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**SCALING UP SOCIAL INNOVATION, THE CASE OF COMPLEMENTARY  
CURRENCIES**

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## Sommario

L'obiettivo di questa tesi è di comprendere quali caratteristiche di una strategia aziendale abbiano maggior impatto e ricoprano un ruolo chiave per scalare un'innovazione sociale, nello specifico in progetti che utilizzano Monete Complementari. Le monete complementari sono delle valute alternative, cartacee o digitali, che hanno come obiettivo creare un circuito economico parallelo che promuova comportamenti ecosostenibili e aiuto reciproco all'interno della comunità in cui le si usa. Questa ricerca sostiene che i progetti che si basano sull'utilizzo di monete complementari abbiano una grande potenzialità per impattare positivamente la sostenibilità di quartieri o addirittura di città intere su scala internazionale. Questo traguardo può essere raggiunto tramite l'implementazione di molti progetti indipendenti e su scala locale oppure scalando questa innovazione sociale per impattare più comunità simultaneamente. Quindi un possibile futuro multi-moneta richiede di comprendere, quando si tratta di scalabilità, a quali fattori prestare maggiore attenzione, come il progetto, l'interazione con la comunità, la gestione dell'impresa, le finanze e la legislazione locale. Diciassette diversi fattori vengono usati per descrivere cinque casi di studio col fine di osservare come si manifestano in progetti di differenti dimensioni ed evidenziare quelli che risultano più rilevanti laddove una strategia per la scalabilità è stata applicata. Le monete complementari possono essere utilizzate in diversi modi ed in progetti molto differenti tra loro, che presentano caratteristiche uniche associate ai costumi, valori ed istituzioni della comunità che le utilizzano. Questa tesi, per rispondere alla domanda di ricerca, compie dunque un'analisi qualitativa e utilizza le conoscenze acquisite dalla letteratura riguardanti la scalabilità dell'innovazione sociale unite a quelle riguardanti circuiti economici alternativi. Il questionario e le interviste condotte online sono gli strumenti usati per creare una visione completa dei cinque casi di studio, i quali, pur caratterizzati da diversità tra i loro modelli di business, utilizzano lo stesso strumento per conseguire risultati molto simili. Fattori riguardanti la scalabilità di una innovazione sociale come la Visibilità, la Misurazione dell'impatto e Accordi di collaborazione, in seguito all'analisi, sembrano strettamente correlati al processo di scalabilità di diversi progetti mostrando un chiaro incremento in importanza e allocazione di risorse.

## **Abstract**

This thesis's objective is to understand which business factors play a key role in affecting the scalability of Social Innovation specifically, Complementary Currencies (CCs). CCs are alternative paper or digital money that aims at creating an economic circuit parallel to the traditional, socially and environmentally oriented, to improve the living conditions of layers of society penalized by the standard monetary system. This research argues that the use of CCs has a great potential to contribute to sustainability internationally; this objective can be reached through a high number of local projects or this innovation could be scaled-up to impact simultaneously multiple communities. To make a step toward a possible multi-currency future understanding which parts of a company's strategy influence the most the scalability of this social innovation. Through the analysis, a set of seventeen factors is used to describe five case studies and observe how the organization changes when the scale of the project increases. CCs can be used in several ways and in projects that have unique characteristics that relate to customs and values and institutions of the community that uses them. This thesis performs a qualitative analysis to answer the research question and uses the knowledge acquired from the literature on scalability and social innovation combined with that concerning alternative economic circuits. A survey and online interviews are the tools used to create a complete picture of the five cases which are characterized by strong differences in terms of the business model but operating with the same tool toward the same goals. As it results from the analysis, factors regarding the scalability of Social Innovation like Visibility, Impact Measurement, and Partnerships appear strictly related to the scaling process of different projects showing a clear increase in importance and allocation of resources.

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## Executive Summary

(1. Introduction) This thesis's objective is to identify the key factors out of the ones present in a business model, that influence the scalability of Social Innovation the most. Many Social Innovations are fostered to try to mitigate the destructive effects that the current monetary system and the externalities caused by human activities create upon economic equality, social fairness, and environmental conservation. Among them, the case of Complementary Currencies (CCs) arouses a lot of interest in the scientific community and the author as well. CCs are alternative monetary schemes conceived to achieve precise purposes coherent with the triple bottom line model: the achievement of sustainability respecting people, planet and profit. CCs revolve around the principles of community sharing, mutual trust, and common effort and focus on the individual contribution toward a sustainable economy performing a bottom-up approach, from the individual to the economic system, instead of a top-down approach, from institutions to communities. Many different types of projects can be created with the use of a Complementary Currency and the main purpose may change, but always inside the sphere of the above-cited values. The potential of CCs is believed to be great on local communities, still this Social Innovation may work also on wider scenarios. Investigating which factors influence the scalability of Social Innovations is necessary to aim at expanding this alternative to current monetary configurations. This thesis refers mainly to two pieces of research to extrapolate the main success factors for a CCs scheme and the ones necessary to scale a social organization (Christiana Weber, 2012) & (Beau Warbroeka, 2016). In the introductory chapter, the peculiarities of this Social Innovation are observed and assimilated including strengths and weaknesses of this tool and the CCs market along with its characteristics. From these observations, the complex nature of the schemes using CCs is highlighted, since it involves numerous stakeholders and has to deal with many limitations that a standard for-profit organization does not face (convertibility of the currency, absence of reference network, difficult access to strategic resources and funds). The effectiveness of a CC scheme on local communities is highlighted as well and the relationship between the effect of such a project on the pillars of sustainability is evident, even if on a small scale in most of the cases. This duality of effectiveness locally and complexity limiting the possibility of expansion is central in this elaborate.

(2. Theoretical Framework). The theoretical framework sets the base on which the investigation is conducted. Seventeen variables are chosen to describe the architecture of five case studies that belong to different groups in terms of scale. Those groups are addressed as Independent (CIII), Local (CII) and International (CI) based on the dimension of the user-base and the number of markets penetrated (in terms of different countries).

(3. Methodology). By observing the different scores collected on projects varying in scale this research expects to notice significant differences in how the factors (which are ultimately business model characteristics) are managed in initiatives that reached very different scales. The tools used are systematic literature review on the topic, a questionnaire sent to as many as possible CCs projects and Online interviews. Five organizations have been involved in this research, respectively in order of scale: ECOL3VNG: TURUTA, BRISTOL POUND, SOCIAL TRADE ORGANIZATION, an anonymous participant and ECOINS. Each of them answered the survey evaluating each of the descriptive variables with a score.

(4. Findings) Through a qualitative approach to this data set, this research looks for those business characteristics that become more and more important as the scale of the project or organization increases. Those elements appear to be correlated to the dimension of the CCs scheme and consequently may have a primary role in influencing the scalability of Social Innovations. Another focus is done on the best performing characteristics, those which scores are above the average of the answers. Intertwining these observations, the factors are skimmed, ultimately obtaining a reviewed list of the key factors playing an important role in achieving a greater scale: Impact (assessment), Visibility and Partnerships. The survey alone cannot describe complex alternative schemes and interviews play an important role in adding information and contextualizing the projects inside the current business environment. Additionally, the opinions of practitioners are collected and exploited to deeper discuss the findings and the results obtained. The views on the topic differ accordingly to the configuration of the project which indeed manifests the philosophy of its managers.

(5. Discussion) The scalability of a CCs scheme, the factors influencing this process and the context in which they develop are discussed, but other observations come to be as the research proceeds regarding the nature of this industry, its inner diversity, its accessibility, and the networking feature highlighting severe lacks of opportunities exploitation. If scaling this Social Innovation is a viable strategy is confirmed by the data collected and by some of the opinions gathered but denied by the business reality: only one firm expanded its CCs scheme to multiple countries successfully. Indeed, the performances of this project are higher than the other case studies on many factors, but differences in the core business are relevant and discussed in the elaborate.

(6. Conclusions) The models describing the elements necessary for the scalability are accurate but cannot cope with the extreme plurality of shapes that a CCs project can assume. This diversity is highlighted as one of the main causes of difficulties in assessing a comprehensive theoretical framework for CCs and addressed as one main weakness of this innovation. It is not the only one: the results show a poor approach toward marketing and visibility (which additionally created many issues to the extent of this thesis), difficulties in collecting funds and achieving business sustainability. The effectiveness that these projects reached on a local scale can be replicated in many other communities once the industry knowledge and best practices are replicated or a good initiative scaled beyond the city's (or country) borders.

