeholder to be a resource rather than a constraint in corporate performance, and they argued the importance of a PMS assessing and reflecting the goals of the overall organisation.

To overcome the limits of the accounting and financial model, multidimensional PMSs were developed in the 1990s. This phase gave impetus to the integration of measures relating to environmental and social dimensions into both corporate reporting and PMSs (Adams and Frost 2008; Arena and Azzone 2010).

The focus of integrated financial and non-financial elements into a multidimensional performance measurement system, is beneficial for bot for-profit and non-profit organizations (McNamara and Mong, 2005) and it is recognised that high organizational performance may result from a matching of an organization's environment, strategy and internal structures and system (Smith, 1997). The effect of the organization strategy, structure and environmental context has great influence on how the organization is operating and performing. As such it is significant for incorporating these factors when developing the performance measurement system.

More specifically, the performance measurement system must be designed and implemented in accordance with a company's business strategy in order to link the strategy to the objectives of functions, groups of people, and individuals as well as to operational aspects (Kaplan and Norton, 1996; Neely et al., 2002).

This new framework highlights a few advantages. First, it presents the opportunity to measure quantitative and qualitative variables, belonging to economic, social and environmental fields. Second, it is possible to focus on the entire process that is at the core of the management. Third, it encourages a long-term vision and a deep interrelationship between strategy, inputs, actions, output and outcomes.

Despite the concept of performance measurement system having been largely discussed in the academic literature, further investigations are required, especially with reference to NPOs (Gray *et al*., 2010). In fact, the applicability of these approaches to NPOs appears limited due to the specific characteristics of these organisations. First, NPOs belonging to the non-profit sector are heterogeneous, and this makes it difficult to trace a roadmap for the performance measurement system mplementation. Second, it appears to be difficult to define the performance dimensions that should be monitored. Given the differences between both profit and non-profit organisations and social enterprises , the PMS should include different dimensions that are able to cover its multiple objectives in terms of economic, environmental and social performance.

Epstein and McFarlane (2011) recently emphasised how financial measurements provide an incomplete and underdeveloped framework of an NPO's corporate performance for two reasons. First, the economic and financial measures are meaningless if not employed to achieve the organisation's mission. Second, it is not possible to effectively achieve a social mission if the management of the financial resources is inefficient.

Designing an appropriate PMS benefits an entire organisation, since it helps to increase the formulation, implementation and review of business strategy; strengthen the relationships with stakeholders through better communication of the achieved results; and improve the motivation of employees, members, volunteers and managers, thereby promoting organisational culture and learning. Moreover, it allows the organisation to receive feedback and identify changes over time, and it establishes an informed basis for making organisational decisions.

However, according to the International Accounting Standards Board (IASB), the PMS for NPOs requires information about how resources are used to provide different services as well as data about the amount and nature of resources (Sinclair and Bolt, 2013). For NPOs, the topic of corporate performance involves a wide range of dimensions that are crucial in shaping the overall

bottom line of an enterprise, and the PMS assumes multiple profiles, which involve financial and non-financial measures (Epstein and McFarlan, 2011). The aim of accounting in non-profit organizations is to inform public on the activities developed in accordance with the mission statement, whereas its subject-matter is the way in which the organization has obtained and invested its resources (Travaglini, 2007).

Additionally, high relevance has been assigned to the assessment of social performance with the recent introduction of the third sector reform (Law 106/2016 and Legislative Decree 112/2017), which focuses on the evaluation of the social impact produced by SEs. This reform tries to give impetus to stronger evidence of SEs' added value in order to demonstrate and communicate their value-creation processes and to achieve legitimacy, organisational goals and public or private funds.

The European Commission has placed social economy and social innovation at the heart of its programmes and actions. The reason for this is to promote and create a favourable environment that is able to improve social and work integration and spread economic growth accordingly to ethical and social principles (European Commission, 2011). For European countries, the non-profit sector is an important and growing part of the economy (Anheir, 2009), and there is a necessity to develop accountability systems that are able to measure the impact of NPOs' activities on organisational performance and on society (Barman, 2007; Ball and Osborne, 2011).

According to Lettieri *et al*. (2002), there are five performance dimensions that should be investigated for NPOs: community, vision and mission, creation of social value, and asset management and economic and financial viability. The 'community' dimension relates to the ability to meet the social needs of the reference society. The "vision and mission" dimension is important in setting up the foundation for the realisation of the organisation's mission, by breaking this mission into short-term activities, and the implementation of long-term business strategies. The "creation of social value" is the third dimension that should be evaluated in terms of delivering high-quality services. Finally, 'asset management' and 'economic and financial viability' evaluate the effectiveness in managing tangible and intangible resources within the organisation in order for it to be sustainable over time.

Therefore, the long-term survival of an NPOs depends on its ability to maximise and accomplish its social mission through a balanced management of financial and economic resources. In fact, for NPOs, economic and financial equilibrium is a requirement for long-term survival, and it is a constraint to continuously ensure the realisation of their missions. An orientation towards creating social value does not exclude the fact that NPOs can set up strategies to generate economic value.

Therefore, a prospective integration of the economic and financial dimension into the mission-based one allows organisations to have a more well-informed picture of their corporate performance and better transparency and legitimacy with regard to society. Given that NPO performance evaluation is based only on the economic and financial indicators, these fail to provide reliable information about the achievement of the organisational mission (Austin et al., 2006).

To reflect the dual nature of NPOs in creating social and economic value (Ebrahim, 2005), which are intrinsically connected (Emerson, 2003), the PMS should be an intermediary between organisations and society, and it should rely on the social and economic dimensions. For NPOs, the implementation of a multidimensional PMS is necessary to guarantee long-term survival, strengthen relationships with stakeholder, improve organisational legitimacy and expand the social dimension

amongst the enterprise and its internal and external stakeholders.

More specifically, when a PMS concerns social cooperative enterprises (SCEs)—mission-driven organisations that provide social services and products through economic activities to satisfy social needs—it would be appropriate to implement a multidimensional performance system over two management reference fields (Ebrahim *et al.*, 2014) that simultaneously considers the social purposes (related to the social mission achieved) and the economic-financial aims (a sustainable business requires effective planning and financial management). According to Matacena (1990), SCEs are cooperatives that are located between for-profit and non-profit organisations. In fact, these cooperatives inherit the characteristics of entrepreneurial activity, which is oriented to maximising social needs, and corporate social responsibility from for-profit and non-profit organisations respectively.

The assessment of economic-financial performance is necessary to understand whether SCEs are able to satisfy the social purpose for which they have been created in a continuous, durable and autonomous way (Costa and Carini, 2016; Magnanelli et al., 2016; Andreaus and Costa, 2014).The management of this dimension has to be economically and financially sustainable over time to guarantee the achievement of the social mission in the long term.

Social cooperatives cannot rely only on their financial efficiency. However, there is a need to consider its effectiveness in satisfying organisational purposes, that is, the mission.
The social dimension concerns the strategic goals related to the corporate mission, which is not easy to define and measure (Bagnoli and Megali, 2011; Ebrahim*et al.*, 2014). This dimension could be measured through the assessment of the degree of satisfaction of social needs, more specifically, in terms of stakeholder and beneficiary satisfaction.

3.1.2.A multidimensional performance measurement system

Despite the fact that most appropriate financial performance measures are suitable for all NPOs, they cannot be used to draw comparisons across organisations (or in the same industry) because they vary and depend on the organisation's mission, business strategies, structures and systems. Therefore, given the dual mission of creating social value and being financially sustainable, financial as well as mission-based performance are core to an NPO's functioning. There are two main reasons that NPOs should integrated the social and the economic dimensions into the assessment of their performance: to support decision-making processes and planning and controlling, and to support the demands of accountability to several stakeholders (Arvidson and Lyon, 2014).

For NPOs to measure their effectiveness, they should ask themselves the following questions, as reported by Epstein and McFarlan (2011): "Are we truly delivering on our mission, not just meeting budgets, and are we achieving maximum impact from our expenditures?". These sentences highlight the importance of focusing on financial resources in association with the mission and with the individuals whom that mission serves (Parker 2003; Colby and Rubin 2005).

Effectiveness is related to the mission for which the NPOs have been designed (Bagnoli and Megali, 2011), and it depends on beneficiaries' perceptions about the services from which they are benefitting. These services cannot be evaluated through conventional accounting measures, since they are, by definition, intangible and difficult to quantity (Costa *et al.*, 2014).

Some of the suggested measures of effectiveness for NPOs are related to one of the

following: the quality of the services provided, in relation to a quality standard; the gap between the actual services provided and the perceptions of their quality from users and beneficiaries; the achieved results; or the situation that would have occurred if the services had not been offered (Manetti, 2014). All of these measures regarding a relational dimension primarily based on stakeholder prospective, according to which any organisations have the moral duty to answer in terms of strategies and actions which have an impact on "any group or individual who can affect or is affected by the achievement of an organisation's objectives" (Freeman, 1984; Ebrahim, 2005; William and Taylor, 2013).

Mission-based performance specifically considers the social impact, in terms of the benefits and positive effects generated through the business activity for achieving the social mission, on specific categories of individuals or stakeholders. This dimension refers to the evaluation of the coherence of the activities undertaken to accomplish the mission and its aims.

The assessment of this dimension considers the organisational inputs (tangible and intangible) used to support activities or processes for the production of goods or the supply of services (Ebrahim and Rangan, 2010). The organisation's mission represents its core activities according to its social and community goals (Ebrahim, 2010). Values, moral beliefs and principles are linked to the mission concept and thus form the base of the organisation's operations and shape its vision (Moore, 2000). Once the corporate identity (as the sum of the mission and vision) is defined, there is a need to develop key performance indicators that are able to measure and represent the action carried out to reach the final outcomes. These measures cannot fall within the traditional economic and financial metrics (Epstein and McFarlan, 2011).

Even if NPOs are primarily focused on developing and creating social value, they must still adopt strategies to guarantee the creation of economic value for long-term survival (Epstein and McFarlan, 2011). In NPOs, profit is a driver in the achievement of socially oriented purposes; therefore, it is a necessary factor for the efficient realisation of social value. The emerging need to measure social value creation and economic aspects make NPOs "double bottom-line" organisations (Dart *et al.*, 2010) as they simultaneously pursue social and economic value.

With regard to SCEs, the activities undertaken to accomplish the mission are based on human, relational and structural capital. Furthermore, the achievement of organisational performance is strongly related to the economic and social dimension.

In fact, SCEs are both market-oriented and mission-centred. Therefore, it would be appropriate to implement a multidimensional measuring system over two management-reference fields; which can be used to verify whether social cooperatives' capabilities are able to continuously answer to the social purpose for which they have been established. Those fields are as follows: economic-financial (a sustainable business requires effective planning and financial management) and mission-based (referable to the social effectiveness) fields.

3.1.3. The mission-based performance

Mission-based performance refers to the scale and the scope of the organizational objectives (Ebrahim and Rangan, 2014), which respectively answer the following questions: "What reach of operations?" and "What range of activities?". Every social mission statement refers to the scale of the problem that is going to be addressed by the organisation's intents required to address it. Since the scale of an organisation's activities will change and evolve over time, the performance

assessments must rely on the explicit target identified by the organisation in its operational mission. Several authors have proposed a set of measures that can express the assessment of the degree of satisfaction of social needs in order to realise the organisational mission.

In particular, Ebrahim and Rangan (2014), who focused on organisations driven primarily by a social purpose, offer a framework for identifying appropriate measures regarding the organisational mission and goals. The authors highlight that the most-used set of approaches to social performance measurement involve an assessment of output (measured at individual or group level, and the results are immediate), outcomes (measured in terms of community, population and ecosystem changes, and it has a medium-term view) and impacts (such as long-term impacts on communities and populations). Output has its roots in the evaluation of short-term programmes and projects, in terms of needs satisfaction, that an organisation runs in order to accomplish its mission, and the impact refers to a long-term positive effect achieved at a community or societal level. Moreover, they argued that the casual links between output and outcomes is not clear and that the monitoring and measuring of outcomes and impacts are beyond human control.

In their paper, Bagnoli and Megali (2011), and later, Andreaus and Costa (2014), point to social effectiveness as an aspect on which the management of an SE should focus the most. The proposed scheme demonstrates that a suitable evaluation of an SE's overall effectiveness could incorporate a process where organisational inputs and activities lead to outputs, outcomes and ultimately social impact.

With regard to inputs, the following must be considered: the responsible use of resources in terms of the cost efficiency of outputs and outcomes, socially or environmentally certified suppliers and healthy work conditions. Additionally, the activities undertaken to accomplish the mission will be evaluated in terms of achieved outputs. In fact, some examples of social effectiveness indicators could comprise the products and services obtained and provided, the productivity of the activities put in place to realise the mission and the quantitative indicators on the basis of concrete actions and in relationship to external benchmarks (Bagnoli and Megali, 2011). Furthermore, the outcomes focus on qualitative results and on the positive effect or benefits attained through the activities undertaken in the long term. Outcomes can be measured through indicators related to the positive effects on beneficiary, client, user or employee satisfaction, and with the level of achievement of a mission in relationship to chosen objectives (Bagnoli and Megali, 2011).

According to Kirk and Nolan (2010), the measures that are able to represent the NPOs mission performance are the target clients served, the geographical coverage and the areas of offered services. Amongst these measures, there is no common definition of organizational mission indexes, since the social or mission-based performance is strictly linked to organisational specificity.

Table 3.1 lists some of the KPIs related to mission-based performance. They have been developed based on the reference literature.

Table 3.1: List of KPIs for mission-based performance (Author's elaboration)

KPIs	Measure	Adapted by
Users	Number of services offered per year.	Ebrahim and Rangan (2014) Bagnoli and Megali (2011) Sanchis-Palacio (2013) Andreaus and Costa (2014)

Services	Number of satisfied beneficiaries per year (customers served).	Ebrahim and Rangan (2014) Bagnoli and Megali (2011) Andreaus and Costa (2014)
Paid workers	Number of jobs created per year and employee commitment to achieve the mission.	Bagnoli and Megali (2011) Andreaus and Costa (2014)
Volunteer	Capacity to recruit volunteers per year.	Bagnoli and Megali (2011)
Disadvantage worker	Number of disadvantaged workers in the workforce.	Bagnoli and Megali (2011)
Contributed income ratio	Extent to which externally generated resources contribute to overall financing of core activities.	Picciotti *et al.* (2014) Abraham (2006)

More specifically, SCEs "aim to pursue the general interest of the community in the human promotion and social integration of citizens" (Italian Law no. 381/91). This occurs either through the management of socio-health or educational services (type A) or through the conduct of any entrepreneurial activity that involves the employment of disadvantaged people (type B).

A suitable evaluation of mission-based performance must take into account different aspects related to the entire process of achieving social needs. The features are related to inputs (resources that contribute to the realisation of the organisational mission), outputs (in terms of products or services offered to achieve the mission), outcomes (in terms of benefits for intended beneficiaries) and impact (the long-term results for the wider community).

Inputs can be tangible and intangible. Tangible inputs are related to the economic and financial resources, while intangible resources refer to IC.

The output measures are evaluated in terms of the physical products or services delivered by the organisational activities. Outcomes are related to the evaluation of the qualitative results (positive effects on beneficiaries) of the activities undertaken to accomplish the mission. Finally, the impact measurement has a medium- and long-term view; it focuses on the organisation's contribution to the community, in terms of economic and social value creation and collective well-being.