## 1. INTRODUCTION

This thesis's objective is to identify the key factors out of the ones present in a business model, that influence the scalability of social innovation the most. The focus is made on a particular Social Innovation and a big part of the literature review is related to understanding more about the world of Complementary Currencies while investigating if this instrument is a valid candidate for scaling, maybe globally. The scalability of social innovation is a complex topic that involves many stakeholders, many different aspects of the business model and it is greatly influenced by the relationships of the organization to the external environment. However, innovation can be fostered in an easier way when some conditions are satisfied: when the 'worst-case' risks can be contained (for example, through keeping innovation relatively small scale), when an evident failure of current models occurs, when expectations are carefully managed, when contracts for services reward are achieved. When these conditions are satisfied, and the business model proves effective the topic of scaling up Social Innovation becomes central. Innovations usually grow in an S-shaped curve and cross an early phase of slow growth, then a phase of rapid expansion and then slowing down entering the maturity phase (Geoff Mulgan, 2006). This should be valid in the case of complementary currencies as well.

Complementary currencies (CCs) revolve around the principles of community sharing, mutual trust, and common effort; more than ever mankind needs this, and mankind is the biggest community on the market (Sahakian, 2017). Although this instrument is just a blip on the huge radar of the economy, there are hundreds of local projects around the world creating sustainable ways to deal with a specific issue in a very precise geographical location. CCs could be a candidate one day, to be the typology of the exchange method to keep both planet and population in healthy and fair conditions. *'Human beings are a social species that rely on cooperation to survive and thrive. Understanding how and why cooperation succeeds or fails is integral to solving the many global challenges we face'* (The cooperative human.427–428, 2018)

The potential of a Complementary Currency if introduced in the market and well managed is huge. The architecture of CC projects should also keep in consideration a smooth design and smart marketing; It should be pan-sustainable and give everyone a chance. The impact grows for each individual that decides to join the community which recognizes the complementary currency as a valuable method of exchange. The difference with standard money is that Complementary Currencies are and always will be socially oriented. Not surprisingly the case of spontaneous birth of CCs happened in the time of crisis and strive for survival. In periods of great difficulties communities all along history have understood the importance of local cooperation for the commonwealth: CCs are the mean through which this value can be achieved in a complicated and inter-functional system which is modern society. Today many people dedicate parts of their life and time to activism with the belief that the sum of all the small efforts can impact the world many more than the complete and absolute effort of just a few individuals. The contribution of many projects that have limited impact can foster a gradual shift toward a greener economy. In particular, the environmental problem requires this view, the imperfect contribution of a large part of the population can create a strong basis for a sustainable future. CCs are not necessarily linked to green activism or a radical shift to low carbon behavior but they help to acknowledge the problem and identify small changes to daily actions which may reduce the impact of communities on carbon emissions and waste production if done collectively (Seyfang, 2009). *If all the people on the planet organize to collect one single garbage item from the ground, in approximately one second 7billions items would be collected and recycled, effortless.* This thought is both powerful and utopist for several reasons:

studies have shown that the environmental concern arises when other basic needs for survival and wealth, in general, are satisfied (*Kuznets's curve*) (Daniel Armeanu, 2018). According to this model, just a small portion of the global population would have the economic stability to “take action”. On the other hand, social phenomena are happening right now all over the globe, involving millions of people and they are fated to grow year by year, such as the situation will be more serious meanwhile. Strikes for climate change are also happening in countries way below the poverty line, partially proving wrong the Kuznets's curve thesis. The idea on which this thesis has been conceived was not whether the world was ready for giving up some comfort in the name of the planet and social good but, what could anyone do to incentive those individuals who are not willing to do so? Social science deeply investigates crowd motivation topics also applied to biodiversity conservation identifying intrinsic and extrinsic motivation to act on something (Deci, 1971, 1975; Deci et al., 1999). Intrinsic motivation refers to acting with the purpose of personal satisfaction, fun, sense of challenge, coherence toward personal values and believes. Extrinsic motivation is connected to instrumental value, when the action is driven by a functional reward, a measurable outcome and the action itself doesn't necessarily fit a person's individuality. The cited study argues that those motivations are not complementary, but they can annihilate each other: monetary compensation for environmental or social effort could decrease the intrinsic motivation of those individuals who do not need extrinsic motivation. However, Julian Rode, Erik Gómez-Baggethun, Torsten Krause (2014)'s studies review discusses that economic incentive can impact on intrinsic motivations for engaging in biodiversity and ecosystem conservation. Given that, in some cases, the crowding-out effect (Titmuss' (1971)) is confirmed and more recent studies show that an economic, most of the times monetary, compensation not only act as an extrinsic motivation for those who are not involved like the addressed issue but also can change an individual's intrinsic motivation gradually shifting her priorities (Julian Rode a, 2014). Does money have this power? Evidence of this can be found not only in theoretical studies but in everyday life. Even if the answer to the previous question may seem trivial an economic incentive is the best candidate to gradually shape a person's intrinsic motivation.

*It is, however, unrealistic to expect any organization, private or governmental to give out money to individuals with just an environmental goal, the health of the planet is still not worth the economic effort.*

They would prefer to invest in PES (Payment for Ecosystem Services (S. Wunder, 2018)), Green incentives for a corporation, environmental remediation and to create a financial instrument that aims at discouraging pollution (Environmental Taxes, EU ETS European Trading System (Yan Zhang, 2019)). Many of these investments are called today ‘impact investing’. The point of view of the policymakers worldwide is to correct the industry first and people's behavior later; some may argue that consumers' preferences drive the market and that the shift from unsustainable to sustainable production and consumption should start from the bottom. In any case, both parties are involved when moving toward a low-carbon sustainable economy. Where governments cannot or will not act, activism, entrepreneurship, and social innovation can arrive. Throughout the years, communities have jointed the three pillars of sustainability into local projects which can independently impact the addressed issue. Some of them have chosen a weapon that has great potential power, that incentive people, that can solve poverty issues and help small businesses face globalization. That weapon, not surprisingly, is money. The interesting part is that this is not achieved through legal tender (the currency with which is legal to pay taxes in a country), but Complementary Currencies which can be identified under these assumptions as social innovation. The Complementary Currencies resource center

(<https://complementarycurrency.org/>) defines them “*monetary networks that using a medium of exchange in complement to the national currency, whether at the local, regional or national level. These include a variety of currency-issuance models including Mutual Credit, Convertible Voucher, and Cryptographic mediums of exchange, which we generally call currencies*”. This may sound unknown to the reader, still, this concept was developed in the early 20s as a natural local response to desperate economic situations and has evolved through the years to become an effective social instrument. Projects today address local economies, social issues, environmental degradation, time-sharing, mutual credit, local volunteers. CCs enclose the characteristics of money by giving them a precise purpose creating a parallel way to deal with human problems. *It is the purpose of this thesis to analyze real projects in order to understand which dimension is the most accurate for them, local, national, international, global, and what factors influence the decision and the possibility to scale up both the dimension and the impact of the initiative.* Next section will go deeper into the matter of the scalability of social innovation to let the reader better understand what is required to scale, what scaling means and how this knowledge can be applied to CCs, to their function, their geographical position, their relationships with the external environment and their overall potential for the future.

### 1.1 Scaling Up Social Innovation

This thesis is about scaling up a social innovation with a focus on Complementary Currency projects. The research question is: which business factors influence the most the viability of a scale-up strategy when dealing with Social Innovation?

What does to scale-up means? The definition of scaling on the dictionary says:” to increase something in size, amount, or production”. That is true also when it comes to business: scaling-up is a strategy of expansion and could be intended on geographical means, by penetrating larger markets or could be intended as enlarging the production or the range of services connected to the company, or the number of partnerships on which to rely both as a firm and as a customer (Gómez, 2017). When it comes to CCs the geographical dimension is one of the most important to understand, meaning local vs global. (Michele-Lee Moore, 2015) identifies three types of scaling when dealing with social innovation: “Scaling-out: Impacting greater numbers. Based on the recognition that many good ideas or initiatives never spread or achieve widespread impact”; “Scaling-up: Impacting law and policy. Based on the recognition that the roots of social problems transcend places, and innovative approaches must be codified in law, policy, and institutions”. “Scaling-deep: Impacting cultural roots. Based on the recognition that culture plays a powerful role in shifting problem-domains, and change must be deeply rooted in people, relationships, communities, and cultures”. Following the definitions of this research scaling-up would address law and policies only, in this research we refer to scaling -up as a strategy to bring the enhanced result in all these three categories with a focus on impacting greater numbers (scaling-out).

One of the latest trends in the “new economy” world is the opposition made by a local view of economic subsistence to the globalized current configuration. We do not want to underestimate any of the great steps further that the world has done by interconnecting people, industries, and economies across borders, still, it is clear that globalization comes with many cons as well as pros. When we argue Local vs Global, we refer to the different priorities that these configurations entail. A localized view focuses on the development of the territory, maintenance of the natural and social capital, the endurance of communities and unique peculiarities of that specific geographical area. The global view prioritizes profit, innovation, scientific achievement, and mobility throughout the globe. The best part of these two systems is that they could theoretically coexist,

focusing on both the needs of local communities and the advancement of mankind. So far, the Complementary Currency has devoted its influence on the *local sustainment* trying to compensate for the damages brought from globalization. *Are Complementary systems doomed to remain anchored to the smallest dimension and bring the impact of a well-designed social project to a very small part of the population or is it going to evolve and grow bigger as one of the potential solutions to many issues worldwide?*

The entire script has been based on the idea that a large diffusion of this tool, in capable hands, could impact the urban (and suburbs) environment regarding the three pillars of sustainability. So, what are the reasons this business philosophy is grasping to affirm? Many reasons coexist to create this context, especially linked to the difficulties in creating value for shareholders, being CCs projects a means to create value for the community. It cannot be just a matter of money: the world's trend on investment shows that the capital put at the service of social and environmental causes is growing year by year, creating the opportunities for many social initiatives to arise with third-party capital. The first model of reference analyzes the factors necessary for a social enterprise to scale-up (Christiana Weber, 2012). The objective of the author is to improve the understanding of the interdependencies of the factors affecting the scalability of social impact. Hereafter the conclusive model created from her analysis.

It is possible to divide the following model into three sub-groups and extrapolate the main factors to manage. Let's analyze the first subgroup, which is oriented to project and management-related factors that must be satisfied, or at least developed to a certain level in order to create a viable and sustainable operation planning.