In these terms, the mission-based performance of SCEs is measured by analysing the social impact. It represents the outcomes of social changes, improvements, or benefits that result from the mission programme and which affect targeted individuals, society or communities.

This dimension focuses on qualitative results, with the aim of evaluating the positive effects that flow from activities undertaken to accomplish the mission. The outcomes can be measured through KPIs related to the development and exploitation of resources. The KPIs can be linked to the growth of the company in terms of number of services, users, employees and costless resources.

In this study, the focus is on the firm's growth in terms of the number of users served—this number is seen as a measure of mission-based performance, in terms of goal achievement in

accordance with the organisation's mission statement. The higher the number of users served, the higher the numbers of beneficiaries satisfied and social needs met, and the higher the medium- and long-term community well-being.

Briefly, the number of users served is seen as measure of mission-based performance, in terms of goals achievement in accordance to organizational mission statement.

The performance measurement system play a key role for NPOs sustainability. Despite, the NPOs social aims, they should also be able to economically and financially survive to meet their aim and accomplish their tasks.

3.1.4.The economic and financial performance

Since NPOs have to respect the profit constraint, efficiency and effectiveness assume different meanings (Costa *et al.*, 2014). Efficiency refers to the relationship between input and output, which depend on the characteristics of the environment in which non-profit organisations operate. The realisation of specific strategies and activities, aimed at maximising and meeting the social value creation, identify the effectiveness of an NPO.

Bagnoli and Megali (2011) developed a three-level accountability process for SEs. The proposed model concerns the social effectiveness dimension (or the ability to achieve social goals), the institutional dimension (or the organisational legitimacy) and the economic and financial dimension (or the PMS). This accountability framework places the organisational mission at its core.

The institutional or organisational legitimacy can represent the multi-stakeholders' expectations while ensuring reasonable operations according to the organisational mission and the norms of society. Therefore, the economic and financial dimension and the social dimension are strictly linked to the organisation's legitimacy.

The economic and financial performance is a 'constraint' that must guarantee appropriate monetary and capital resources, in a constant and balanced way, to be sustainable over time and to be able to reach institutional legitimacy and the social (or mission) dimension (Epstein and McFarlan, 2011). A lack in this framework could generate imbalances, which could compromise the NPO's survival. When the reference community or society does not consider the organisation to be legitimate, a gap arises between society and the organisation, and this gap will compromise the organisation's long-term sustainability.

The economic-financial performance helps to identify organisational strengths and weaknesses by detecting financial anomalies, focusing attention on issues of organisational importance and sustaining its existing level of services (Glynn et al., 2003). An effective economic-financial performance demonstrates how resources are handled, and it is a crucial index for the realisation of the mission and the organisation's corporate goals and values.

Two questions are consequently able to investigate the economic-financial issue: "Do the social cooperatives have adequate money to support their missions?" and "What sources of funding are available to support these missions?" (Abraham, 2006). These questions concern the suitability and flexibility of financial resources.

This type of analysis plays an important role in the following: assessing the organisation's current financial state, establishing operations to accomplish its mission, evaluating the

performance over time and defining the organisation's future paths. Table 3.2 lists some of the KPIs related to economic and financial performance, which have been developed based on the reference literature.

Table 3.2: List of KPIs for economic and financial performance (Author's elaboration)

KPIs	Measure	Adapted by
ROA (Operating profit/ Total assets)	How efficient management is able to use its assets to generate earnings.	Abraham (2006) Sanchis-Palacio *et al.* (2013) Magnanelli et al. (2016)
ROE (Net Income/Shareholder's Equity)	The availability of expendable net assets to cover debt that the organizations could need to settle its obligations.	Abraham (2006) Sanchis-Palacio *et al.* (2013) Magnanelli et al. (2016)
Viability ratio	The availability of expendable net assets to cover debt that the organizations could need to settle its obligations.	Abraham (2006)
Primary reserve ratio	Provides a snapshot of financial strength and flexibility by indicating how long the institution could function using its expendable reserves without relying on additional net assets generated by operations and represent the amount of money remaining after all operating expenses	Abraham (2006)
Profit (or loss)/Turnover	Reflects the amount of self-financing conducted and highlights the part of a business' production value that remains after accounting for production costs and the members' and partners' remuneration.	Costa et al. (2012) Costa and Carini (2016)
Turnover/Total operating expenses	It aims at understanding the relation between operating expenses and turnover from the business activity.	Costa et al. (2012) Costa and Carini (2016)
Equity/Total assets	Refers to the cooperatives' degree of capitalization and to indirectly represent debt ratios in a business.	Costa et al. (2012) Costa and Carini (2016)
Fixed assets/Total assets	Measures the rigidity of assets by showing how much will return to liquidity in the long term.	Costa et al. (2012) Costa and Carini (2016)
Growth revenue	The ability to be financially successful through its various programs.	Epstein and McFarlan (2011)

According to Abraham (2006), an example of the economic-financial measures that can assess whether financial resources are sufficient to support the organisational mission are related to how efficiently management is able to use its assets to generate earnings (i.e., return on assets

[ROA]) and the availability of expendable net assets to cover debt that the organisations could require to settle their obligations (i.e., viability ratio). These measures provide a snapshot of financial strength and flexibility by indicating how long the institution could function using its expendable reserves without relying on additional net assets generated by operations, and they represent the amount of money remaining after all operating expenses (i.e., primary reserve ratio).

The analysis that Epstein and McFarlan (2011) provided on the economic and financial performance measures for NPOs adds to the relevance of an organisation's efficiency, in terms of costs incurred, revenue growth and its ability to be financially successful through its various programmes. Additionally, for the economic and financial dimension, Bagnoli and Megali (2011) have developed measures such as revenue, economic and social value added (VAES), cash flow and the weight of production costs on revenue, amongst others.

Magnanelli *et al*. (2016) affirm that the measurement of economic and financial performance is the greatest challenge for NPO practitioners and researchers. Furthermore, this dimension can be divided into organisational and operational performance. The former measures the return on equity (ROE), while the latter measures the ROA index.

Moreover, according to Sanchis-Palacio *et al*. (2013), who studied SEs in terms of business effectiveness, measures of both ROE and ROA are able to express the performance of NPOs. The contribution by Costa *et al*. (2012) to evaluating the efficiency and profitability of social cooperatives highlight that the economic and financial dimension cannot be limited to a simple analysis of measures that are based on traditional economic ratios.

Profitability represents a means to achieve the organisation's social purposes while guaranteeing its long-term survival. The indexes, utilised by the authors, that can evaluate the overall performance of social cooperatives are profit (or loss)/turnover, turnover/total operating expenses, equity/total assets and fixed assets/total assets.

The first index reflects the amount of self-financing conducted, and it highlights the part of a business's production value that remains after accounting for production costs and the members' and partners' remuneration. The second index aims to understand the relation between operating expenses and turnover from the business activity. The index equity/total assets refers to the cooperative's degree of capitalisation, and it indirectly represents the debt ratios in a business. Finally, the last index measures the rigidity of assets by demonstrating the amount that will return to liquidity in the long term.

In a more recent study on the contribution of social cooperatives, in terms of economic and financial performance and the number of employees, to the Italian economy, Costa and Carini (2016) confirmed the previous economic and financial measure in order to evaluate a social cooperative's performance. These articles shed light on possible economic and financial performance measures for social cooperatives, and it emphasises the necessity to develop empirical research regarding the reference field.

Despite the growing importance of social cooperatives in the non-profit sector in satisfying social and public needs, there is much that remains to be understood in terms of their institutional mechanisms, governance and accounting and accountability functioning (Benjamin, 2013).

The same conventional economic and accounting methods that for-profit organisations utilise are applied to SCEs; however, these approaches have limitations. First, social cooperatives are organisations that abide by the principles of democracy and solidarity, and they focus on social value creation. In fact, their mission is not primarily oriented to creating economic value, but rather

wealth for the entire community (Dart *et al.*, 2010; Austin *et al.*, 2006). Second, they are social-value oriented organisations, and their performance cannot simply be measured by traditional financial indicators or market share. In fact, economic and financial indicators fail to offer a comprehensive evaluation of corporate performance (Austin *et al.*, 2006). Third, SCEs are characterised by a multi-stakeholder profile, which must be satisfied.

According to the previous literature mentioned in this study, ROA is one of the possible measures that represents the economic and financial performance of SCEs in terms of profitability (Abraham, 2006; Sanchis-Palacio *et al.*, 2013; Magnanelli et al., 2016). This index is an operating profitability measure that is commonly used in financial analysis, and it is calculated as the ratio between operating profit and total assets (Trimbath, 2006; Kong and Thomson, 2009; Sanchis-Palacio et al., 2013). Although social cooperatives are non-profit organisations, they must be able to operate in balance and effectively manage their assets in order to survive in the long-term. Therefore, they must be capable of effectively and efficiently employing tangible and intangible resources, expressed by total assets.

3.2.Human, Relational and Structural capital as drivers of SCEs performance

Different researchers and practitioners have developed methodologies to measure the performance of NPOs, and still, there is a lack of tools for comparing these types of enterprises (Arena et al., 2015). The reason is twofold: on the one hand, some studies are general and do not offer specific indicators or measurement tools but only frameworks or guidelines about the steps that NPOs should follow to implement a PMS, and on the other hand, other studies are too specific and focus on particular types of NPOs.

This makes it difficult to replicate the studies across other organisations. These difficulties can be attributed to two antecedents. First, NPOs are heterogenic, and they differ in size, activities, purposes, management and relevant stakeholders. It is consequently not possible to develop a unique model to assess NPOs' performance. Second, a PMS can be useful for different reasons: it can have internal and external purposes, it can enable the internal decision-making processes or it can be used as a means of external reporting for stakeholder and reference community accountability. These peculiarities imply different designs of the PMS (Grieco et al., 2015).

However, there is consensus in some aspects. The PMS should be multi-dimensional, it refers to the social and economic dimensions, and it should highlight the achievement of the organisation's mission and the underlying drivers of the value-creation process.

With the advent of the knowledge-based economy, the roots of wealth creation for individuals, enterprises and nations have changed over time. The processes of social and economic wealth creation are moving from tangible to intangible assets, and knowledge represents one of the most important intangible assets in this phase (Viedma Marti, 2017).

Intellectual capital, which is a crucial resource that NPOs need to develop in order to effectively implement corporate strategy, acquire and maintain a long-lasting competitive advantage and improve corporate performance (Martinson and Hosley, 1993; Lettieri et al., 2004; Murray and Carter, 2005; Hume C. and Hume M., 2008), is seen as the sum of knowledge and other intangibles that produce and create value over time, and it represents the foundation for gaining competitive advantages, sustainable growth and corporate success (Choo and Bontis, 2002; Subramaniam and Youndt, 2005; Viedma Marti, 2017). In this context, managers and practitioners have agreed that the

evaluation of corporate performance should be based not only on tangible resources, but also, and primarily, on the measurement of IC.

IC is a crucial resource that NPOs need to develop in order to effectively implement corporate strategy, acquire and maintain a long-lasting competitive advantage and improve corporate performance (Martinson and Hosley, 1993; Lettieri et al., 2004; Murray and Carter, 2005; Hume C. and Hume M., 2008).

The non-profit sector is characterised by high levels of heterogeneity amongst its enterprises; this makes it difficult to identify a 'unique' path to achieve excellence. It would be helpful to identify the value drivers that promote a firm's specific success.

More specifically, for SCEs, IC can play a strategic role in achieving the mission or the raison d'être for which they have been established and in satisfying the interests of local communities, persons or social groups. Measuring IC in SCEs is useful in the formulation of business strategies, which are the base for the evaluation and identification of competitive forces, opportunities and threats, especially for social cooperatives, since company reputation and legitimacy, quality services and employee know-how are the most important intangible drivers for overall strategic success. Social cooperative enterprises deliver tailored and high-quality services, and to achieve excellence in terms of corporate performance, all resources should be managed with effectiveness and efficiency, the most important of these being knowledge assets such as IC.

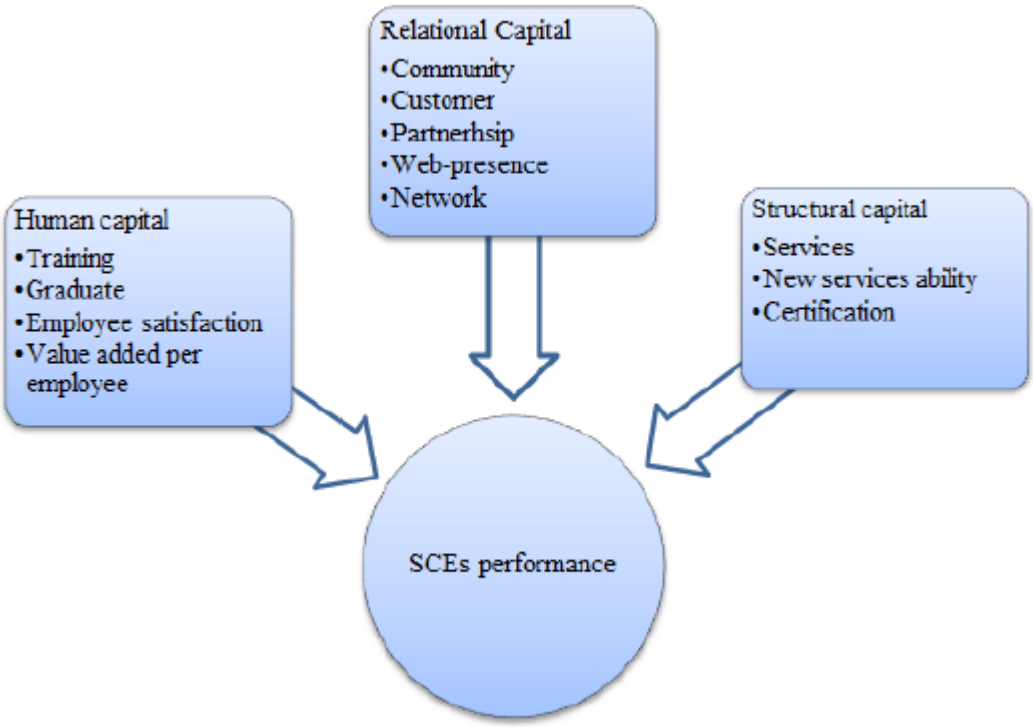
To the knowledge of the author of this thesis, there is no research in the extant business and management literature that empirically tests the relationship between social cooperatives' performance and the IC sub-components. The purpose of this research is to define a theoretical and empirical model that can assess and measure an SCE's performance, taking into account the strategic IC sub-components within a specific context of a company. An SCE's performance depends on the IC sub-components, and these measures should be integrated into its PMS.

The following framework (fig. 3.1) sets the conceptual procedure for evaluating the influence of each measurement indicator on performance and the importance of each intangible asset in achieving the corporate goals.

Intellectual capital have been divided into some IC sub-components in order to highlight the main value drivers for SCEs, and IC directly influences performance measurement in the model.

Intellectual capital consists of the following sub-dimensions: human, relational and structural capital. For each IC, value drivers have been developed to assess these IC sub-dimensions within a company.

Figure 3.1: The contribution of IC sub-components to SCEs performance (Author's elaboration).