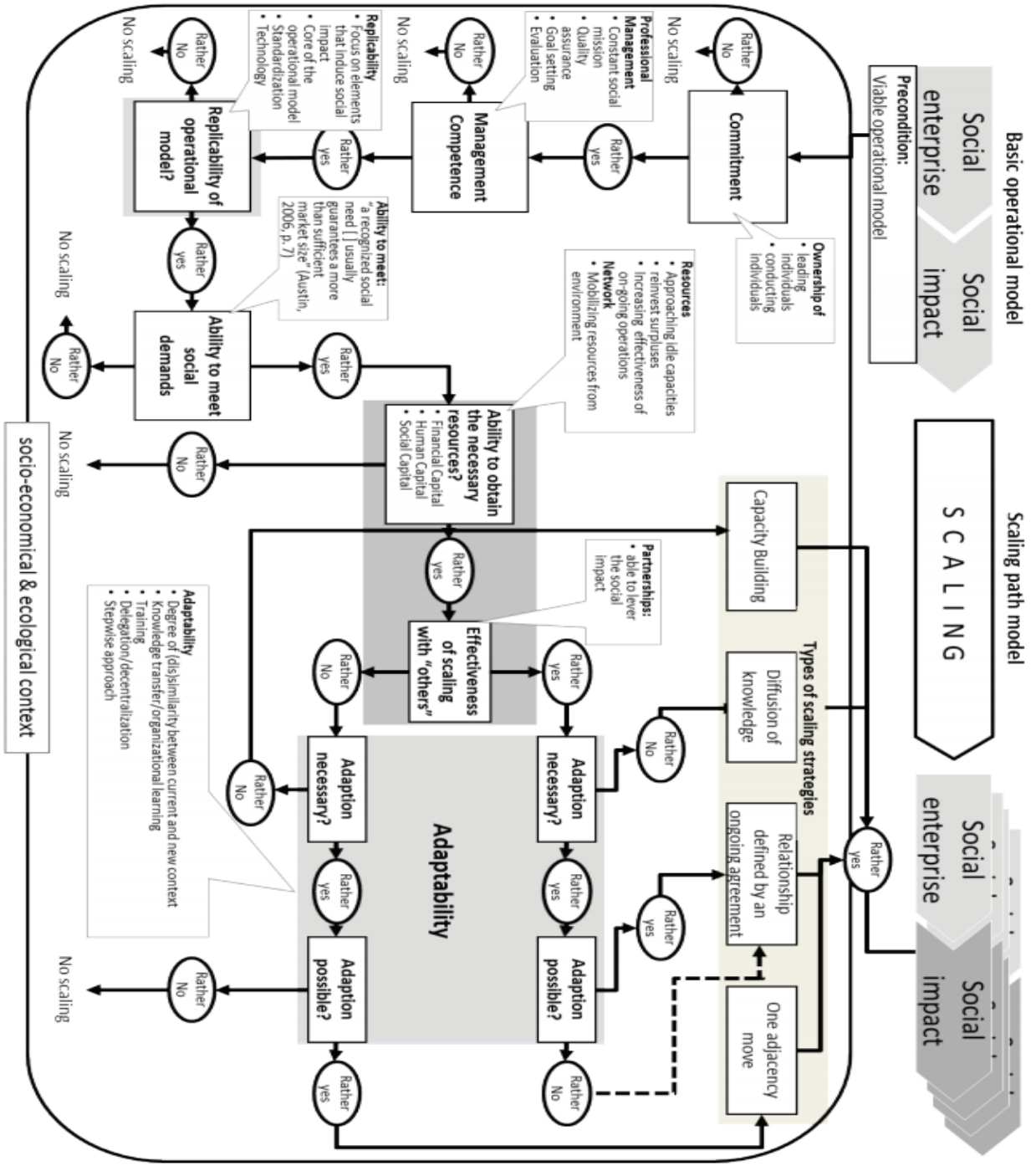


Figure 1 SCALING SOCIAL ENTERPRISES – A THEORETICALLY GROUNDED FRAMEWORK

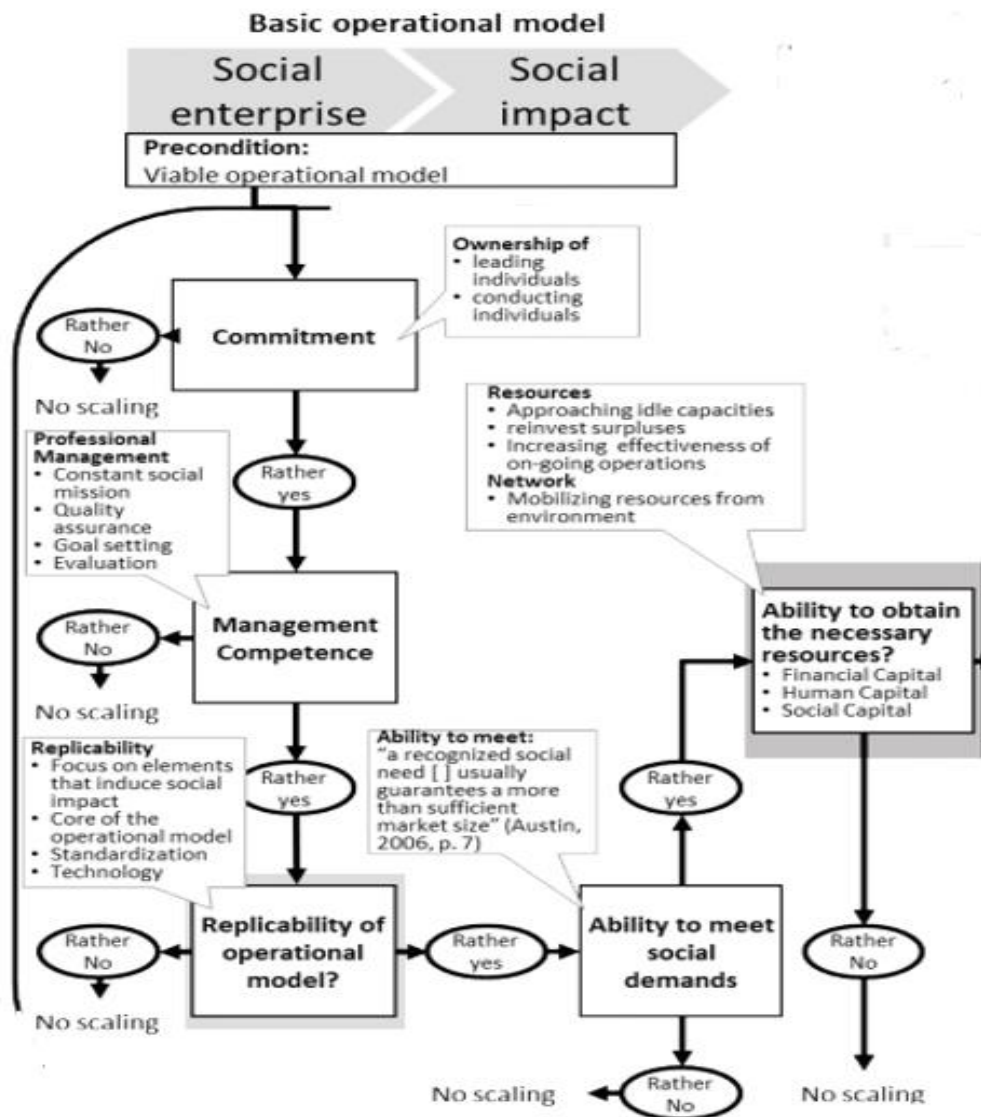


Figure 2 Detail: SCALING SOCIAL ENTERPRISES – A THEORETICALLY GROUNDED FRAMEWORK

**Commitment:** the extent of the individuals driving the scaling process as the first key factor of the scalability framework. Actors driving the scaling process could be the founder, involved staff and volunteers of the social enterprise, the management, and members of the enterprise’s network.

**Management competences:** generally, social enterprises are required more and more to act in a business-like manner (for example goal setting, monitoring, evaluating, reporting, and budgeting), so the adoption of management competence for social enterprises is particularly important as well as the preservation of the social mission. If the operational model is viable, the operations should be standardized in order to ease the replication process. One way of reducing complexity could be to have social enterprises focus on the core elements of their operational model. The replication of the core aspect of the model might induce an impact more successfully.



**Replicability of the operational model:** when determined that the social organization’s operational model is viable, its operations should be standardized in order to facilitate the replication process method for reducing complexity could be to have social organizations focus on the core elements of their business model. Then, it would be possible to replicate only those elements that foster the social impact most effectively.

**Ability to meet social demand:** the ability to meet social demand determines where and how replication of the elements can scale the social impact most effectively. The maximization of social impact is the primary driver of social entrepreneurs. depends on how effectively social enterprises surmount operational and economic barriers to the scaling of their social impact.

**Ability to obtain necessary resources:** social enterprises cannot pay competitive prices for production factors. They find it particularly difficult to generate the resources they need for scaling social impact such as financial or human and social capital.

In the second part of the model, once the assessment on the capability of gathering the right amount of resource to increase the scale of the project is completed, a new cluster of factors is introduced, dealing with the adaptability of the business model to a new context; a topic that should always be investigated when scaling an organization up to new frontiers. Is the standardized model coherent with the market which is going to be penetrated? Should the organization go on its own in this enlargement process or should it do it along with the institutions of the local environment? The answer may vary case by case, the important step is to take into consideration a possible shift both in the architecture of the project and in the relationship and linkages to external important stakeholders.

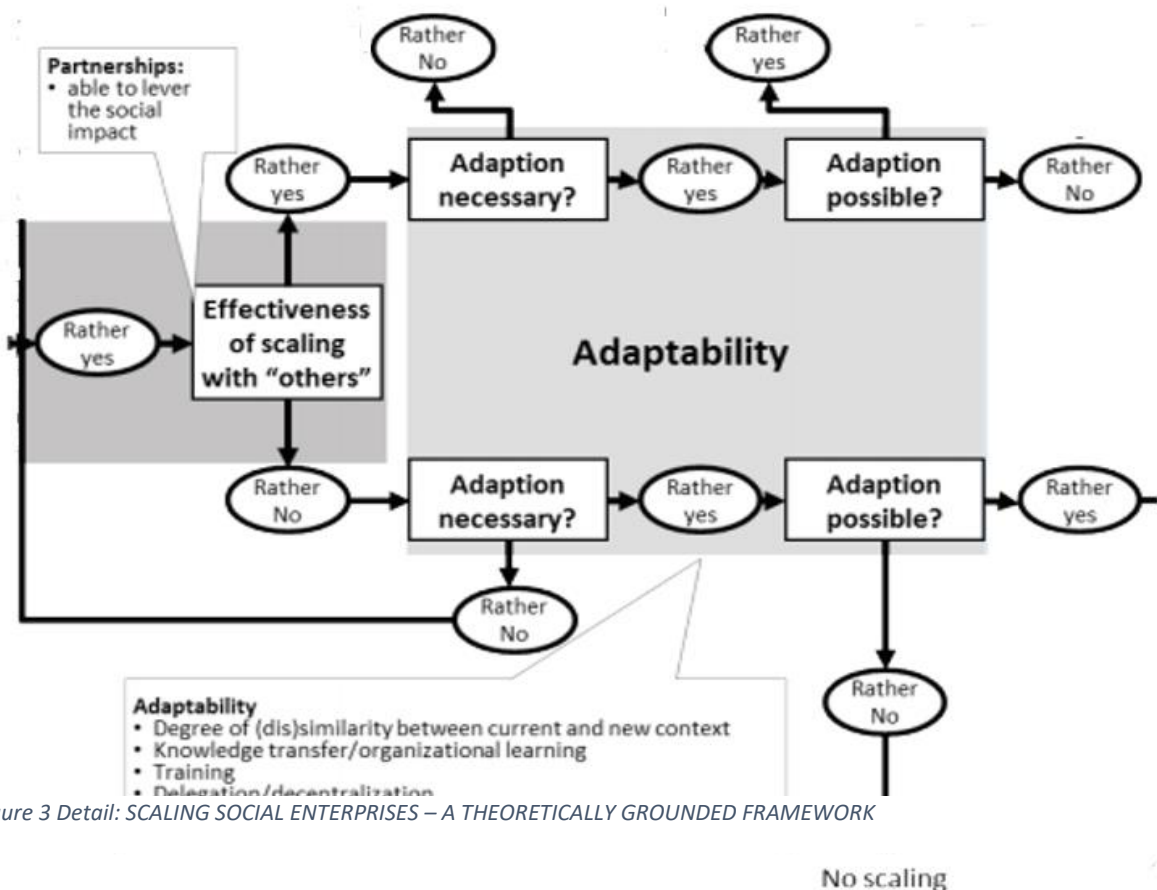


Figure 3 Detail: SCALING SOCIAL ENTERPRISES – A THEORETICALLY GROUNDED FRAMEWORK

**Effectiveness of scaling with others:** it refers to the involvement of organizations or institutions to help spread the social impact. Doing so provides support and advocacy to the initiative. Social impact is determined by how effectively other organizations, corporations, or institutions can lever the social impact achieved by the social enterprise. This potential might vary and is determined by the replicability of its operational model, the ability to meet social demands, the ability to obtain the necessary resources.

**Adaptability:** market requirements and characteristics of the user base for the activities of social organizations might change, depending on the degree of similarities or dissimilarities between the context in which **social** enterprises are active before scaling and the context they aim to scale to. The differences between context can be an indicator that the addressed social need is particularly affirmed in the market to penetrate; some social enterprises consider adaptability not an issue because they look out for hostile institutional contexts to pursue their mission of fostering a systemic social change in them.

This study has been incredibly effective in grouping a large group of scaling key factors into just four main strategies with a clear “path” to follow depending on the different market configurations. This research will further identify seventeen variables to investigate a complementary currency’s architecture, of which most are directly linkable to the ones just observed.

e.g.

Variable	Correspondent in Christiana Weber, Arne Kröger, Kathrin Lambrich’s model
Human capital	Management competences

From the model just discussed we could learn some valuable lessons:

- Social enterprise’s success factors are not only financial
- The focus is clearly on human capital and internal competences and skills
- Whenever scaling to a bigger size or a new market an entire process of adaptation of the model is necessary
- Depending on the organization’s characteristics there are multiple viable options and strategies for scaling

This is not the only model available when talking about scalability, but it has been included and analyzed because it clearly gives a pathway to any social entrepreneur depending on the peculiarities of its own market. This means that the model is adaptable to multiple situations; it greatly highlights the important factors to take into considerations not only when scaling but also when managing any type of social enterprise, for-profit or no-profit.