Human capital refers to knowledge assets in terms of training, graduates, employee satisfaction and value added scaled per employee. These HC sub-dimensions concern the capability of employees to generate, distribute and share knowledge and create business value through their available intangible resources. Therefore, this dimension focuses on the fundamental role of the HC value drivers in achieving business goals, and it accounts for the modalities in which expertise, capabilities, skills and emotions improve company performance.

Social cooperatives are characterised by human-intensive production processes, which means that HC is directly involved in the provided services; it is responsible for quality and the operations undertaken to accomplish the mission and thus corporate performance. Social cooperative enterprises consist of people, who have the capacity to hold knowledge, skills, capabilities and problem solving abilities that can be acquired through training and education activities, and they represent the most important investments in HC. A high number of specialised employees guarantees more competences, stability and high-quality services; moreover, the contribution of a collaborator increases over time as a result of learning processes from experience, provided that they are adequately integrated into specific investments in staff development (Bontis et al., 2000; Kong, 2010; Defourney and Nyssens, 2010; Veltri and Bronzetti, 2015). Human capital in SCEs plays a key role in generating innovation, in terms of the creation, transfer and generation of knowledge assets, and in bringing competitive advantages in terms of efficiency and the quality of provided services.

The RC sub-component refers to the company's external relationships in terms of the quality of customer and community relationships, the level of commitments and collaborations with external partners, the company's on-line web presence and the choice of belonging to a network. Since SCEs are heavily involved in external relationships with government agencies, business

corporations, different types of NPOs, potential donors, employees, volunteers, customers and end users, their RC is extensive. The strength and quality of relationships with external stakeholders foster the continuous flow of information amongst the network partners, thereby providing opportunities for resource sharing while improving corporate performance (Ordóñez de Pablos, 2003; Kong, 2010). High-quality relationships amongst the partners of social cooperatives set the foundation for a good reliable reputation, which plays a key role in assessing the organisation's legitimacy. A web presence, which is essential for every business (Greenberg and MacAulay, 2009), enables collaborative opportunities and information sharing, and it allows an organisation to reach and engage with existing and prospective partners. It plays an important role in attracting potential donors, volunteers, financing members and recognition from public and private institutions.

Finally, SC is a supportive infrastructure for human resources and knowledge (Benevene et al., 2017). Numerous elements are relevant, for example, innovative behaviour; investment in networking activities; sustainability and quality certifications; and the dissemination of corporate culture amongst workers, volunteers and board members. The implementation of sustainability or quality certifications (i.e., ISO 9001, EMAS and SA8000) can represent a fundamental change in business philosophy and corporate practices, generating a common and shared language. Innovative behaviour strongly impacts corporate success and enables people and enterprises to continually adapt to environmental changes. In SCEs, innovation is considered to be a key factor for creating value, and it is assessed through the ability to develop new services that can satisfy different needs and beneficiaries (Knight 1999; Skandia 1994; Bontis 1998).

The second level of the framework condenses corporate performance (comprising corporate identity, mission, vision and company goals). It is divided into mission-based performance and economic and financial performance. Therefore, the outcome of cooperative enterprises is twofold: to increase economic performance (i.e., financial outputs) and to promote mission-based performance (i.e., the execution of social outputs) (Drucker, 2006; Borzaga and Defourny, 2004; Young et al., 2007; Zamagni, 2011).

An SCE's mission-based performance can be measured by the number of users served, given that HC is the engine of the operational activities and the final purpose that has to be satisfied. More specifically, the strategic goals of SCEs refer to the satisfaction of social needs that have been unmet by the Welfare State. Investigating the number of users served consequently allows one to indirectly assess the number of services provided, the needs satisfied and the organisation's effectiveness.

The ROA is the profitability index that is able to represent the economic and financial performance of SCEs. It is calculated as the ratio of operating profit to total assets. The operating profit is generated from the firm's core business operations, and it is obtained through the difference between gross income and total operating expenses. The total asset refers to the overall tangible and intangible resources that the enterprise owns and which must be effectively and efficiently employed.

Given that SCEs run commercial activities to achieve their missions, the measurement of ROA allows for the assessment of the their ability to create value and maximise their assets without relying on external resources. Low values of this index may reflect a low ability and poor efficiency of organisational activities in generating profits, and they emphasise the need for greater reinvestments in internal assets (tangible and intangible) year by year.

The aim of social cooperatives is to create social value, boost cultural wealth, promote

socio-economic development, and stimulate social change. Therefore, intangible assets become a crucial lever for corporate performance and effectiveness (Onyeiwu, 2003; Kong, 2010).

The integration of a multidimensional PMS and the IC sub-components is the means by which SCEs communicate the way in which social and economic value is created and enhanced over the short, medium and long term through the exploitation of intangible assets. Additionally, with regard to the implementation of a PMS for SCEs, there are some methodological issues. First, the social dimension must be defined on a conceptual level (identifiable through the mission statement) and then translated into measurable indexes. Second, the development of a comprehensive and reliable economic and financial performance is difficult due to the organisation's hybrid nature.

Despite the growth of SCEs in terms of active units, provided services and the number of volunteers and employees, there is a lack of empirical studies regarding these organisations. Therefore, this study attempts to take into account the key characteristics of SCEs and to provide information tailored to their social, economic and financial performance in relation to their main IC value drivers.

CHAPTER FOUR

Intellectual capital: an empirical analysis

4.1. Research methodology

4.1.1.Hypothesis' development

In order to evaluate the effect of IC sub-dimension on social cooperative' performance (RQ1 and RQ2), two hypotheses have been developed.

The social cooperative enterprises combine social and commercial activities and the corporate success includes both dimensions (Ebrahim et al., 2014). It follows that it would be appropriate to implement a multidimensional performance system that simultaneously considers the social purposes and the economic-financial aims. The assessment of economic-financial performance is necessary to understand if SCEs are able to satisfy in a continuous, durable and autonomous way the social purpose they have been created for (Costa and Carini, 2016; Magnanelli et al., 2016; Andreaus and Costa, 2014). The social performance considers the social impact, in terms of benefits and positive effects, generated through the pursuit of business activity, aimed at meeting the social mission, towards certain categories of individuals or stakeholders. The social performance can be measured through the social outcomes related to the development and enhancement of resources in terms of employees' number, volunteers, satisfied users, provided services and others (Ebrahim and Rangan, 2014; Andreaus and Costa, 2014; Epstein and McFarlan, 2011).

In the knowledge-based economy, intellectual capital is considered an essential intangible resource for business success and it is seen as the primary source of sustainable competitive advantage (Teece et al., 1997; Choo and Bontis, 2002; Subramaniam and Youndt, 2005). Intellectual capital produces multiple effects throughout the organization and guarantees real benefits, because knowledge-based resources tend to be valuable, rare and neither imitable nor substitutable (Nelson and Winter, 1982; Barney, 1991; Bolino et al., 2002; Kong and Ramia, 2010). Intellectual capital (IC) is an important resource that SCEs need to develop in order to effectively implement corporate strategy, acquire and maintain a long-lasting competitive advantage and improve corporate performance (Martinson and Hosley, 1993; Lettieri et al., 2004; Murray and Carter, 2005; Hume C. and Hume M., 2008).

Thus the first research hypothesis is as follows:

H1- The IC sub-dimensions (human capital, relational capital, structural capital) affect the economic-financial performance of social cooperative enterprises.

In addition, IC can play a strategic role for social cooperatives in order to achieve the mission or the raison d'être for which they have been established and to satisfy the interests of local communities, persons or social groups. The social dimension concerns the strategic goals related to the corporate mission which are not easy to define and measure (Bagnoli and Megali, 2011; Ebrahim*et al*., 2014). This dimension can be measured through the assessment of the social needs'

satisfaction degree. The assessment of mission-based performance has to consider the organizational inputs (tangible and intangible) used to support activities or processes for the production of goods or supply of services (Ebrahim and Rangan, 2010).

The second research hypothesis is as follows:

H2- The IC sub-dimensions (human capital, relational capital, structural capital) influence the social performance of social cooperative enterprises.

4.1.2. Sample's and variables' definition

In order to test the previously research hypothesis (H1 and H2), a survey was conducted during the period March 2016 –January 2017 and a questionnaire was sent via email, together with a cover letter, to the founding members of Italian social cooperative enterprises

The total population of 2,480 organizations have been selected from AIDA database and it is composed of social cooperatives, according to Italy's legislative decree 381/1991, identifiable as typology A (i.e., healthcare, social or educational services) and typology B (i.e., other services, such as agricultural and commerce services as well as general services). Specifically, the sample's social cooperatives belong to four specific sectors of activities (Ateco codes 2007: 85. Education, 86. Health service activities, 87. Residential care services, 88. Non-residential social activities, 96. Other personal service activities).

The sample's territorial dimension was determined by referring to the notion of North, South and Central Italy used by the Italian Institute of Statistics (ISTAT). Marche, Lazio, Umbria and Tuscany belong to the central regions. While, Valle D'Aosta Piemonte, Liguria, Lombardia, Emilia Romagna, Veneto and Friuli Venezia Giulia belong to northern regions. Finally, Sardinia, Sicily, Calabria, Basilicata, Puglia, Campania, Molise and Abruzzo belong to the southern regions.

The survey was designed to gather background information about the social cooperative enterprise, as well as data pertaining to the three sub-components of IC; while, financial performance data are gathered from AIDA database.

The survey asked a variety of questions in three sections as follows (Table 4.1).

Table 4.1: Questionnaire design

Questionnaire sections	Areas of investigations
Respondents general information	• Educational level • Year of experiences • Role within the organizations
SCEs general information	• Geographic localization • Sector of activities (Type A or B) • Mission and vision
Social performance information	• Number of users served

Intellectual capital sub-dimensions (human, relational and structural capital)	• Training activities • Graduates level • Employee satisfaction • Value added_Employee • Customer • Community • Web-presence • Network • Number of services • New services ability • Certification

The first section requested general information about the denomination of the enterprise, the geographical localization, the sector of activities and the organizational corporate identity (mission and vision) and additional information about the the respondent in terms of education level, experience and role within the organization.

The second section investigated the mission-based performance of the enterprise by analysing its social impact. This dimension focused on qualitative results, with the aim of evaluating the positive effects emerging from activities undertaken to accomplish the mission. The outcomes can be measured through key performance indicators related to development and exploitation of resources.

Finally, the third section identified the most representative and valuable intangible assets for social cooperatives through a set of indicators representing the three sub-categories of IC (human capital, structural capital and relational capital).

After the data collection, several empirical analyses have been conducted.

First, a principal component analyses (PCA) followed by an orthogonal varimax rotation in order to identify the principal components for each IC sub-dimension.

Second, two ordinary square regression models were used to test the hypotheses and to verify the effect of each IC sub-dimension on the financial and social performance of cooperative enterprises. In accordance to the statistical requirement for OLS analysis, dependent and independent variables have been identified.

In particular, the first regression model developed investigates the effect of IC sub-components on economic performance for fiscal 2014.

The dependent variable was represented by ROA, an operating profitability measure commonly used in financial analysis calculated as the ratio between operating profit and total assets (Trimbath, 2006; Kong and Thomson, 2009; Sanchis-Palacio et al., 2013). Although social cooperatives are non-profit organisations, they must be able to operate in balance and effectively manage their assets in order to survive in the long-term. Thus, they have to be capable to effectively and efficiently employ tangible and intangible resources, expressed by total assets.

The independent variables are the key performance indicators per IC sub-dimensions (human, relational and structural capital) respectively identified in tables 4.2., 4.3. and 4.4. These set of variables are measured trough a Likert scale and it ranges from 1 to 8 and it is used to avoid that respondents would choose the mean value, without expressing a positive or negative judgement. In this case respondents can make a positive or negative assessment with a different

degree of intensity.

The second model investigates the effect of IC sub-components on social performance for fiscal 2014. The dependent variable was represented by the number of served users (Ebrahim and Rangan, 2014; Andreaus and Costa, 2014; Epstein and McFarlan, 2011) that represents the social output, calculated as the ratio between the users' number and the employees' number in 2014.

The independent variables are the same for both models.

Table 4.2: Human capital KPIs for SCEs

HC sub-dimensions	IC KPIs	Measures
HC	Training	The number of yearly training hours for employee.
HC	Graduate	The number of graduated employees scaled by total employees.
HC	Employee satisfaction	The employee satisfaction is assessed through a 1-to-8 Likert-type scale and it represents the judgement given by the respondent about the degree of employees' satisfaction.
HC	Value added_Emp	The total value added (total revenues minus external operating costs) scaled by the total employee cost.

Table 4.3 : Relational capital KPIs for SCEs

RC sub-dimensions	IC KPIs	Measures
RC	Customer	The quality of relationships with customers. It is measured through a 1-to-8 Likert-type scale and it represents the judgement given by the respondent about the quality of relationship with users.
RC	Community	The quality of relationships with the reference community. It is measured through a 1-to-8 Likert-type scale and it represents the judgement given by the respondent about the quality of relationship with the community.
RC	Partnership	The quality of relationships with partners. It is measured through a 1-to-8 Likert-type scale and it represents the judgement given by the respondent about the quality of relationships with partners(other social cooperatives, for-profit enterprises, associations, universities, government agencies, users, etc.).
RC	Webpresence	The quality of presence on web. It is measured through a 1-to-8 Likert-type scale and it represents the judgement given by the respondent about the quality and effectiveness of web presence through a site, blog etc.
RC	Network	The belonging to a network. It is a dummy variable that takes the value 1 if the social cooperative enterprise belongs to a network (Consortium, association, etc.), otherwise 0.

Table 4.4: Structural capital KPIs for SCEs

SC sub-dimensions	IC KPIs	Measures
SC	Services	The number of provide services scaled by total employees.
SC	New services ability	The ability to provide new services. It is measured through a 1-to-8 Likert-type scale and it represents the judgement given by the respondent about the capacity to supply new services to users.
SC	Certification	The certifications holding by the social cooperative enterprise. It is a dummy variable that takes the value 1 if the cooperative enterprise holds one or more certifications (ISO 9001, ISO 14001, EMAS, SA 8000, etc.), otherwise 0.

In both models control variables have been added. Control variables are related to the dependent variable and help in avoiding the distortive effect due to possible missing independent

variables. All variables have been normalized. Three control variables have been used as follows:

- Sector is a dummy variable that takes the value 1 if the enterprise belongs to the typology A, otherwise 0;
- North is a dummy variable that takes the value 1 if the enterprise is located in the North regions of Italy, otherwise 0;
- Centre is a dummy variable that takes the value 1 if the enterprise is located in the central regions of Italy, otherwise 0.

These control variables are traditionally used in performance studies for NPOs (Core et al., 1999; Core et al., 2006; Bhagat and Bolton, 2008; Kirk & Nolan, 2010).