## 1.2 Relevance of scalability and CCs

Many studies argue how the topic of complementary systems, although it is nothing new, is still on the seed phase when it comes to theoretical formulation. It may be the fact that the world of “new economics” is openly opposed to the actual configuration of the capitalistic system. It is the purpose of this paragraph to go deeper into the nature of the complementary exchange system through a systematic review of the available bibliography in order to understand the strengths, weaknesses, opportunities, and threats of this interesting instrument. The research world has intuited the potential of this instrument and has looked with curiosity about the great number of projects that are being born worldwide. Complementary currencies are seen as a local human response to the crisis of the 21st century in terms of the three sustainability pillars and since the early 80s academics are trying to model and explain the way they work and interface with actual economy.

Nature of projects	Space considered	Purpose	Guiding principle	Denomination (English / Spanish / French)
<b>“CCs”</b>				
<b>Territorial</b>	Geopolitical space (territory politically defined)	Defining, protecting and strengthening a territory	Redistribution or political control	Local currencies / Monedas locales / Monnaies locales
<b>Community</b>	Social space (pre-existing or ad hoc community)	Defining, protecting and strengthening a community	Reciprocity	Community currencies / Monedas sociales / Monnaies sociales
<b>Economic</b>	Economic space (production and exchange)	Protecting, stimulating or orientating the economy	Market	Complementary currencies / Monedas complementarias / Monnaies complémentaires
<b>Outside “CCs”</b>				
<b>Territorial</b>	Sovereign space	Sovereignty	Redistribution or political control	National currencies / monedas nacionales / monnaies nationales
<b>Economic</b>	Clients of a for-profit organization	Profit	Purchasing power capture	For-profit currencies / Monedas para lucro / Monnaies à but lucratif

Figure 4 (J. Blanc 2011, *Classifying “CCs”: Community, complementary and local Currencies’ types and generations*).

There are methodological and research issues when analyzing the phenomenon of autonomous communities that seek for improvement by creating a complementary exchange system; the difficulties have brought to a situation in which many dynamics have been faced but few answers have been told about a topic which involves traits of micro and macroeconomy, psychology, anthropology, and law.

Important steps have been taken in identifying the different types of CCs which is a real challenge due to the diversity that characterizes this field and the fact that there is no common typology shared by scholars, activists, and observers, beyond a series of general considerations, clearly distinguishing specific items between CCs

schemes (Blanc, 2011). In his paper Jerome Blanc discusses the principle of a cc typology, points out distinctions between local, community and complementary currencies with the goal of distinguishing the different generations of CC schemes. The definition of the nature of the different projects worldwide is the first step that opens up the investigation on the role of complementary currencies on the pursue of sustainability which is becoming a valid candidate for an alternative social solution in the academic world. A. Michel and M. Hudon (2015) in a systematic review on CCs and sustainable development argue that the conventional monetary system is an antagonist to sustainable development for two main reasons:

1. Non-equitable allocation of wealth and resources (fairness misconception, Kennedy 2001)
2. The continuous increase of production, consumption, and investment resulting from the profit orientation.

CCs are born as a response to these global phenomena to mitigate the destructive effects on an individual's reality that comes from the aggressive capitalism that characterizes the global economy since the post-WWII. This is conducted today on a local level, community by community, where the need manifests itself and where social entrepreneurs decide to create an alternative, or better, a parallel system that allows low-end consumers to increase their purchasing power. A. Michel and M. Hudon's purpose is to assess the impact of CCs reviewing the available literature: "The challenge consisted of collecting and evaluating the most comprehensive evidence of impact assessment frameworks available in the literature". Even though it is ascertained that the assessment and measurement of the impact of such a small-scale phenomenon is a real challenge, the combination of the different researches increases the possibility of a strong analysis and the reduction of the bias. The findings of their research show that the impact of CCs circuits is too small to influence tangibly the "numbers" of a local economy in most cases. The highest ever recorded result is a 0.6% increase in national GDP with the Argentinian Red de Trueque (Barter Market) with more than two million active members. However, "9 of these 21 studies observe that, despite this overall limited impact, it was significant for marginalized segments of the population. The second most visible impact, with almost 40% of the sample, indicates that the implementation of CCs benefits the community by recognizing informal work and valuating skills usually not valued by the formal labor market.". I have cited this sentence to analyze a fact: the lower "layer" of society is the one that is most favorites from these programs. This justifies two factors highlighted by many studies. First, the impact on the local multiplier (and national GDP) is small or non-significant: addressing the socially-excluded we expect to not obtain significant effects on the economy, but obtaining any type of increase on economic conditions and social justice (confirmed by the small numbers of improvement in the surveys) is a huge success considering that the contribution of people in difficulty is hardly notable on a country's performance. Second, CCs schemes are entirely designed to address social problems and complex situations, which in developed countries are a minor but big part of society. If the survey confirms that despite the small impact on "the numbers" many people in difficult situations favor from these schemes, it means that the concept is well addressed. In a labor market, hard skills are valued highly and only in the last years, soft skills have become valuable, social capital, natural capital, social skills, and volunteering effort are considered extra-skills. The complementary circuit, whichever its purpose is, puts at the center of the operations these kinds of abilities, both on the social improvement part and in the exchange business. Most of the members of CCs programs affirm that their social skills have improved and that they could find more satisfaction in exploiting their civil sense. Let's focus now on the environmental effect also investigated in this research. If understanding

the impact of people is a hard task, acquiring the data on the effect of the local environment of a CC program is even harder. Social capital can be valued through interviews, surveys and focus groups; those instruments are not useful for environmental purposes, even though they can offer an insight on the ecological awareness of the members to be compared with other citizens clusters. What we can do is reasoning on the patterns of consumption while being a member of a CC community and translate the individual behavior into a mass effect: “the study of the Bow Chinook Barter Community (former version of Calgary Dollars) by Berthold (2000) identifies CCs as tools for recycling, reducing pollution and fostering environmental education. Second, Caldwell (2000) finds that LETS help to sustain the environment by keeping resources local and encouraging environmentally friendly attitudes. Third, a study of the Accorderie surveying members, demonstrates that the majority of respondents consumed more respectfully towards the environment and also consumed less than before (Fare, 2012). Fourth, Fare (2012) also describes in her study of the SOL that the majority membership consumed in a more ethically and respectful way towards the environment. Finally, Ruddick (2011) observed an environmental impact through waste removal and tree planting using the Ecopesa local currency in Kenya”.

Many pieces of research affirm that although the impact of CCs on the three pillars of sustainability remains marginal, their effect seems greater in periods of instability and crisis. This can be seen as a positive effect: stability and wealth keep people away from the sustainability effort, still, an alternative is precious when the economy and the society lacks in providing dignity and sustainment. A. Michel and M. Hudon affirm that due to very small number of studies regarding the link between ccs and ecological gain, due as well to few ccs projects which are openly addressed to environmental improvement, it is not possible at the moment to confirm if CCs are a powerful tool for ecology worldwide. This does not stop researchers and politicians to imagine a world in which natural capital has a price (and a prize). Gill Seyfang in a study entitled “Carbon currencies: A new gold standard for sustainable consumption?” (2011) faces a topic that is becoming of fundamental importance: the pricing of natural capital or better, emissions. Resources are limited and the exploitation of earth’s gifts has been free of charge so far, as well as the possibility to pollute the environment. Professor Seyfang finds in the ccs a valuable system to give value to everybody’s carbon footprint (carbon footprint is the individual pollution, direct or indirect, caused by consumption patterns and lifestyle decisions). If pollution had a value, polluters may be forced to repay the damage inflicted and environmentalists could be rewarded for their active contribution in partially remedy to everybody’s else behavior. This ideal program is called PCT (personal carbon trading) and it has been conceived to create an alternative to the “controlled degrowth”, an idealistic movement that fights the “eternal growth” strongly criticized by Greta Thunberg herself (Jackson, 2009).

Seyfang creates the link between this program and complementary currencies highlighting the factors that would be fundamental for the project to be effective as well as they are fundamental for any CCs initiative:

- Policy coherence
- Social context and culture
- Technologies
- Skills and capabilities
- The extent to which the CCs engage active citizenship

These four factors be an important part of the initial conditions that may, or may not, influence the scalability and the strategy when it comes to complementary circuits, especially for the environmental driven ones. This is just one of the many studies conducted by professor Seyfang who is a woman of reference for the entire field of complementary currency research. She investigated the world of green communities, alternative exchange circuits, categorization of CCs, “new economy” and green policies worldwide. Although many times the small scale has been cited as one of the main causes of limited impact and capabilities of measurement of the effectiveness of ccs projects, the literature almost never links the scale of social innovation as a success factor, repeating that the local scale is embedded in the nature of the local currencies. The path of reasoning of the researcher makes me think that many problems would be solved, or at least unveiled if only the social entrepreneurs decided to enlarge the sphere of influence of their projects. One may wonder why this does not naturally happen when a good technical solution is operating, which is in the middle of the path from the pilot project to a worldwide breakthrough.

In this next part, we would like to review the theme of scalability and innovation in the literature. Scaling is often intended as reaching the maximum adoption possible of a certain technology or practice by as many users as possible. The International Development Innovation Alliance (IDIA, 2017) defines sustainable scaling as “the wide-scale adoption or operation of innovation at the desired level of scale (exponential growth), sustained by an ecosystem of actors”. L. Woltering (2019) affirm that scaling is a process that starts since the pilot project itself and that many initiatives fail because of the lack of strategy during this fundamental step. Many initiatives do not evolve to the desired scale because they are managed and set up as a “stand-alone project” rather than a real trial of performance at scale. Pilots run in a very controlled environment of which the organizers know all of the characteristics and variables; the situation is very different when aiming at scaling, the environment of operation is wider, and many uncontrolled variables can influence the final output. L. Woltering (2019) identifies seven challenges in transitioning from a controlled environment to the desired market:

1. Reliance on external resources
2. Fixed time horizons
3. Reliance on external resources
4. Biased collaboration
5. Limited incentives to scale
6. Shielding from the “real world”

## 7. Excessively narrow scope

All these challenges can be managed through strategic management, but there is one more complicated situation to face when dealing with social innovation: system change. All of the initiatives have to deal with external forces; We define a system as a set of practices, relationships, values, and rules of the game interconnected in such a way that they produce their own patterns of behavior over time. To make it clearer to the reader why the affinity with the system is fundamental we could just say that introducing any novelty into the system requires changes; in order for a product to be available, it is necessary to have producers, supply chains, information mechanisms, normative coherence. In the same way, it is fundamental for a social innovator to acknowledge if the system is already compatible with its idea and, if it is not, trying to modify it as far as it is possible. In the literature we can also find a simple and clear model called SCALERS (Paul N. Bloom, 2008), which highlights some key features which are necessary to be able to amplify the influence of any project:

- Staffing
- Communications
- Alliance-building
- Lobbying
- Earnings generations
- Replication
- Stimulating market forces

Even though the model described by Paul N. Bloom and Aaron K. Chatterji (2008) is simple in its construction it touches every important aspect that a firm should take into consideration when considering scaling, from the internal skills and resources to the sustainability of the business through revenues which are necessary even in a social enterprise.

The reader may observe that the seven features listed into the SCALERS model can be found as well in the above-cited “SCALING SOCIAL ENTERPRISES” model. It’s possible to recognize again communication and staffing (commitment and management competence), alliance building and lobbying (effectiveness of scaling with others). Earning generations, replication and stimulating market forces are not directly cited in the previous model although, with some flexibility, we can find the same topics in the Ability to obtain the necessary resources, adaptations and ability to meet social demands.

The world of complementary currencies is in continuous evolution and the lessons learned from the researches in scalability, although very valid, may not be correct forever. With the evolution of the social enterprise which will continue with a greater ratio in the following years, the corresponding literature on scalability and CCs as well may change meanwhile.

Blanc affirms that the schemes evolve: “They emerge through innovation processes. They overlap since the emergence of a new generation does not put an end to the former”. The shape the CCs had inside the LETS schemes during the 80s is not the same they are today; the innovation itself is innovating finding a new way to adapt to the socio-economic world and potentially increasing the impact on the chosen territory.

### Complementary currencies as Social Innovation

The peculiarities of the tool, which is a complementary currency have been reviewed, as well as two important frameworks in scaling social innovation and enterprise. I use the word tool because is the most accurate description for money in general, now the objective is to try to understand what makes this tool an innovation first and a social innovation second. As previously said complementary currencies are not a brand-new tool, it is their application that can be seen and understood as innovation. Innovation is defined as the introduction of something new when it comes to business instead the definitions are multiple.

Can a concept introduced and developed in many shapes much time in the last century be considered an innovation? Money itself cannot be considered innovation, but the opportunities that come with the social application of it can. We are talking about the first step of a new economy which puts welfare in front of profit, communities in front of individuality. Such an idealistic purpose cannot live inside the classic financial system and cannot be opposed to it: capitalism is so embedded today that it is unrealistic to try to substitute it. The new economy must be parallel to the modern systems in order to mitigate the dangerous effects of profit pursue in terms of social assistance, economic aid and environmental sustainability. Complementary currencies used for such purposes can be considered innovation, redefining the scheme of the interaction of people-money-people. Extending the analysis, social innovation involves many more topics and sectors of our economy. It is about intertwining the multiple dimension of the effectiveness of several sectors with a real impact on a person’s life. It is not anymore about the product, it is about the impact of its production process, the value it brings to the individual, connected social services, the possibility to re-use the product after its life-cycle, the

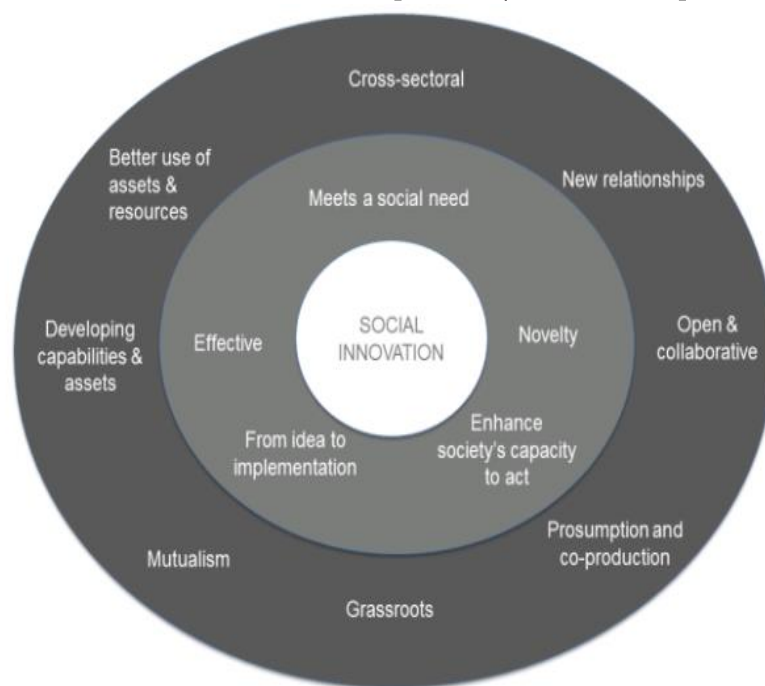


Figure 5 Social Innovation determinant factors



impact of the innovation itself on behavior and lifestyle. The following set of attitudes and values can better describe where the concept of social innovation comes from and gives an idea of how many topics are involved.

Once again, we ask ourselves this question: can complementary currencies be a social innovation? The existing projects which base the strategy on the use and spread of a parallel currency mostly include all of the goals and attitude listed in the previous graph. Talking about Mutualism, better use of resources, collaboration, a meeting of localized social needs, creation of new means of action for both individuals and society in general. Let us take B£ as an example and scroll through all the main characteristics of social innovation and try to find an answer to the question.

B£ involves 250+ SME in its geographical areas including many different sectors inside the retail world, plus financing directly with its ccs several social projects; it is a cross-sectoral initiative. Its community affirms (70%+) on related surveys that the membership brings the possibility to enlarge the sphere of relationships, bringing together different layers of the society. B£ not only issue money but also exploits its created “trust capital” by financing different social valued activities, which is a good case of presumption (production and self-consumption). Membership also entails many advantages in terms of consumption letting both retailers and consumers advantage themselves with discounts, marketing opportunities, a triptych which can be included in the category of mutualism.