Once defined all the variables, two are the tested models: model 1 and model 2.
Model 1 dedicated to the financial performance is presented as follows:

H1- The IC sub-dimensions (human capital, relational capital, structural capital) affect the economic-financial performance of social cooperative enterprises.

$$ROA14 = \alpha_i + \beta_1 Training_i + \beta_2 Graduate_i + \beta_3 EmplSatisf_i + \beta_4 ValueAdd\_EmplCost_i + \beta_5 Services_i + \beta_6 NewServicesAbil_i + \beta_7 Certifications_i + \beta_8 Customer_i + \beta_9 Community_i + \beta_{10} Partnership_i + \beta_{11} Webpresence_i + \beta_{12} Network_i + \beta_{13} Sector_i + \beta_{14} North_i + \beta_{15} Centre_i + \varepsilon_i$$

Model 2 devoted to the social performance is presented as follows:

H2- The IC sub-dimensions (human capital, relational capital, structural capital) influence the social performance of social cooperative enterprises.

$$USERS14 = \alpha_i + \beta_1 Training_i + \beta_2 Graduate_i + \beta_3 EmplSatisf_i + \beta_4 ValueAdd\_EmplCost_i + \beta_5 Services_i + \beta_6 NewServicesAbil_i + \beta_7 Certifications_i + \beta_8 Customer_i + \beta_9 Community_i + \beta_{10} Partnership_i + \beta_{11} Webpresence_i + \beta_{12} Network_i + \beta_{13} Sector_i + \beta_{14} North_i + \beta_{15} Centre_i + \varepsilon_i$$

Where: *ROA14 is Return on Assets; Users14 is the number of served users scaled by total employees; Training is the number of yearly training hours for employee; Graduate is the number of graduated employees scaled by total employees; EmplSatisfis the employees' satisfaction assessed through a 1-to-8 Likert-type scale; ValueAdd_Empl is the total value added scaled by the total employee cost; Services is the number of provide services scaled by total employees; NewServicesAbil is the ability to provide new services assessed by a Likert scale from 1 to 8; Certifications is a dummy variable that takes the value 1 if the enterprise holds one or more certifications, otherwise 0; Customer is the quality of relationships with customers assessed by a Likert scale from 1 to 8; Community is the quality of relationships with the reference territorial community assessed by a Likert scale from 1 to 8; Partnership is the quality of relationships with partners assessed by a Likert scale from 1 to 8; Webpresence is the quality of presence on web assessed by a Likert scale from 1 to 8; Network is a dummy variable the takes the value 1 if the enterprise belongs to a network, otherwise 0; Sector is a dummy variable that takes the value 1 if the cooperative enterprise is*

located in the North regions, otherwise 0; Centre is a dummy variable that takes the value 1 it the cooperative enterprise is located in the central regions, otherwise 0.

Additionally, in order to enrich the concept of RC, which has a pivotal role for SCEs, in the survey, the respondents were called to give a judgment on the use measure of the services provided by network. Each variables is measured through a 1 to 8 Likert-type scale, as shown in the table 4.5.

The Principal Component Analysis has been applied in order to identify the main network services' categories exploited by SCE.

Table 4.5: Services provided by the social cooperatives' network

Network Services	Measures
Strategy support	It is assessed through a 1-to-8 Likert-type scale and it represents the judgment about the exploitation of strategy support services.
Image promotion	It is assessed through a 1-to-8 Likert-type scale and it represents the judgment about the exploitation of image promotion services.
Information sharing	It is assessed through a 1-to-8 Likert-type scale and it represents the judgment about the exploitation of information sharing services.
Training services	It is assessed through a 1-to-8 Likert-type scale and it represents the judgment about the exploitation of employees' training services.
Competition support	It is assessed through a 1-to-8 Likert-type scale and it represents the judgment about the exploitation of competition support services.
New services' promotion	It is assessed through a 1-to-8 Likert-type scale and it represents the judgment about the exploitation of new services' promotion.
General contracting	It is assessed through a 1-to-8 Likert-type scale and it represents the judgment about the exploitation of general contracting services.
Commercial services	It is assessed through a 1-to-8 Likert-type scale and it represents the judgment about the exploitation of commercial services.
Administration services	It is assessed through a 1-to-8 Likert-type scale and it represents the judgment about the exploitation of administration services.
Recruitment support	It is assessed through a 1-to-8 Likert-type scale and it represents the judgment about the exploitation of recruitment support services.

4.2.Findings

4.2.1.Descriptive statistics

A total of 151 completed questionnaires were returned for a response rate of 6.1 per cent. More specifically, the sample consists of 124 enterprises providing social, health and educational services (i.e., Typology A), and 27 enterprises providing work integration for disadvantaged people (i.e., Typology B). Based on the educational level, almost half of respondents (48%) have a bachelor or master degree, the (41%) declared to have an high school diploma and finally, only the (11%) have a post graduate training.

The 53% of the sample has total assets equal or superior to the sample's median equal to 1,366,000 euro. Social cooperatives located in the Northern and in the Central regions are on average bigger than social cooperatives located in the South of Italy. In addition, the A-type social cooperatives are characterized on average by a higher level of employment rate (209 employees)

than B-type social cooperatives (69 employees). The employment level is on average higher for SCEs located in the Northern regions than in the rest of Italy.

Table 4.6 shows the geographical distribution based on the belonging sector. The sampled social cooperatives are mainly located in the Northern regions with 61% of total type-A and 74% of total type-B, while in the Central regions the type-A cooperatives are prevalent (20%) than the type-B ones (11%). In the South the type-A cooperatives represent 19% of total and the type-B ones are equal to 15%. Table 4.7 shows that social cooperatives in the North of Italy are older than social cooperatives located in the Centre and South and that, on average, Type-A cooperatives are older than type-B cooperatives.

Table 4.6: Number of social cooperatives by geographic location and by sector

Geographic distribution	Number of social cooperatives A-type	% of social cooperatives A-type	Number of social cooperatives B-type	% of social cooperatives B-type
North	76	61%	19	74%
Centre	25	20%	3	11%
South	23	19%	5	15%
Total	124	100%	27	100%

Table 4.7: Social cooperatives' age by geographic location and by sector

Geographic distribution	Mean Age of social cooperatives A-type	Mean Age of social cooperatives B-type
North	22	19
Centre	21	17
South	21	11

Table 4.8 shows descriptive statistics for the sample. The average ROA is equal to 2.88% with a standard deviation of .0843 and a minimum value of -43.06% and a maximum one of 37.04%. The number of served users is on average equal to 2,585, with a maximum value of 100,000 users. The total yearly training hours are on average 1,751, with a minimum value of zero and a maximum value of 15,000. The mean value of graduate employees is 139, with the minimum and maximum values respectively of zero and 3,500. The value added per employee cost is on average equal to 1.19, with a minimum of 0.42 and a maximum of 12.74. The capacity to provide new services takes on values from poor (2) to very good (8), but on average, is assessed at (6.3). The cooperative enterprises holding one or more certifications represent 79.47% of sample firms. The quality of relationships with the customers takes values between very bad (1) and very good (8), but it is considered, on average, good (7.11).

In addition, the quality of relationships with the reference community is assessed discrete (6.94) and ranges between very bad (1) to very good (8). The quality of relationships with partners is, on average, sufficient (5.65), with values that range between poor (2) and very good (8). The web presence by social cooperatives is considered, on average, sufficient (5.39).

The social cooperatives belonging to a network represent 76.35% of the sample.

Table 4.8: Descriptive statistics

Descriptive statistics					
Variables	Obs.	Mean	Std. Dev.	Min.	Max.
ROA14	151	0.0288	0.0843	-0.4306	0.3704
Users14	150	2585.5	9866.2	0	100000
Training	151	1751.2	2693.7	0	15000
Graduate	151	139.90	403.26	0	3500
EmplSatisf	123	6.9837	0.9231	1	8
ValueAdd_Empl	150	1.1903	0.9762	0.4250	12.744
Customer	151	7.1125	0.8682	1	8
Community	151	6.9403	1.1327	1	8
Partnership	151	5.6556	1.3713	2	8
Webpresence	151	5.3973	1.5623	1	8
Network	148	0.7635	0.4263	0	1
Services	151	5.0794	4.2560	1	39
NewServicesAbil	151	6.3245	1.4168	2	8
Certifications	151	0.7947	0.4052	0	1

Tables 4.9 and 4.10 show the descriptive statistics of network services by geographic localization and sector of SCEs. The social cooperatives belonging to a network represent 76.58% of the sample. The network allows to access to a wide range of services supporting the SCEs' core activities. These enterprises, especially if they are located in the South and if they belong to type-A, are more likely to use network services such as commercial services and competition support.

In addition, A-type social cooperatives, mainly if located in the Centre, exploit services of image promotion, information sharing, training, strategy support, new services' promotion and general contracting support.

The SCEs of Centre use on average greater training services and competition support than Northern SCEs, the differences are both significant at 10% (confirmed by the One Way Anova through the Levene and Bonferroni test).

The administrational services are mainly exploited by A-type social cooperatives, located in the Northern regions. Moreover, A-type enterprises are more likely to use recruitment support services, particularly if they are located in the Northern regions.

Table 4.9: Descriptive statistics of network services by geographic localization

Geographic distribution	**North**		**Centre**		**South**	
Variables	*Mean*	*Std. Dev.*	*Mean*	*Std. Dev.*	*Mean*	*Std. Dev.*
Image promotion	4.031	1.789	4.428	2.007	4.296	1.877
Information sharing	5.136	1.692	5.500	1.551	5.074	1.298
Training activities	5.147	1.780	6.000	1.465	5.222	1.671
Strategy support	3.652	1.736	4.357	1.850	3.703	1.564
New services promotion	4.221	1.805	4.500	1.753	4.481	1.718
Competition support	3.568	1.998	4.464	1.773	4.518	1.888
Recruitment support	2.852	1.973	2.714	1.674	2.777	2.114
General contracting	2.694	1.973	3.357	2.058	2.740	2.176
Administration support	4.631	2.306	4.392	2.424	3.481	2.375
Commercial services	3.273	2.075	3.107	1.728	3.407	2.341

Table 4.10: Descriptive statistics of network services by sector

Activity sector	Type-A		Type-B	
Variables	*Mean*	*Std. Dev.*	*Mean*	*Std. Dev.*
Image promotion	4.217	1.828	3.385	1.875
Information sharing	5.233	1.562	5.037	1.764
Training activities	5.362	1.735	5.148	1.680
Strategy support	3.862	1.721	3.592	1.906
New services promotion	4.387	1.770	4.148	1.915
Competition support	3.927	1.930	3.740	2.211
Recruitment support	2.870	1.933	2.666	1.980
General contracting	2.846	2.004	2.666	2.166
Administration support	4.451	2.352	4.185	2.512
Commercial services	3.266	2.032	3.259	2.158

4.2.2.The principal component analysis (PCA) of IC sub-dimensions

In order to answer to the first research question- *Which are the principal components of IC sub-dimensions for SCEs*?- a PCA was performed in order to identify the main factors per IC sub-dimensions.

As for human capital two main factors have been identified (Table 4.11); the first component is called Education and it includes training and graduate, which represent the most important investments in human capital by SCEs. The second component is called Employees' Productivity and Satisfaction and it refers to the value added per employee cost and to the degree of employees' satisfaction. In fact, a positive correlation exists between the two variables, but not significant. These two components for human capital explain 63.03% of cumulative variance.

Table 4.11: PCA for Human Capital (rotated components)

Variable	Education	Employees' Productivity and Satisfaction
Training	**0.7014**	-0.1680
Graduate	**0.7109**	0.1589
EmplSatisf	-0.0307	**0.7264**
ValueAdd_Empl	0.0419	**0.6472**
Cumulative Variance	**0.3527**	**0.6303**

Two main components have been found for the relational capital (Table 4.12). The first one is called Relationships' quality and it concerns the quality of relationships with customers and the reference territorial community; while the second component is called Collaborative and communicative capacity and it is related to the corporate capacity to effectively collaborate with external partners and to effectively communicate to the outside by website. A cumulative variance of 77.19% is explained by two components.

Table 4.12: PCA for Relational Capital (rotated components)

Variable	Relationships' quality	Collaborative and communicative capacity
Customer	**0.7130**	-0.0302
Community	**0.7010**	0.0312
Partnership	0.0120	**0.7050**
Webpresence	-0.0124	**0.7079**
Cumulative Variance	**0.4025**	**0.7719**

Finally, after performing a factor analysis of structural capital variables, two main components have been identified (Table 4.13). The first one is called Social needs' satisfaction and it is related to the capability to satisfy social needs through provide services and served users; while the second component is called Services' Innovation and it concerns the ability to provide new services. The explained cumulative variance is equal to 82.26%.

Table 4.13: PCA for Structural Capital (Rotated components)

Variable	Social needs' satisfaction	Services' innovation
Users14	**0.7048**	-0.0744
Services14	**0.7094**	0.0736
NewServicesAbil	0.0002	**0.9945**
Cumulative Variance	**0.4875**	**0.8226**

4.2.3.The principal component analysis (PCA) of provided services by the network

In order to focus on the importance to belonging network, a Principal Component Analysis has been applied in order to identify the main network services' categories exploited by SCEs (table 4.14). The first one, called Strategic and Competitive Services, refers to the network services able to improve the competitive ability of SCEs through innovation, training, information sharing and image promotion; it explains 44.18% of total variance. While the second component is represented by the Administrative and Commercial Services, that are typically operative services useful to reduce the corporate costs and it explains 10.66% of total variance. The explained total cumulative variance is equal to 54.85%.

Table 4.14: PCA on network services (KMO = 0.845)

Pattern Matrix[a]		
	Strategic and Competitive Services	***Administrative and Commercial Services***
Strategy support	0.783	
Image promotion	0.740	
Information sharing	0.769	
Training services	0.752	
Competition support	0.678	
New services promotion	0.609	
General contracting	0.517	
Services commercial		0.854
Administrative support		0.785
Recruitment support		0.686
Extraction Method: Principal Component Analysis. Rotation Method: Promax Rotation.		

4.2.4. The regression models

In order to test the hypothesis 1 (H1) and hypothesis 2 (H2), two regression models have been applied in order to investigate the effect of IC sub-dimensions on social cooperatives performance.

The regression models provide a picture of yearly analysis and it is able to underline the IC sub-dimensions differences with respect to economic and social performance. More specifically, once defined all the variables, two are the tested models: model 1 and model 2.

Model 1 dedicated to the financial performance is presented as follows:

H1- The IC sub-dimensions (human capital, relational capital, structural capital) affect the economic-financial performance of social cooperative enterprises.

$$ROA14 = \alpha_i + \beta_1 Training_i + \beta_2 Graduate_i + \beta_3 EmplSatisf_i + \beta_4 ValueAdd\_EmplCost_i + \beta_5 Services_i + \beta_6 NewServicesAbil_i + \beta_7 Certifications_i + \beta_8 Customer_i + \beta_9 Community_i + \beta_{10} Partnership_i + \beta_{11} Webpresence_i + \beta_{12} Network_i + \beta_{13} Sector_i + \beta_{14} North_i + \beta_{15} Centre_i + \varepsilon_i$$

Model 2 devoted to the social performance is presented as follows:

H2- The IC sub-dimensions (human capital, relational capital, structural capital)

influence the social performance of social cooperative enterprises.

$$USERS14 = \alpha_i + \beta_1 Training_i + \beta_2 Graduate_i + \beta_3 EmplSatisf_i + \beta_4 ValueAdd\_EmplCost_i + \beta_5 Services_i + \beta_6 NewServicesAbil_i + \beta_7 Certifications_i + \beta_8 Customer_i + \beta_9 Community_i + \beta_{10} Partnership_i + \beta_{11} Webpresence_i + \beta_{12} Network_i + \beta_{13} Sector_i + \beta_{14} North_i + \beta_{15} Centre_i + \varepsilon_i$$

Where: *ROA14 is Return on Assets; Users14 is the number of served users scaled by total employees; Training is the number of yearly training hours for employee; Graduate is the number of graduated employees scaled by total employees; EmplSatisfis the employees' satisfaction assessed through a 1-to-8 Likert-type scale; ValueAdd_Empl is the total value added scaled by the total employee cost; Services is the number of provide services scaled by total employees; NewServicesAbil is the ability to provide new services assessed by a Likert scale from 1 to 8; Certifications is a dummy variable that takes the value 1 if the enterprise holds one or more certifications, otherwise 0; Customer is the quality of relationships with customers assessed by a Likert scale from 1 to 8; Community is the quality of relationships with the reference territorial community assessed by a Likert scale from 1 to 8; Partnership is the quality of relationships with partners assessed by a Likert scale from 1 to 8; Webpresence is the quality of presence on web assessed by a Likert scale from 1 to 8; Network is a dummy variable the takes the value 1 if the enterprise belongs to a network, otherwise 0; Sector is a dummy variable that takes the value 1 if the cooperative enterprise is located in the North regions, otherwise 0; Centre is a dummy variable that takes the value 1 it the cooperative enterprise is located in the central regions, otherwise 0.*

The estimation models have taken into account the following:

- R-squared as a statistical measure of how close the data are to the fitted regression line. It is also known as the coefficient of determination, or the coefficient of multiple determination for multiple regression.
- The adjusted R-squared compares the explanatory power of regression models that contain different numbers of predictors.
- The variance inflation factor (VIF) quantifies the severity of multicollinearity in an ordinary least squares regression analysis. Whether the value of multicollinearity range between 1 and 2, then, the econometrical models do not have problem of multicollinearity.
- F-statistics which refers to the models significance. It tests the null hypothesis (Ho) for which all the coefficient are contemporary equal to zero. Whether the obtained result is significant, then the null hypothesis (H0) is rejected and the alternative hypothesis (H1) is accepted. It means that at least one of the coefficient is different from zero.
- Heteroscedasticity means that OLS estimators are not the Best Linear Unbiased Estimators (BLUE) and their variance is not the lowest of all other unbiased estimators. One of the assumptions of the classical linear regression model is that there is no heteroscedasticity.

The results obtained by applying the previous observations make it possible to consider statistically significant the models used.

In order to measure the linear correlation between the variables of both models, the Pearson correlation has been applied. The significant findings of Pearson correlation are described in Table 4.15. The normalized variables have been used in order to obtain reliable results. In all cases, the coefficients of Pearson correlation are lower than 65%. A weak significant positive correlation exists between the dependent variable ROA and the quality of the relationships with the community (.232). In addition, ROA is weakly and positively correlated with the value added per employee (.277). Thus, the productivity per employee and the perceived quality of relationships with the community would seem to be positively associate to a better financial performance.

But ROA is weakly and negatively correlated with the training hours per employee (-.244) and with the number of served users (-.164). The negative signs of both the served users and the training hours are probably attributable to an important cost increase which necessarily reduces the operating profit.

A strong significant positive correlation (.605) has been found between the number of served users and the number of training hours per employee. Additionally, the number of served users is weakly and positively correlated with the value added per employee cost (.221) and moderately correlated with the number of provided services (.462).

Training hours result to be positively correlated with the number of graduates (.410) and with the number of provided services (.559). A high level of training hours, graduate employees and productivity guarantees more competencies, skills, stability and ensures a better satisfaction justifying a greater number of services provided and served users (Kong and Ramia, 2010).

The ability to create new services results to be weakly and positively correlated with the quality of the relationships with partners (.174) and the presence on web (.197). while, the capability to create new services by the cooperatives is moderately and positively correlated with the quality of the relationships with the customers (.436) and the community (.452). The number of provided services results to have a moderate and positive correlation with the graduate employees (.378) and the value added per employee (.287).

In addition, the quality of relationships with the customers is strongly and positively correlated with the quality of relationships with the community (.610), while the quality of partnership is positively correlated with the web presence (.475) and with the quality of relationships with the community (.192).

A negative significant correlation exists between the number of served users and the reference community (-.338). Training hours per employee and number of provided services are also weakly and negatively correlated with the quality of relationships with the reference community (-.255). Probably, the negative signs are attributable to difficulties to communicate and collaborate with the external stakeholders such as public and private institutions, other enterprises, Governments etc. This could reduce the capacity to access to resources which could be effectively allocated for the training programs or useful to establish relationships with external training institutions, given that training and education are the most important investments in human capital (Hudson, 1993; Bontis *et al.*, 2000).

Finally, the employees' satisfaction is positively correlated with several variables: with the ability to provide new services (.164) and with the relationships' quality with the reference community (.161), customer (.221) and partnership (.184). The strength, the loyalty and the quality of relationships with customers, community and the co-operation among partners help to keep employees motivated (Schein, 2010).

Table 4.15: The Pearson correlation

	ROA14	Users14	Training	Graduate	EmplSatisf	Value Add_Empl	Services	New Services Abil	Customer	Community	Partnership	Web presence
ROA14	1											
Users14	-.164*	1										
Training	-.244*	.605*	1									
Graduate	0.118	.143	.410*	1								
EmplSatisf	.118	-.053*	-.114	.058	1							
ValueAdd_Empl	.277*	.221*	-.034*	.003	.081	1						
Services	.005	.462*	.559*	.378*	.002	.287*	1					
NewServicesAbil	.102	-.054	.042	-.003	.164*	.092	.014	1				
Customer	.143	-.025	.022	-.013	.221*	-.002	.015	.436*	1			
Community	.232*	-.338*	-.255*	.054	.161*	.046	-0.192*	.452*	.610*	1		
Partnership	.038	-.021	-.143	-.041*	.184*	.129	-.040	.174*	.088	.192*	1	
Webpresence	-.037	-.023	.017	-.026	.146	.100	.109	.197*	.129	.115	.475*	1

Note. *indicates significance at the level of 0.05.

The results of the first model (model 1) are discussed in Table 4.16. This model investigates the effects of IC components on the economic performance of social cooperatives. The adjusted R-squared of the model is 19.69%. The presence of graduate employees positively affects the operating profitability at 1% with a coefficient of .262. In addition, the value added per employee positively influences the performance at 5% with a coefficient of .201. Thus, productivity is a fundamental variable also for the non-profit organizations.

The yearly training hours also affects the performance but negatively and significantly at 1%. The negative sign is attributable to an important cost increase which necessarily reduces the operating profit.

The independent variables with positive signs but not significant are as follows: the ability to provide new services, the number of provided services the quality of relationships with customers and community, belonging to a network, the employees' satisfaction. These finding implies that if the cooperative enterprise is able to satisfy social needs, interacting with all stakeholders, this could guarantee a long-term survival.

The certifications holding by the social cooperatives, the quality of relationships with partners and the quality of web presence have negative signs but not significant.

Finally, belonging to the educational-health sector positively and significantly affects the performance while the localization in the Northern regions has a negative and significant effect on the profitability. Therefore, we can conclude that IC components affects the corporate performance

of social cooperatives. So the first research hypothesis can partially be accepted.

Table 4.16: IC and financial performance of social cooperatives for 2014

ROA14	Coef.	Std. Err.	t	P>|t|
Training	-0.3782216	0.104702	-3.61	0.000***
Graduate	0.2625356	0.088723	2.96	0.004***
EmplSatisf	0.0200473	0.0262821	0.76	0.447
ValueAdd_Empl	0.2013862	0.0825518	2.44	0.016**
Services	0.0842117	0.1016459	0.83	0.409
NewServicesAbil	0.0581564	0.0910196	0.64	0.524
Certifications	-0.1327697	0.1943693	-0.68	0.496
Customer	0.08677	0.104251	0.83	0.407
Community	0.0692234	0.112429	0.62	0.539
Partnership	-0.0487759	0.0924215	-0.53	0.599
Webpresence	-0.1365988	0.0882334	-1.55	0.124
Network	0.1860484	0.1887248	0.99	0.326
Sector	0.4665086	0.2032136	2.30	0.023**
North	-0.4097888	0.2057281	-1.99	0.048**
Centre	-0.2701472	0.2590494	-1.04	0.299
_cons	-0.0784108	0.348322	-0.23	0.822

*Note. ***, **, and * indicate significance at the levels of 0.01, 0.05, and 0.10 (two-tailed test).*
Number of obs = 149, F (15, 133) = 3.42; Prob>F = 0.0001; R-squared = 0.2783; Adj R-squared = 0.1969
Cameron & Trivedi's decomposition of IM-test:
Heteroskekasticitychi2 = 141.36; df = 129; p = 0.2156
Skewness chi2 =24.11; df =15; p = 0.0632
Kurtosis chi2 = 3.50; df = 1; p = 0.0615

Now we analyse the results of the second model (model 2) that investigates the effects of IC components on the social performance of cooperative enterprises(Table 4.17). The adjusted R-squared of the model is 46.93%. The yearly training per employee and the value added per employee cost positively and significantly (1%) influence the social performance with a coefficient respectively of .580 and .252. Also the quality of relationships with customers has a positive and significant effect on the social performance (at 10% with a coefficient of .142); instead the quality of relationships with the reference territorial community has a negative effect, significant at 1%. The second research hypothesis can be partially accepted.

The presence of graduate employees and the employees' satisfaction have negative signs but they are not significant, as well as the ability to provide new services and the web presence. The number of provided services, the certifications, the quality of partnership and the belonging to a network have positive signs but not significant. Thus, structural capital as well as the employees' satisfaction and the collaborative and communicative capacity are not relevant, they would seem to not directly affect social performance. Also in this case, the choice of indicators may not be suitable to catch the intangible elements or the effect could be mediated or moderated by other variables.

Table 4.17: IC and social performance of social cooperatives for 2014

USERS14	Coef.	Std. Err.	t	P>t
Training	0.5801097	0.0848637	6.84	0.000***
Graduate	-0.1186319	0.0719122	-1.65	0.101
EmplSatisf	-0.0083963	0.0213023	-0.39	0.694
ValueAdd_Empl	0.252143	0.0669103	3.77	0.000***
Services	0.0707742	0.0823866	0.86	0.392
NewServicesAbil	-0.0609908	0.0737737	-0.83	0.410
Certifications	0.0824832	0.1575413	0.52	0.601
Customer	0.1421005	0.0844981	1.68	0.095*
Community	-0.2461014	0.0911266	-2.70	0.008***
Partnership	0.1206211	0.07491	1.61	0.110
Webpresence	-0.0832551	0.0715155	-1.16	0.246
Network	0.0680823	0.1529663	0.45	0.657
Sector	-0.270629	0.1647098	-1.64	0.103
North	0.2328493	0.1667479	1.40	0.165
Centre	0.1415751	0.2099662	0.67	0.501
_cons	-0.0736461	0.2823239	-0.26	0.795

*Note. ***, **, and *indicate significance at the levels of 0.01, 0.05, and 0.10 (two-tailed test).*
Number of obs = 149, F (15, 133) = 9.72; Prob>F = 0.0000; R-squared = 0.5231; Adj R-squared = 0.4693
Cameron & Trivedi's decomposition of IM-test:
Heteroskekasticitychi2 = 147.31; df= 129; p = 0.1290
Skewness chi2 =22.38; df=15; p = 0.0983
Kurtosis chi2 = 2.24; df= 1; p = 0.1342

CHAPTER FIVE

Intellectual capital: empirical evidences

5.1. Discussion of the results

5.1.1. Discussion of the Principal Component Analysis (PCA) of the IC sub-dimensions and the network's provided services

In this study, in order to identify the principal components of IC sub-dimensions (human, relational and structural capital) for Italian social cooperative enterprises (SCEs) and to highlight the effect of IC sub-dimensions on the social and financial performance of SCEs, the following research questions have been investigated (as is shown in table 5.1) : (RQ1) *which are the principal components of IC sub-dimensions for SCEs;* (RQ2) *which elements of IC influence the financial performance of SCEs?* (RQ3) *which components of IC affect the social performance of SCE?.*

Table 5.1: Research questions: an overall framework

Purposes	Research question	Methodology
Identify the principal components of IC sub-dimensions for Italian social cooperative enterprises.	Which are the principal components of IC sub-dimensions for SCEs?	Principal component analysis (PCA) applied on a specific set of IC sub-dimensions for Italian SCEs
Analysis the impact of IC sub-dimension on the SCE economic and financial performance.	Which elements of IC influence the financial performance of SCEs?	Ordinary least squares (OLS), where the dependent variable is the economic and financial performance and the independent variables are the IC sub-dimensions.
Analysis the impact of IC sub-dimension on the SCE mission-based performance.	Which components of IC affect the social performance of SCE?	Ordinary least squares (OLS), where the dependent variable is the mission-based performance and the independent variables are the IC sub-dimensions.

In order to answer to the first research question (RQ1), after the application of a principal component analysis on a set of IC sub-dimensions, it was possible to identify the main components of IC that are involved in the value-creation processes of Italian SCEs. The factor analysis allows for the identification of six principal components of IC (as presented in table 5.2): education, employees' productivity and satisfaction, the quality of relationships, collaborative and communicative capacity, the satisfaction of social needs and the innovation of services. These factors represent effective levers for use in fostering IC that guarantees the long-term survival of corporate companies.

Table 5.2: Principal components of IC sub-dimensions for Italian social cooperatives.

Intellectual capital main components for Italian social cooperatives		
Human Capital	Education	Employees' productivity and satisfaction
Structural Capital	The satisfaction of social needs	The innovation of services
Relational Capital	The quality of relationships	Collaborative and communicative capacity

For human capital components, two main factors were identified: education and employees' productivity and satisfaction. The education component comprises training activities and the number of graduates. Employees' productivity and satisfaction involves the value added per employee and levels of satisfaction.

Training and education are the most important investments in human capital. Organisations are made up of people and therefore human capital, which comprises knowledge, skills, capabilities, problem-solving abilities, personal traits, creativity and willpower (Hudson, 1993; Bontis et al., 2000). An effective and efficient enterprise needs people with experience; in fact, the contribution of a collaborator increases over time as a result of the learning acquired with experience, if adequately integrated with specific investments for staff development (Bontis et al., 2000; Kong, 2010; Defourney and Nyssens, 2010; Bronzetti et al., 2011; Ciambotti et al., 2016). These intangible resources become the most important production factors in increasing HC as a specific, strategic determinant of economic and social growth (Schultz, 1960; Becker, 1964; Kong, 2010; Veltri and Bronzetti, 2015; Ciambotti et al., 2016). Especially for SCEs that are characterised by intensity-labour processes, the effective management of the workforce is crucial for corporate performance, since the workforce is mostly responsible for the quality of the provided services (Mook, 2014). In the social-cooperatives setting, HC is the engine of operational activities, and it is the final purpose that must be satisfied. Highly skilled employees consequently guarantee more competences, stability and service quality, while a high number of volunteers could inspire confidence to motivate employees and reduce the cost of the supply of services. Therefore, the knowledge and skills embodied in human capital contributes to enhance the firm's productivity.

For social coopertaives, education paths and training activities are not the only factors that are relevant to business performance. In fact, for these organisations, their strategic goals are deeply linked to the realisation of their missions. Having a shared organisational culture helps to improve the atmosphere that promotes commitment to the organisation and a cross-functional integration amongst board members, employees and volunteers.