Running a project involving CCs means dealing with an alternative economy which is not completely set and developed meaning being able to face unusual situations both with retailers and customers who entered an uncommon system of exchange and payment: this can be associated with “development of capabilities” which would be not required when running a standard business. Also, these kinds of initiatives entail contact with the client which may belong to several layers of the society, developing what is called “social capital” which can be considered a strategic asset when dealing with social issues throughout the communities. Most of the CCs project incentive exchange of second-hand items, environmental awareness, and consciousness: we can include this inside the “Better use of assets and resources” category. We have just confirmed that a standard local currency project perfectly suits the set of characteristics that social innovation should have, but what about the currency itself? One may wonder if the currency is the innovation or the use made of it. When dealing with CCs projects we must say that neither the initiative or the complementary currency is a social innovation when taken alone, it the mixture of the purpose and the tool that creates the actual novelty. Many non-profit companies act in favor of social stability, but they do so with volunteers and funding from the government or privates; using a dedicated currency to create a close self-sustainable system that can amplify the impact on society is the real innovation. We do not want to say that this is the unique viable alternative to impact social injustice, but it is for sure a valid opportunity to create a parallel economy that can review the world’s priorities.

### 1.3 Complementary Currencies today (CCs)

Main features: Social and sustainable application

The study of money’s nature has always captured great attention by the economist and social scientist because it’s central whichever topic we face. Economy sees it as a medium of exchange, the oil of the engine of supply and demand and it has always been given a neutral nature: money is what it does. It could be used for purposes such as the NGOs or around the scientific world, yet it can be used to trigger wars, destroy the ecosystem, favor crime. Still, diversity does not contradict uniformity. The main characteristic is the assignment of value to

economic objects, which are not only products and services but also time, preferences values, ecosystem services. It is useful to keep in mind that any of these assigned values are human conventions and it is the belief in this convention that creates the real value into the economic circuit. Money is used to evaluate, to assess the magnitude of value possessed by good or service and it attaches a precise and often public number to represent the worth of something, a numerical price that "condenses" and summarizes value. It is the unit of measure for everything that surrounds us, an essential need for any system of exchange. It is a common belief that the shape the monetary system has today is not exempt from severe issues (Arnaud Michel, Marek Hudon, 2014): the *relocation of wealth toward the richer classes* and the constantly *higher level of production and consumption* which are not compatible with the scarceness of natural resources and climate erosion are just two examples. Those issues can't be purely blamed on money itself but the overall economic system. Currencies are, after all, just an instrument. Some branches of economic believe that this tool could be used in favor of social, environmental and economic purposes and that the modern conception of economy and exchange should be overtaken (Boik, 2013). Multiple practitioners have begun to *conceptualize "new economics"* that can better suit the triple bottom line at least theoretically. This intent is not easy because capitalism is so embedded in every human activity that any type of change would require massive effort politically, socially and economically. Therefore, this research believes that money itself could smooth the transition toward human goals instead of capitals. Seyfang (2013), believes that Complementary currencies could ease the transition toward a fairer, more equal and lower-energy economy. Money is contextual, it takes the function of the background in which it is used, so it may just be that CCs have this potential because of their main scope: they are ideated for social purposes and so they create social impact. Demonstrating the impact of such instruments is not an easy task due to multiple shapes and systems in which they exist. Still, CCs literature shows the benefits that the implementation of a community's instrument can apply to that community itself not only economically but especially in terms of social networks and common scope (Molly Scott Cato, 2015). Multiple projects have seen birth since the 80s characterized by *a local dimension, a community scope, opposing local to global*. CCs are generally conceived to ensure that a greater part of savings and local income keep circulating within the selected geographical area "*offsetting the loss of local autonomy at the expense of the global market*". Researchers show that SMEs (small and medium enterprises) associated with the utilization of local alternative monetary systems better respond to global competition ensuring *the loyalty of the customer base*, developing closer *relationships and better integrating to the mechanisms of the surrounding community*. Furthermore, other objectives besides the economic wealth can be reached, satisfying part of the triple bottom line: economic, social and environmental sustainability. (Seyfang, 2013).

Let's analyze the relationship that alternative currencies systems have with the satisfaction of these ambitions.



Figure 6 The triple bottom line sustainability pillars

### **PROFIT**

CCs are not designed to procure profit to its creators (even if specific applications of alternative money could generate income exploiting data management and marketing tools), still, they can bring strong economic contribution to network it avails. So far, the local nature of the projects had the function of stimulating local purchases, sponsorship of SMEs, stimulating the resident exchanges and helping overtake the aggressive global competition. The real power of local currencies is the restriction to their geographical use: the fact that that money can be spent only in one specific geographic location creates a close system from which money cannot escape. In this way wealth keeps circulating between a close number of shops, customers, powered by trust in the scheme, also improving the local economy multiplier and promoting localization. Money is just a convention and it takes value when its users attribute value and trust to it. It is also proven that in an alternative monetary system the velocity of circulation of money is 2x-to 4x times higher compared to legal tender. The velocity of circulation of money (or, more briefly, the velocity of money) is the average frequency with which a unit of money is spent over a specific period. This concept relates to the size of economic activity to the given money supply. An increased speed of circulation, which could be attributed to the lower value people attributes to CCs or to embedded characteristics of the coin (some CCs have an expire date) is a strong boost to the production and number of transactions: with the exact same value of legal tender and complementary currency, twice the transaction are successfully completed when using the latter.

A successful example of local currency that boosts the local economy is the Brixton pound ( $B_{\epsilon}$ ) which unluckily has a policy of non-cooperation with case studies and university researches and thesis. The network that agreed to the use of this coin is 250 businesses wide, which is a district of 78'000 inhabitants that can be considered relevant, one shop every 312 potential customers. With the stated goal of aims to boosting the local economy

and build a mutual support system amongst independent businesses by tying local shoppers to local shops and by encouraging local shops to source goods and services locally it today an affirmed reality. The case will be better discussed further in the thesis, still, it gives the opportunity to introduce the economic contribution that it brings to the district. From the partnered businesses' point of view, it brings economic value by providing free advertising and promotion, building community connections, providing the possibility to pay for Lambeth council business rate (local Tax) and BID levy (local institutions and citizens' duties). Meanwhile, the increase in demand and consumption of  $B_e$  causes more opportunities for business inside the system and improve the brand image to attract new partners. Another important economic effect is to *attribute value to the work performed in the non-market economy of voluntary activities, knowledge exchange which can be rewarded and recognized through a complementary trade system.*

### **PEOPLE**

Another fundamental pillar of the triple bottom line is “People” which is the capability of creating social value while running any kind of business or at least not harming individuals and communities in any way. This is not foregone: most of the operational activities ran by global industries have a direct or indirect impact on workers, citizens, communities on the field. The trend in the last twenty years has been to incorporate social value into the pursuit of profit, the so-called embedded value: the decision of preserving the agricultural independence in south America and stable work conditions from Starbucks may be a good example of it. CCs are mostly designed to improve the living conditions of the selected community. It is the goal itself of this instrument to overtake the classic monetary system which does not favor the people who are more in difficulty. Enhancing the social aspects of wellbeing is at the center of the “new economics” paradigm as well as profit and environment, the humanistic view of a borderless world have increased the importance of social-excluded individuals and relationships inside communities. Through CCs it is possible to reward acts of mutual support, empower socially excluded groups and build trust and social capital amongst participants and develop a circular scheme able to provide sustainable development (Tom Lahti, 2018).

### **ENVIRONMENT**

Although a few numbers of CCs initiative are explicitly environment-oriented, all of them can potentially have an impact on the ecological footprint of their participant. CCs are mostly local initiatives (even if it is the purpose of this thesis to analyze if they'd rather scale-up) and the currency must be spent inside a specific geographical area. This fact enables a more localized consumption and import substitution which has a consequence on the impact of consumer choices: the nearest the source of the good the reduced is the number of resources used for storing, transporting, delivering. Resource sharing is another important trend connected to communities' initiatives, causing a reduction in waste and giving second life to multiple goods. Some CCs initiatives are instead openly eco-oriented, and they reward pro-environmental behavior creating a direct incentive for participants to improve their consumption patterns, awareness and cut down their individual ecological footprint. There are also side effects connected to the participation at CCs projects which can bring benefit to the environment, such as the potential to encourage the development of green technology through donations or the fact that the people can meet their psychological needs through social interaction instead of relying on compulsive consumption.