In fact, an employee's ability to achieve objectives depends on the knowledge, innovation, experience, skills and willpower of all the organisation's members, from the top-most to the lower levels (Kong and Ramia, 2010). The evidence from the PCA analysis, and in accordance with the reference literature, highlights how HC components, such as education and employees' productivity and satisfaction, positively contribute to the value-creation processes for SCEs.

There are two main components regarding SC. The first is called social-needs satisfaction,

and it refers to the capability of satisfying the social needs of users by providing services; the second component is called services innovation, and it concerns the ability to provide new services in order to increase the scale and scope of the organisation's mission. Since the scale of an organisation's activities will change and evolve over time, the organisation should pursue innovative behaviours to increase its ability to respond to environmental changes and succeed in its strategic intents (Epstein and McFarlen, 2011). From the application of the PCA analysis on SC, it emerges that innovative processes are the main components of SC for SCEs. These processes play a key role in the creation of social value by offering social services that are able to meet the needs of society, and they refer to the ability to develop new services, which can satisfy different needs and beneficiaries (Knight 1999; Skandia 1994; Bontis 1998; Ciambotti et al., 2016).

With regard to RC, the quality of relationships and the capacity for collaboration and communication are the main components that have been identified. The first component refers to the quality of relationships with customers and the community (made of public and private institutions, for-profit organizations, other NPOs etc.) while the second factor relates to the corporate capacity to effectively collaborate with external partners and communicate to the public via a website.

Social-cooperative enterprises are characterised by governance and ownership structures that consider the active involvement and engagement of all relevant stakeholders.
A high level of stakeholder cohesion reinforces the local community, improves decision-making process, enhances social cohesion and fosters a more participatory democracy (Pestoff, 2008). Through their commitment, all the stakeholders contribute to ensuring the adequate quality to the provided services in order to meet the society social needs (Borzaga and Galera, 2014). The increase in available resources allows for improvements in efficiency and the provision of social-interest services. Interactions with other business sectors, private and public institutions, and other SCEs or NPOs create the opportunity to transform and shape the social and economic systems in which they operate, to the entire community's advantage (Galera, 2009).

Social cooperatives are driven by values of trust and cooperation as well as by moral beliefs and feelings of solidarity and democracy. High levels of trust, the quality of relationships and the sharing of values promote the voluntary association of people and a greater involvement in the business activity. Therefore, there are deep and personal motivations that explain the origin, evolution and management of SCEs. These factors favour better knowledge and resource sharing, trustful relationships, a decrease in opportunistic behaviours and a much broader organisational culture. Social cooperatives are heavily involved in many external relationships, for example, with government agencies, business corporations, different types of NPOs, potential donors, employees, volunteers, customers and users. Strong, loyal and high-quality relationships with several stakeholders allow for the continuous flow of information amongst partners, which increases opportunities for resource sharing and improves the economic and mission-based performance of social cooperatives (Ordóñez de Pablos, 2003; Kong, 2010; Ciambotti et al., 2016). Moreover, having an online web presence is essential in every business; it provides organisations with opportunities in terms of reaching out to and engaging with existing and prospective members, and collaborating with new partners. It also helps in the sharing of information and in spreading the organisation's mission (Greenberg and MacAulay, 2009). Additionally, online communication reinforces the relationship between citizens and NPOs.

With a deeper focus on RC, the internal and external relationships shape an effective

network. Through these relationships, an SCE is able to gain and develop new resources and additional abilities, which would set up the foundation for competitive and sustainable growth within the specific territorial system (Del Baldo et al., 2014). Measuring the use intensity of network services consents one to indirectly assess the RC, which is fed by social capital and is rooted in trust, willingness to cooperate, shared values and common languages amongst several stakeholders. According to Bourdieu (1986), social capital is "the sum of resources, actual and virtual, that accrue to an individual or a group by virtue of possessing a durable network of institutionalised relationships of mutual acquaintance and recognition". Bourdieu's definition highlights the role of social capital in enabling individuals, through belonging to a social network, to gain access to resources or services that the partners of the network possess. The principal component analysis applied to a set of services provided by a network to a SCEs, lets for the identification of two principal components within network services (as shown in table 5.3) : strategic and competitive services, and administrative and commercial services.

Table 5.3: Principal component of a set of services provided by a network to a SCE.

Principal services provided by a network to a SCE	**Services comprised**
Strategic and competitive services	Services concerning core activities (such as strategy support, image promotion, information sharing, training services, competition support and new services promotion) which are useful for improving the competition capacity of SCEs.
Administrative and commercial services	Includes the operative services (administrative, commercial and recruitment), which are designed to reduce the corporate costs.

The first component concerns the strategic and competitive services and it implies that social cooperatives that belong to a network are more interested in utilising services concerning core activities, which are useful for improving the competition capacity of SCEs. The second component (those called administrative and commercial services) includes the operative services (administrative, commercial and recruitment), which are designed to reduce the corporate costs. These findings imply that social cooperatives that belong to a network are more interested in utilising services that are able to improve resources and competences, which set up strategic and competitive advantages, rather than exploiting operative services.

Even for the main components of RC, the evidence from the PCA analysis and the reference literature highlights that being part of a network, in terms of relationship quality and collaborative and communicative involvement, plays a key role in gaining a sustainable competitive advantage.

All of these results empirically extend similar theoretical notions espoused by earlier research in the private domain and in the non-profit sector. Therefore, IC represents the collective knowledge inside and outside the organisations that is embedded in the personal, organisational culture, routines and network relationships of an organisation, and it generates value for the organisation in the short, medium and long term (OECD, 2013).

5.1.2. Discussion of the Pearson correlation amongst the IC sub-dimension

Human, relational and structural capital are fundamental resources that NPOs need to develop in order to successfully promote organisational and human learning, increase organisational efficiency, set up the foundation for competition, implement corporate strategy, acquire and maintain a long-lasting competitive advantage and improve corporate performance for long-term sustainability. These intangible resources are dynamically interrelated, and they allow the organisation to transform a set of tangible, financial and human resources into a system that is able to pursue sustainable value-creation processes (Zambon, 2004; Subramaniam and Youndt, 2005; WICI 2016). That is, the interrelated use of IC is needed to transform knowledge and its intangible assets into strategic value drivers for firms, their stakeholders and the entire community. A constant interplay must exist between the IC sub-dimensions in order to effectively and successfully achieve business performance (Bontis, 1998; Bontis *et al*., 2000; Benevene et al., 2017).

The findings related to the Pearson correlation (table 5.4) demonstrate that the constituents of the of IC sub-components are correlated with each other and with financial and social performance.

Table 5.4: Pearson correlation among IC sub-dimension and SCE performance

	ROA14	Users14	Training	Graduate	EmplSatisf	Value Add_Empl	Services	New Services Abil	Customer	Community	Partnership	Web presence
ROA14	1											
Users14	**-.164***	1										
Training	**-.244***	**.605***	1									
Graduate	0.118	.143	**.410***	1								
EmplSatisf	.118	**-.053***	-.114	.058	1							
ValueAdd_Empl	**.277***	**.221***	**-.034***	.003	.081	1						
Services	.005	**.462***	**.559***	**.378***	.002	**.287***	1					
NewServicesAbil	.102	-.054	.042	-.003	**.164***	.092	.014	1				
Customer	.143	-.025	.022	-.013	**.221***	-.002	.015	**.436***	1			
Community	**.232***	**-.338***	**-.255***	.054	**.161***	.046	**-0.192***	**.452***	**.610***	1		
Partnership	.038	-.021	-.143	**-.041***	**.184***	.129	-.040	**.174***	.088	**.192***	1	
Webpresence	-.037	-.023	.017	-.026	.146	.100	.109	**.197***	.129	.115	**.475***	1

Note. *indicates significance at the level of 0.05.

More specifically, SC is positively correlated with HC. In fact, the SC sub-dimensions, such as the number of services offered and the ability to create new services, are positively correlated with HC sub-components such as yearly training hours, graduates and the value added per employee. The elements of SC express a social cooperative's ability to innovate through processes that can cover a large number of users in terms of service offerings and its capacity to provide new services with the purpose of continuously satisfying old and new social needs. Human capital refers to peoples' tacit knowledge—fostered through training activities and education—and the strength and personal traits of human resources, all of which increase over time. The value of HC increases during the time, and it becomes a firm-specific resource, a source of strategic competitive advantages. Given that SC is the supportive infrastructure for HC (Benevene et al., 2017), the combined interaction of both forms of capital allows SCEs to increase their organisational performance in a market context, which requires high skills, qualified people and innovative processes that are able to provide the entire community with education and high quality, effective social and health services.

With regard to the correlation between RC and HC, the findings demonstrate that it is mainly positive, even if the quality of both relationships with the reference territorial community and activities with external partners are negatively correlated with yearly training and graduates. The negative signs are likely attributable to difficulties in communicating and collaborating with the external stakeholders, such as public and private institutions, other enterprises and governments. This could reduce the capacity to access resources that could be either effectively allocated to training programmes or useful for establishing relationships with external training institutions, given that training and education are the most important investments in HC (Hudson, 1993; Bontis et al., 2000). Additionally, as the correlation results indicate, HC and RC are intrinsically linked because the human resources (which reflect the organisational culture) within an organisation are there to maintain, establish and nurture the relationship within and outside the organisation. In fact, having a shared culture helps to keep employees motivated and loyal to the management of the organisation. Furthermore, a shared culture contributes to increasing employee satisfaction, which affects the organisation's effectiveness (Bhatti and Qureshi, 2007; Schein, 2010), and it can improve internal and external communication.

With regard to the correlation between RC and SC, the findings demonstrate that it is mainly positive, even if there is a weak and negative correlation between the offered services and the reference community. The negative relationship is likely attributable to the continuous increase in the market's demand for social needs to be met, since the Welfare State's efforts in providing solutions have been poor (Thomas, 2004), and social cooperatives cannot completely satisfy these needs. Moreover, the interaction between the elements of RC and SC plays an important role in influencing product and service innovation. In fact, innovative processes require tangible and intangible resources, associated with external factors such as strong relationships with customers, the community and external partnerships, and a reliable reputation that can be communicated through an online web presence, thereby increasing the transparency and legitimacy of the organisation (Bontis, 1998; Edvinsson and Malone, 1997).

Finally, the variables of RC are positively correlated with each other, while there is no significant correlation between the SC components. Within the HC components, yearly training is positively correlated with graduates, but it is negatively correlated with the value added per employee. The difference is likely attributable to the SCE sectors of activities. In fact, in the social-,

health- and educational-services sectors, learning processes are facilitated by the human resources that are already highly qualified (given the provided service's characteristics), and the training activities in this sector are more effective than those delivered in the social and work-integration sectors, where people require more time to develop a competitive advantage due to the learning processes.

Therefore, our results confirm that the individual elements of the IC sub-dimensions interact with each other. This activates a virtuous circle, which develops IC, and thus the knowledge, contributing to value creation for both enterprises and stakeholders.

5.1.3. Discussion of the relationship between the IC sub-dimensions and SCE performance

The aim of this paper is to investigate the effect of IC on SCE performance and to identify the most valuable IC components for financial and social performance. To answer the main research questions—(RQ2) "*Which elements of IC influence the financial performance of SCEs*?" and (RQ3) "*Which components of IC affect the social performance of SCEs*?"—the previous analyses have been addressed in order to track additional information regarding the interrelation between the IC dimension (through the Pearson correlation), the main IC sub-components for SCEs and the main factors for providing services to social cooperatives that belong to a network.

The results from both ordinary least squares (OLS) analyses are particular to the SCE research setting (as presented in table 5.5).

Table 5.5: The effect of IC sub-dimensions on SCE performance: an overall framework

Variables	Measures	Data	ROA14	Users14
HC	Training	Coef.	**-0.3782216**	**0.5801097**
		P>|t|	**0.000*** **	**0.000*** **
	Graduate	Coef.	**0.2625356**	-0.1186319
		P>|t|	**0.004*** **	0.101
	EmplSatisf	Coef.	0.0200473	-0.0083963
		P>|t|	0.447	0.694
	ValueAdd_Empl	Coef.	**0.2013862**	**0.252143**
		P>|t|	**0.016** **	**0.000*** **
SC	Services	Coef.	0.0842117	0.0707742
		P>|t|	0.409	0.392
	NewServicesAbil	Coef.	0.0581564	-0.0609908
		P>|t|	0.524	0.410
	Certifications	Coef.	-0.1327697	0.0824832
		P>|t|	0.496	0.601
RC	Customer	Coef.	0.08677	**0.1421005**

		P>|t|	0.407	**0.095***
	Community	**Coef.**	0.0692234	**-0.2461014**
		P>|t|	0.539	**0.008*****
	Partnership	**Coef.**	-0.0487759	0.1206211
		P>|t|	0.599	0.110
	Webpresence	**Coef.**	-0.1365988	-0.0832551
		P>|t|	0.124	0.246
	Network	**Coef.**	0.1860484	0.0680823
		P>|t|	0.326	0.657
Control	**Sector**	**Coef.**	**0.4665086**	-0.270629
		P>|t|	**0.023****	0.103
	North	**Coef.**	**-0.4097888**	0.2328493
		P>|t|	**0.048****	0.165
	Centre	**Coef.**	-0.2701472	0.1415751
		P>|t|	0.299	0.501
Constant	**_cons**	**Coef.**	-0.0784108	-0.0736461
		P>|t|	0.822	0.795

Note. ***, **, and * *indicate significance at the levels of 0.01, 0.05, and 0.10 (two-tailed test).*

While most of the academic literature generally supports the positive relationship between all IC sub-components (i.e., human, relational and structural capital) with performance outcomes, this study shows that is important for senior leaders of SCEs to take the results of general IC literature prudently.

More specifically, the adjusted R-squared of the model, which demonstrates the effects of IC components on the economic performance of social cooperatives, is 19.69%, and it represents the degree to which the independent variables can explain the dependent variable's variation, whereas the results from the second model demonstrate the effects of IC elements on the mission-based performance of social cooperatives, and in this case, the adjusted R-squared of the model is 46.93%.

From this evidence, it is clear that an SCE's performance cannot be one-dimensional regarding only the economic field. It must rather be integrated into the social dimension to obtain a broader view of the overall corporate performance (Ebrahim *et al.*, 2014) and to determine the main value drivers that are able to transform tangible and intangible resources into long-lasting competitive advantages.

Human capital contributes to explaining both the economic and social performance of SCEs. Economic performance in particular is positively affected by the presence of graduate employees and the value added per employee. The HC sub-components are also fundamental for social performance. In fact, social output, which is measured based on the number of served users,

is positively affected by yearly training and the value added per employee.

With regard to economic performance, highly qualified employees help to increase the return on assets (Ting and Lean, 2009; Chu et al., 2011). This is even more important in social cooperatives, where human resources are directly involved in the production and provision of services that have high relational content and whose quality strongly depends on human resource traits. Moreover, this result is emphasised by the positive and significant influence of belonging to the educational-health sector. In fact, services demanded in this market are known to be expensive and of a high quality, and they require highly skilled people to set up the foundation for competition and success.

With respect to social performance, the number of graduates and the sector of activity do not significantly affect the SCEs performance. Rather, the coefficients' signs are negative. These findings are likely due to the typology of users served—they can be members who benefit from the products or services (which are related to the educational-health sector) that skilled SCE employees provide directly or those who are disadvantaged, for whom social cooperatives try to find a job (that does not require a degree) in order to integrate them into society. These results suppose that the employment of highly qualified staff does not affect the social performance of SCEs in relation to the provision of work and social integration for disadvantaged people.

The HC sub-components, such as the value added per employee, positively and significantly affect both economic and social performance. Therefore, the value added per employee contributes to superior level of return on asset and number of the served users. This result demonstrates that the efforts, willingness and involvement of human resources in organisations play a key role in the success of overall organisational performance (Chen et al., 2005) in terms of profitability and of the strategic objectives' achievement.

Concerning yearly training, the findings demonstrate a significant negative effect on economic performance and a significant positive effect on social performance. This implies that training is important for guaranteeing a specific standard of quality for the services provided to users and for effectively achieving the organisation's social mission. Training affords organisations the opportunity to develop new skills and accumulate the knowledge they require to achieve their strategic goals (Benevene and Cortini, 2010; Peteraf, 1993; Nikandrou et al., 2008). On the other hand, the cost of yearly training negatively affects the return on assets due to the increasing operating costs; however, training activities in the long and medium term result to positive effect on organisational performance (Nikandrou et al., 2008; Apospori et al., 2008). An increase in the education level of human resources immediately and positively affects the achievement of the social mission; however, it requires time before value, in terms of productivity, profitability and competitiveness, can be seen. It is clear that the prominence of training activities for superior corporate performance, cannot be evaluated only with respect to the economic dimension. Rather, in order to obtain a broader view of the overall effect of training to corporate performance, it is necessary integrating economic and social performance into the SCE performance measurement system.

Finally, employee satisfaction is not statistically significant, and it does not directly affect social and economic performance. This result could potentially be influenced by the sector of activities. On the one hand, with regard to economic performance and A-type social cooperatives, the sign of the variable could be positive, given that the provided services are highly dependent on HC efforts and satisfaction. On the other hand, with regard to social performance and B-type social

cooperatives (those providing social and work integration for disadvantage people), the provision of services focus on finding a job for disadvantaged people, it implies that employee satisfaction does not affect social performance.

All of these results highlight the importance of evaluating and understanding the contribution of the HC sub-components to organizational performance with an integrated perspective of social and economic dimensions, as is synthesized in table 5.6.

Table 5.6: Human capital effects on social cooperatives performance

HC sub-dimensions	Economic and financial performance	Mission-based performance	Effect on overall corporate performance
Training	Significant and negative	Significant and positive	An increase in the education level of human resources immediately and positively affects the achievement of the social mission; however, it requires time before value, in terms of productivity, profitability and competitiveness, can be seen. It is clear that the prominence of training activities for superior corporate performance, cannot be evaluated only with respect to the economic dimension. Rather, in order to obtain a broader view of the overall effect of training to corporate performance, it is necessary integrating economic and social performance into the SCE performance measurement system.
Graduate	Significant and positive	Not significant and negative	Highly qualified employees help to increase the return on assets (Ting and Lean, 2009; Chu et al., 2011). This is even more important in social cooperatives, where human resources are directly involved in the production and provision of services that have high relational content and whose quality strongly depends on human resource traits. In fact, services demanded in social and health educational market are known to be expensive and of a high quality, and they require highly skilled people to set up the foundation for competition and success. On the other hand, the employment of highly qualified staff does not affect the social performance of SCEs in relation to the provision of work and social integration for disadvantaged people.
Employee satisfaction	Not significant and positive	Not significant and negative	With regard to economic performance and A-type social cooperatives, the sign of the variable could be positive, given that the provided services are highly dependent on HC efforts and satisfaction. On the other hand, with regard to social performance and B-type social cooperatives (those providing social and work integration for disadvantage people), the provision of services focus on finding a job for disadvantaged people, it implies that employee satisfaction does not affect social performance.
Value added per employee	Significant and positive	Significant and positive	This result demonstrates that the efforts, willingness and involvement of human resources in organisations play a key role in the success of

			overall organisational performance (Chen et al., 2005) in terms of profitability and effectiveness of the realization of strategic objectives.

Relational capital, in terms of the relationships' quality, influences social performance; the quality of relationships with customers in particular has a positive influence, while the quality of relationships with the reference territorial community has a negative effect. This discordance is likely attributable to a different level of perceived quality of the relationships, lower for the community than for customers. It is easier for customers who are directly involved and in contact with employees and volunteers to realise and perceive the quality and strength of the relationship than it is for the reference community, which consists of private, public and financial institutions and for-profit enterprises, amongst others. Therefore, for the reference community can be difficult evaluate the social impact since it has a long term effect, and a visible short term only to the ultimate beneficiaries.

Concerns to economic performance, the quality of relationships with customers and the community are not significant; however, they have a positive sign. An integrated communication of social and economic value by social cooperatives, can increase the perception of reference community. While the quality of relationships, in terms of partnership, is not significant, it has a positive coefficient for social performance and a negative coefficient for economic performance. Even though creating effective partnerships requires investment, it will have a positive return on social performance. These results suggest that SCEs should try to improve their relationships with the stakeholders of reference territories, investing in transparency and communication, through which social legitimacy can be obtained.

For SCEs, in terms of relationship quality and collaborative and communicative involvement, belonging to a network plays a key role in gaining a sustainable competitive advantage. Even if the network's variable seems to not directly and significantly affect the SCE's performance, it still has a positive sign. Therefore, fostering healthy relationships with stakeholders promotes knowledge sharing, competencies, loyalty, reciprocal trust, productivity and competitiveness (Alexander,1999; Anheier, 2000; Kong, 2010).

Additionally, having an online web presence is not significant; while it has a negative sign for both performance dimensions, it does not seem to affect economic and social performance. The negative sign is probably associated with the cost of developing that web presence and with the visibility that the social-cooperative business sector could influence. Table 5.7, briefly, shows the RC sub-dimensions contributions to SCE performance.

Table 5.7: Relational capital effects on social cooperatives performance

RC sub-dimensions	Economic and financial performance	Mission-based performance	Effect on overall corporate performance
Customer	Not significant and positive	Significant and positive	This result demonstrates that the efforts, willingness and involvement of human resources in the provision and production of provided services is a means to the realization of strategic objectives. It is easier for customers who are directly involved and in contact with employees and volunteers to realise and perceive the quality and strength of the relationship.
Community	Not significant and positive	Significant and negative	Non-profit organizations are heavily involved in external relationships with government agencies, business corporations, different types of NPOs, potential donors, employees, volunteers, customer and end users, but for the reference community can be difficult evaluate the social impact since it has a long term effect, and a visible short term only to the ultimate beneficiaries. However, the inter-firm relationships shape an effective network, able to gain and develop new resources, setting up the foundations for competitive, sustainable growth within the specific territorial system and superior economic performance.
Partnership	Not significant and negative	Not significant and positive	Even though creating effective partnerships requires expensive investment, it will have a positive return on SCE performance. These results suggest that SCEs should try to improve their relationships with the stakeholders of reference territories, investing in transparency and communication, through which social legitimacy can be obtained.
Webpresence	Not significant and negative	Not significant and negative	The negative sign is probably associated with the cost of developing that web presence and with the visibility that the social-cooperative business sector could influence.
Network	Significant and positive	Significant and positive	Even if the network's variable seems to not directly and significantly affect the SCE's performance, it still has a positive sign. Therefore, fostering healthy relationships with stakeholders promotes knowledge sharing, competencies, loyalty, reciprocal trust, productivity and competitiveness (Alexander,1999; Anheier, 2000; Kong, 2010).

Finally, focusing on SC, none of its sub-components seem to directly affect SCE performance, as shown in table 5.7. Results from Pearson correlation, suggest that SC sub-components are mainly correlated to HC and RC sub-dimensions. It implies that SC adds value in supporting HC and RC. Therefore, are the latter to directly affect the corporate performance, supported by SC value.

Table 5.7: Structural capital effects on social cooperatives performance

SC sub-dimensions	Economic and financial performance	Mission-based performance	Effect on overall corporate performance
Services	Not significant and positive	Not significant and positive	It implies that more broad is the range of provided services and higher is the realization of organizational performance.
New services	Not significant and positive	Not significant and negative	This discordance is likely attributable to the risk related to focusing on services that are new and profitable, but not able to effectively meet society's real social needs.
Certification	Not significant and negative	Not significant and positive	The adoption of sustainability or quality certifications (ISO 9001, EMAS or SA8000, amongst others) can represent a fundamental change in business philosophy and corporate practices, generating a common language among different partners of the organisation and increasing legitimacy and recognition versus users. On the other hand, the certification adoption requires high investments that increase operating costs; however, over time it will become a means to fulfil the organisation's mission.

More specifically, the adoption of certifications is not significant, and it has a positive coefficient on social performance—measured by the number of served users. In fact, the adoption of sustainability or quality certifications (ISO 9001, EMAS or SA8000, amongst others) can represent a fundamental change in business philosophy and corporate practices, generating a common language among different partners of the organisation and increasing legitimacy and recognition versus users. Additionally, this variable is not significant for economic performance, and it has a negative sign. This could be because certification adoption requires high investments that increase operating costs; however, over time it will become a means to fulfil the organisation's mission.

The result of another SC sub-component, namely the number of services provided, was found to not be significant, but with a positive coefficient for both types of performance. The higher the number of services offered, the higher the number of users served and the higher the number of beneficiaries satisfied. Additionally, the more users served, the higher the number of social needs met, the higher the medium- and long-term community well-being, and the higher the operating results. It implies that more broad is the range of provided services and higher is the realization of organizational mission.

Moreover, the ability to create new services is not statistically significant, and it seems to

positively affect economic performance and negatively affect social performance. This discordance is likely attributable to the risk related to focusing on services that are new and profitable but not able to effectively meet society's real social needs.

Finally, the two variables of geographic localisation—north and centre—affect SCE performance differently. For economic performance, the northern and central localisations negatively affect performance, and these two variables result to be respectively significant and not significant. Whereas they are not significant and positively affect social performance. These results imply that despite the crisis hitting the north and centre of Italy (where social cooperatives are mainly located) much more broadly in terms of economic performance (ISTAT, 2011), social cooperatives still maintain their effectiveness in creating social value all over the country even in time of economic uncertain (Borzaga and Galera, 2012).

In this study, two OLS models have been developed to support management in assessing corporate performance by evaluating of the IC sub-components' contribution to SCE performance. Within this study, it is possible to highlight the strategic importance of SCEs effectively managing HC and RC in a way that takes into account both economic and social performance.

5.2. Managerial and Theoretical implications, limitations and further research

There are several implications that arise from these findings, and they are particular to this research setting. From a scholarly standpoint, results empirically confirmed, what that to date was just theoretically espoused by several authors, that human capital and relational capital matters for firm's performance that work in the non-profit sector (Kong and Prior, 2008; Kong and Ramia, 2010). Turning the attention to the third stage of IC research, which it highlights the need to move the research question from "What is IC?" to "How is IC?" in the different industry sectors (public, private, for-profit and non-profit sectors, etc.) in which it is utilised (Veltri and Bronzetti, 2015), consequently, this work attempts to fill the void in studying IC within social enterprises in Italy. This is important because the predominant extant literature focuses on empirical studies based in primarily Anglophonic settings (i.e., USA, Canada, UK) in private enterprise.

Concerning the practical contributions, empirical results improve the awareness of NPO managers on the positive implications of intellectual capital for firm's performance. For the senior leaders of social cooperatives, there is a need for in-depth knowledge about managing the sub-components of IC in SCEs and NPOs as well as about the strengths and weaknesses of their roles in the value-creation processes. In fact, there is a lack of studies carried out on these topics, and the findings from these analyses might increase the awareness of IC management in this specific context and provide a better understanding of opportunities for growth.

Additionally, the findings highlight the pivotal role of HC in generating value for social cooperatives. Therefore, managers should increase investment in human resources as a source of knowledge accumulation, which would provide competitive advantages and superior organisational performance (Becker, 1994; Nikandrou et al., 2008; Kong, 2010; Carini et al., 2012; Benevene et al., 2017). Additionally, the positive influence of RC is related more to the quality of relationships with customers than to the reference community. Senior leaders should consequently increase the awareness of RC management in terms of external networking, strategic partnership, collaborations, transparency and communication. These findings suggest that the managers of NPOs should pay more attention to the strategic planning of inter-organisational relations. They should also improve

the cultural atmosphere that promotes organisational commitment and a cross-functional integration amongst board members, employees, volunteers and other stakeholders.

Finally, SC would not affect corporate performance. This result might be related to leaders' limited awareness of the exploitation of opportunities linked to knowledge embedded within the organisation. Managers should try to develop SC to support the effective and efficient management of HC and RC. There is a strong need for SCE managers and NPO professionals to undergo training on IC management, implementation and knowledge-creation processes. Insights into their organisations' IC opportunities could be useful for increasing the awareness of the added value that is embedded in the intangible assets, with the aim to fully exploit IC benefits. Therefore, managers should be involved in the evaluation of the organisation's performance. They should also be in the control of the alignment between the definition of the organisation's objectives and the assessment of the results through the definition of the main strategic assets of the company.

There are several limitations that could be mentioned. The first main limitation of this work is the restricted sample size, thus generalisation must be curtailed. Moreover, the sample includes social cooperatives that belong exclusively to five specific sectors, which represent only a small size of the broader world of SCEs. Additionally, the study focuses only on one year of analysis, and it does not allow for the complete identification of IC's impact on a firm's performance. In fact, studies should look at IC over time as said by Dumay et al. (2015) "because IC is not an event, but a journey".

The second limitation is the geographical area covered in this research: all of the social cooperatives that were studied are in Italy. Therefore, the results could potentially be influenced by the context and the low respondent rate.

Third, this study is based on a quantitative approach, and to understand and disclose more relevant information on the generation of IC within an NPO setting, it could be useful to employ both qualitative and quantitative methods. Furthermore, there are no shared models to evaluate and estimate the effects of IC on the financial and social performance of NPOs. In fact, the PCA analysis and OLS regression models focused exclusively on a limited set of variables representing the human, relational an structural dimensions and a set of network services, and these could be expanded and integrated with other intellectual capital indicators.

Further research should try to develop shared and effective KPIs to measure the effect of IC sub-dimensions on SCE performance so that decision makers are able to manage the value drivers. It would be interesting to focus on RC and SC, with the aim of identifying better KPIs, since these IC sub-dimensions are positively correlated with HC, which is the main IC dimension that impacts corporate performance. To this end, it could be useful to assess the effects of SC and RC on HC.

Additionally, due to the explorative nature of this research, a qualitative approach could be adopted, for example, semi-structured interviews, to provide a deeper understanding of the tacit perceptions that NPO managers and leaders hold about their organisations' IC sub-components. In fact, a deeper understanding is required regarding how IC is implemented within the organisations (Tucker and Lowe, 2014). Moreover, it could also be interesting to extend the survey to other European countries to compare the findings and understand the weight of the reference context in which NPOs operate. Additionally, the specifics of particular sectors and cultures could be considered as moderators in the relationship between the IC sub-dimensions and firm performance.

This study aims to identify the main KPIs that are useful for explaining the impact of IC components on the financial and social performance of SCEs. This identification could increase

managers' awareness of the significance of human, relational and structural capital for the non-profit sector in pursuing social outcomes (Benevene and Cortini, 2010; Rija and Bronzetti, 2012) while preserving economic-financial sustainability.

CONCLUSION

In recent years, managers and academics have agreed on the fact that the assessment of company performance does not rely only on tangible capital, but also on the measurement of IC within the company. Intellectual capital is an essential intangible resource for businesses that operate in a knowledge-based economy (Mouritsen & Larsen, 2005), where the success of an organisation depends more on its intangible assets than its physical assets.

It is worldwide recognised that intellectual capital consists in those intangible assets as competences, set of values, processes, know-how and intra and extra firm relationships, which characterized the organizational, cultural and strategically specificity of a company and which determine competitive advantages and superior organizational performance (OECD, 2013).

Intellectual capital is one of the most difficult assets to manage and numerically quantify. In fact, economic and financial metrics are not able to provide effective insights into the stock of IC within organisations. Moreover, an IC evaluation methodology should go beyond the static economic evaluation of tangible and intangible capital and take into account the added value that is dynamically generated by the knowledge that flows amongst IC components. In this way, it will be possible to identify the IC sub-components' contributions to organisational performance. As the IC elements are specific to every organisation, each intangible asset valuation should take into account the characteristics of the organisation and its business context.

Similarly, several authors (Nahapiet and Ghoshal, 1998; Stewart, 1998; Bontis, 1998; Granstand, 1999; Brennan and Connel, 2000; Harrison and Sullivan, 2000; Heisig et al., 2001; Lev, 2001; Gu and Lev, 2001; Choo and Bontis, 2002; Pablos, 2003; Mouritsen et al., 2004) emphasise the pivotal role of IC and its effective management in organisations, particularly knowledge-based organisations, for ensuring their long-term, sustainable development. Knowledge contains IC attributes that contribute to the value-generating processes of the company, and the concept of IC is closely related to the creation, sharing and management of knowledge within companies (Mouritsen et al., 2005; Guthrie et al., 2012).

More specifically, over the past two decades, three distinct stages (Dumay, 2009; Demartini, Paoloni , 2013; Chiucchi et al., 2016) have highlighted and given rise to several research questions and purposes regarding IC discourse.

The first stage, in the early 1990s, focused on the following question: "What is IC?". It was devoted to developing awareness regarding the components of IC as drivers in creating a sustainable competitive advantage in terms of corporate market value (Dumay, 2009).

The second stage, at the beginning of the 2000s, was characterised by deeper research on the implications of managing IC and its external and internal disclosure. In this phase, several methods were developed to gather information about the impact of IC on the corporate performance and value-creation processes of for-profit organisations. Therefore, the main research question focused on providing insights into "What IC does?" (Dumay and Garanina, 2013).

Finally, to date, the third stage highlights the need to move the research question from "What is IC?" to "How is IC?" in the different industry sectors (public, private, for-profit and non-profit sectors) in which it is utilised (Veltri and Bronzetti, 2015). The question deals with how IC can be applied in practice according to the economic and social issues. According to Secundo *et al.*

(2016), this phase relates to the evolution of IC boundaries around a new perspective on value-creation processes that includes environment and social value.

Much research has investigated the relationship between IC and firm performance in the private domain. However, there are still only a few studies that reference the role of IC and its effect on corporate performance in the non-profit and public-research settings (Dumay and Garanina, 2013). This study belongs to the third phase of IC research.

In fact, the aim of this work is to provide empirical evidence of the relationships between IC and organisational performance with a focus on SCEs that work in the non-profit sector. This study contributes to the IC literature in several ways.

First, the purpose of this research is to identify the principal components of the IC sub-dimensions (human, relational and structural capital) for Italian SCEs. Second, the research aims to highlight the effect of these sub-dimensions on the social and financial performance of SCEs. Therefore, it is possible to identify which IC components are more valuable for financial and social performance and how the IC sub-components work in the non-profit sector.

In the non-profit sector, there is a need to develop industry-specific KPIs related to the IC components in order to measure and quantify their contributions to the organisational outcomes and to generate a more complete picture of an organisation's overall performance. Since every company has its own method for creating value and utilising resources, the same KPIs are not applicable to all companies in general nor in a specific industry.

The WICI group[13] has set up the most frequent KPIs, which are useful for the for-profit sector, as informative examples to guide companies. These KPIs are available for the oil and gas, electricity, high-tech, pharmaceutical, ICT, and fashion and luxury sectors.

The utilisation of IC KPIs in NPOs is scarcely recognised. Therefore, the purpose of this study is not to define a set of KPIs for mandatory disclosure to any organisations, but to identify some frequently used KPIs as informative examples to guide NPOs. It aims to provide a conceptual IC framework that is valid to fulfil the gap in the literature about KPIs for NPOs. Over time, this IC-KPIs framework could be modified as needed in response to significant changes in the industry-specific or business environment.

The analysis of the theoretical and empirical contributions concerning the link between IC and performance could highlight the most important factors for guiding NPOs' strategies. It would be useful to implement a multidimensional measurement system that can help management to focus on the critical IC resources and their contributions to business performance.

In fact, this study could increase managers' awareness about the significance of human, relational and structural capital for the non-profit sector in order to pursue social outcomes (Benevene and Cortini, 2010; Rija and Bronzetti, 2012) while preserving the economic-financial sustainability. This is important because the predominant extant literature focuses on empirical studies based in primarily Anglophonic settings (i.e., the USA, Canada and the UK) in private enterprise. This research attempts to fill the void in studying IC within SEs in Italy, and it is the first empirical study that has examined the links between IC sub-components and SCE performance.

There are several reasons that justify the adaptability of the IC framework as a strategic

[13] WICI proposes an enhanced business reporting framework which focuses on the core part of the company's unique value creation mechanism. Under this framework, WICI hopes more and more companies will be able to easily present an integrated and comprehensive report on material financial and non-financial elements of the company's performance. The most frequently KPIs, useful for the for-profit sector, are available at www.wici-global.com

management tool in the social-cooperative setting. Two of these reasons prove to be motivations for the strategic importance of IC in this setting.

First, IC is strongly related to the concept of corporate identity, mission and vision. This concept is emphasised in social cooperatives. In fact, the corporate mission guides the decision-making process, provides a strategic path, incentivises donations and improves the efforts of workers and volunteers. These factors become key components in executing a strategy and maintaining high levels of organisational performance.

The second reason is related to the social cooperative's value-creation process, and it involves inputs and outputs that are both internal and external, and tangible and intangible. The achievement of the organisation's mission is connected to the employees' and volunteers' motivations, skills, knowledge and experiences (Hudson, 1993), which are the key factors for the implementation of the strategy and high levels of corporate performance. Therefore, IC relates to an organisation's ability to achieve its strategic objectives.

According to Kong and Prior (2008), the interactions between HC, RC and SC create the organisational value of NPOs, and the flow of knowledge between the IC sub-components determines the competitive advantage through the satisfaction of client and donor needs (Kong and Prior, 2008; Kong and Ramia, 2010). In this context, IC becomes one of the most important resources to exploit and effectively manage in order to pursue economic, financial and social objectives (Serenko and Bontis, 2013). Intellectual capital helps to avoid the displacement of goals and resources, and then, allocating proper investment to the IC sub-components becomes a crucial factor for the strategic positioning of a business (Kaplan and Norton, 2001; Kong and Prior, 2008; Teece, 2002, 2006; Kong and Ramia, 2010).

More specifically, in this study, to identify the principal components of the IC sub-dimensions for Italian SCEs and to highlight the effect of these sub-dimensions on the social and financial performance of SCEs, the following research questions were investigated: (RQ1) *which are the principal components of IC sub-dimensions for SCEs;* (RQ2) *which elements of IC influence the financial performance of SCEs?* and (RQ3) *which components of IC affect the social performance of SCEs?*.

After the application of a PCA analysis on a set of IC sub-dimensions, it was possible to identify the main components of IC that are involved in the value-creation processes of Italian SCEs. The factor analysis allows for the identification of six principal components of IC (RQ1): education, employees' productivity and satisfaction, the quality of relationships, collaborative and communicative capacity, the satisfaction of social needs and the innovation of services. These factors represent effective levers for use in fostering IC that guarantees the long-term survival of corporate companies.

Additionally, to track additional information regarding the interrelation between the IC dimensions (through the Pearson correlation) and to identify the IC sub-dimensions that affect the social and financial performance of SCEs, two econometrical models have been employed.

The findings related to the Pearson correlation (presented in table 4.11) demonstrate that the constituents of the of IC sub-components are correlated with each other and with financial and social performance–that is, the interrelated use of IC is required to transform knowledge and its intangible assets into strategic value drivers for firms, their stakeholders and the entire community. A constant interplay must exist between the IC sub-dimensions to effectively and successfully achieve business performance (Bontis, 1998; Bontis *et al.*, 2000; Benevene et al., 2017).

From the evidence of the econometrical models (depicted in tables 4.12 and 4.13), it is clear that an SCE's performance cannot be one-dimensional regarding only the economic field. It must rather be integrated into the social dimension to obtain a broader view of the overall corporate performance (Ebrahim *et al.*, 2014) and to determine the main value drivers that can transform tangible and intangible resources into long-lasting competitive advantages.

The empirical analysis highlights the key role of HC for SCE performance.

In fact, HC contributes to explaining both the economic and social performance of SCEs. Economic performance in particular is positively affected by the presence of graduate employees and the value added per employee. With regard to economic performance, highly qualified employees help to increase the ROA (Ting and Lean, 2009; Chu et al., 2011). This is even more important in social cooperatives, where human resources are directly involved in the production and provision of services that have high relational content and whose quality strongly depends on human resource traits. The HC sub-components are also fundamental for social performance. In fact, social output, which is measured based on the number of served users, is positively affected by yearly training and the value added per employee. Regarding yearly training, the findings demonstrate a significant negative effect on economic performance and a significant positive effect on social performance. This implies that training is important for guaranteeing a specific standard of quality for the services provided to users and for effectively achieving the organisation's social mission. On the one hand, training affords organisations the opportunity to develop new skills and accumulate the knowledge they require to achieve their strategic goals (Benevene and Cortini, 2010; Peteraf, 1993; Nikandrou et al., 2008). On the other hand, the cost of yearly training negatively affects the ROA due to the increasing operating costs (Maditinos et al., 2011); however, training activities in the long and medium term result in a positive effect on organisational performance (Nikandrou et al., 2008; Apospori et al., 2008).

A cause-and-effect relationship exists between HC and the other elements of IC; this explains the consequential superior performance (Benevene and Cortini, 2010; Bontis, 1998; Cabrita and Bontis, 2008). Therefore, all of these results highlight the importance of evaluating and understanding the contribution of the HC sub-components to SCE performance with an integrated perspective of social and economic dimensions.

Moreover, in terms of the quality of relationships, RC seems to influence only social performance. The quality of relationships with customers in particular has a positive effect, while the quality of relationships with the reference territorial community has a negative one. This discordance is likely attributable to a different level of perceived quality of the relationships, which is lower for the community than for customers. It is easier for customers who are directly involved and in contact with employees and volunteers to realise and perceive the quality and strength of the relationship than it is for the reference community, which consists of private, public and financial institutions and for-profit enterprises, amongst others. These results suggest that SCEs should try to improve their relationships with the stakeholders of reference territories, investing in transparency and communication, through which social legitimacy can be obtained.

Therefore, in this study, two OLS models were developed to support management in assessing corporate performance by evaluating the contribution of the IC sub-components to SCE performance. Within this study, it is possible to highlight the strategic importance of SCEs effectively managing HC and RC in ways that take into account both economic and social performance.

According to the previously discussed empirical findings, the research hypotheses - (*H1)The IC sub-dimensions (human capital, relational capital, structural capital) affect the economic-financial performance of social cooperative enterprises;* and *(H2)The IC sub-dimensions (human capital, relational capital, structural capital) influence the social performance of social cooperative enterprises)*- can partially be accepted.

The empirical results improve NPO managers' awareness of the positive implications of IC for a firm's performance.

For the senior leaders of social cooperatives, there is a need for in-depth knowledge about managing the sub-components of IC in SCEs and NPOs as well as about the strengths and weaknesses of their roles in the value-creation processes. In fact, there is a lack of studies on these topics, and the findings from these analyses might increase the awareness of IC management in this specific context and provide a better understanding of opportunities for growth. Therefore, managers should increase investment in human resources as a source of knowledge accumulation, which would provide competitive advantages and superior organisational performance (Nikandrou et al., 2008). Additionally, the positive influence of RC is related more to the quality of relationships with customers than to those with the reference community. Senior leaders should consequently increase the awareness of RC management in terms of external networking, strategic partnerships, collaborations, transparency and communication. These findings suggest that the managers of NPOs should pay more attention to the strategic planning of inter-organisational relations. They should also improve the cultural atmosphere that promotes organisational commitment and a cross-functional integration amongst board members, employees, volunteers and other stakeholders. Moreover, SC would not affect corporate performance. This result might be related to leaders' limited awareness of the exploitation of opportunities linked to knowledge embedded within the organisation. Managers should try to develop SC to support the effective and efficient management of HC and RC. There is a strong need for SCE managers and NPO professionals to undergo training on IC management, implementation and knowledge-creation processes.

From a scholarly standpoint, the results empirically confirm what was, to date, theoretically espoused by several authors: that HC and RC matter for the performance of firms that work in the non-profit sector (Kong and Prior, 2008; Kong and Ramia, 2010). Turning attention to the third stage of IC research, which highlights the need to move the research question from "What is IC?" to "How is IC?" in the different industry sectors in which it is utilised (Veltri and Bronzetti, 2015), this work consequently attempts to fill the void in studying IC within SEs in Italy. This is important because the predominant extant literature focuses on empirical studies based in primarily Anglophonic settings (i.e., USA, Canada, UK) in private enterprise.

Drawing these conclusions, there are several limitations that can be mentioned, and they can provide new insights for future research. The first limitation concerns the quantitative nature of the research. Even though the IC literature has highlighted the need to provide empirical data (Dumay and Garanina, 2013) about IC operations, it could be useful to employ both qualitative (i.e., in-depth interviews) and quantitative methods in order to disclose more relevant information on the generation of IC within an NPO setting and to offer new, intriguing insights into the topic.

The second main limitation of this work is the restricted sample size, which means that generalisation must be curtailed. In fact, the sample includes social cooperatives that belong exclusively to five specific sectors, which represent only a small size of the broader world of SCEs. Additionally, the study focuses only on one year of analysis, and it does not allow for the complete

identification of IC's impact on a firm's performance.

Moreover, from a geographical point of view, the social cooperatives covered in this study are located in Italy. Therefore, the results could potentially be influenced by the context and the low respondent rate. It could be interesting to extend the survey to other European countries to compare the findings and understand the weight of the reference context in which NPOs operate. Additionally, the specifics of particular sectors and cultures could be considered as moderators in the relationship between the IC sub-dimensions and firm performance.

Furthermore, there are no shared models to evaluate and estimate the effects of IC on the financial and social performance of NPOs. In fact, the PCA analysis and OLS regression models focused exclusively on a limited set of IC sub-dimensions and a set of network services, and these could be expanded.

Further research should try to develop shared and effective KPIs to measure the effects of the IC sub-dimensions on SCE performance so that decision makers are able to manage the value drivers. It would be interesting to focus on RC and SC, with the aim of identifying better KPIs, since these IC sub-dimensions are positively correlated with HC, which is the main IC dimension that impacts corporate performance. To this end, it could be useful to assess the effects of SC and RC on HC.

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