### 1.3.1 Strengths and Weaknesses of CCs

Idealistically Complementary Currencies are an effective tool to remedy all those aspects of social, economic and environmental injustice that the current financial system does not touch at all, it is actually the cause. One may wonder why they have not affirmed themselves yet. Reality is complicated and when it comes to money there are many regulatory apparatuses and many socio-psychological aspects involved. This section is dedicated to the purpose of understanding why Complementary Currencies strive to grasp the favorable market environment that is today. Fare (2019) investigates this topic addressing several aspects of the world of CCs from the current bibliography and research methods, to impact measurements. Attention is given to the scale of the initiatives, which makes her research relevant for our purpose. Let us proceed in this order: impact assessment, justification of CCs in the current market's economy and last, regulatory complications. Bibliography on Complementary economic system, whichever may their purpose be, all agree that the measurement of the real impact of any initiative is complicated. In fact, there is not a study that summarizes the overall impact of CCs. Even though associations like the NEF (new economics foundation) and the CCIES or the CES run activities of monitoring and support for the complementary currencies' initiatives, there are many unknown projects worldwide, being them run on a very small scale and locally oriented. These foundations strive in getting the necessary data to analyze the impact of such projects on the geographic area and their overall impact on the Human, economic and natural capital of the country.

The small scale of today's circuits is a huge limitation to assess their effectiveness and build a solid theory on how CCs work or should work. Some projects across the USA are analyzed by independent studies (Krohn and Snyder, 2008), still, the local multiplying effect is shown to be too weak to be detected in growth per capita income. Another relevant difficulty is to standardize the operations performed through complementary currencies: each of them is too different in methods, purpose, and operations to be analyzed as a single worldwide phenomenon. Once again, we can affirm that without a proper analysis the theorization of the best-practices and the spread of this knowledge remains an unachieved objective making it difficult for this Social Innovation to reach its best potential and become a standard for triple bottom line objectives' achievement. Besides the number of limitations into the research world connected to the world of Complementary Currencies the studies keep advancing and focus the attention in this innovative type of social remedy. Hereafter a table showing some projects with their peculiarities and relationships with different entities.

CCS	LETS	Barter Clubs	Time banks	Accorderie	Local currencies	Community development banks	Currencies of "Transition Towns"	Nu
<b>Countries</b>	Canada UK, France, Japan, South of Africa, USA, Germany, Belgium, Austria, Hungary, Australia, New Zealand, Austria, The Netherlands	Argentina Venezuela	UK, Italy, USA, Japan, Spain, Portugal, Greece, Finland Australia	Canada, France	France, UK Canada USA Japan Germany	Brazil Venezuela	UK	The Netherlands
<b>Monetary Forms</b>	Scriptural	Manual	Scriptural	Scriptural	Manual and electronic	Manual	Manual and Electronic	Smart card
<b>Convertibility</b>	Non-convertible				Free inflow for all members, controlled outflows limited to providers			Non- convertible for consumers, controlled outflows limited to providers
<b>Connection with:</b>								
<b>Banks</b>	Autonomous			Autonomous	Sometimes	Connected	Connected	Autonomous
<b>Small businesses</b>	Sometimes connected	Can be promoted	Autonomous	Autonomous	Seeking to promote			Connected
<b>Third sector and social and solidarity economy</b>	Depending by countries	Connected	Often connected	Connected	Connected	Connected		
<b>Local public policies</b>	Seldom	Sometimes	Connected	Connected (France)	Sometimes	Connected		

Figure 7 CCs typologies and related characteristics: adapted from Blanc and Fare (2013) and Fare (2011)

We proceed now arguing the justification of complementary currencies into the modern economy. This section is meant to analyze the fact that CCs cannot be included within the classical theorization of money arising the question of how they came into being. Money is accepted by every party to conclude a cost-free transaction; from this simple definition, we start to see one difference: CCs are not accepted equally everywhere. They are conceived as special-purpose tools with a specific goal which makes them useful for a limited amount of transactions, the ones which have been enabled through the strategy of their issuers. Even though their functioning is linked to trust and reciprocity, just like traditional legal tender, the limitations are given by the territoriality and the adhesion to the program puts a limit on their meaning and usefulness. Some local currencies are not only enclosed in spatial but also temporal limits because in many projects the currency can expire after a given amount of time; a system ideated to keep the money circulating continuously and not to become an alternative personal finance storage system. Given all these differences, is the traditional economic circuit willing to accept such different means of exchange? On one hand, the diversity makes it difficult for this innovation to create an economic bond to all the activities related to the traditional economy (issuers and consumers are still connected to the classic monetary system in operations, taxes, transaction costs...), on the other hand, it makes it easier for this tool to be accepted into the standard system by adapting to local reality and regulations, taking away the threat of money substitution. Monetary sovereignty is a fundamental factor to all countries to maintain the system in equilibrium, any other means of exchange used within the territory may be a serious threat to the nation's economy if not regulated. (Ahmed M. F., 2018)

## 1.4 The Complementary Currency market

### 1.4.1 The Context: the increasing emphasis over sustainability practices

Perpetual growth, a myth connected to the very nature of capitalism, is the idea that the credit system and the trust in the future can provoke an endless increase in production, consumption, wealth and social conditions in general. Reality has proven this idea wrong. Externalities due to the human economic activities, which include everything related to production from the Food & Beverage industry to the digital one, affect the availability of resources worldwide and the health of both the planet Earth and its inhabitants. The acknowledgment of the impact of human activities is a process that slowly started in the 70s, has been 'ignored' until the very last decade, even though experts and scientists have been warning global organizations that the pace of economic growth is not sustainable anymore. Many people argue that it is not a "human problem" because the equilibrium of the biosphere will not harm our existence even if broken; leaving apart the problems connected to the detriment of the biosphere we can identify inefficiencies also in the human ambit: inequalities in wealth distribution, lack or contamination of resources, access to knowledge, opportunities and survival are issues which have become central in a world that is seeking for equilibrium between the different nations and more than seven billion individuals. It is possible to have a better insight into the world's biggest problems by looking at the SDGs (sustainability development goals) which identify the greatest challenges of our time to achieve a sustainable Human-Economy-Earth system. It is not realistic to think that a single solution could candidate to solve all of them simultaneously, but every single topic is being investigated and faced through innovation and regulation. This thesis focuses on environmental degradation and social exclusion mainly, which are the issues for which complementary currency show to be a good candidate in the solution process (or at least one of the many). Many solutions on the environmental front have been theorized and applied, still, we can't see any strong improvement, being the emissions higher than ever and a global plan for a shift to sustainable growth far. Modern history shows that change is possible especially when a community pushes the governing bodies to a radical turn on the usual behavior. This is why environmental and social awareness are the first steps for a bottom-up change, given that the top-down approach perpetuated by the international institutions has proven inefficient so far considering that environmental degradation keeps increasing (Joshua Farley, 2013) as well as social and economic disequilibrium. If it is true that consumer choice is a driving force in organizations' strategies, then the change should not only come from experts and rulers but also the bottom, enhancing everyday consumers' choices and behavior. Residual waste per capita or carbon footprint is an indicator of how much individuals contribute to global pollution.

<b>Rank</b>	<b>Country</b>	<b>CO2 emissions (per capita)</b>
1	Saudi Arabia	16.3T
2	Australia	16.2T
3	United States	15.0T
4	Canada	14.9T
5	South Korea	11.6T
6	Russian Federation	9.9T
7	Japan	9.0T
8	Germany	8.9T
9	Poland	7.7T
10	South Africa	7.4T
11	Islamic Republic of Iran	7.1T
12	China	6.4T
13	United Kingdom	5.6T
14	Italy	5.4T
15	France	4.5T
16	Turkey	4.2T
17	Mexico	3.6T
18	Brazil	2.0T
19	Indonesia	1.7T
20	India	1.6T

Figure 8 Global ranking of per capita CO2emissions <https://www.ucsusa.org/resources/each-countrys-share-co2-emissions>



Carbon footprint puts the focus on individual choices, which sum up together accounts for approximately 40% of global emissions. The purpose of Complementary Currencies that devoted their cause to the environment is to address the awareness and behavior of individuals to educate the economy from the bottom to higher levels and ultimately change the strategies of the firms that have to sell to environmentally aware customers. The reduction of the ecological footprint is strictly correlated to the consumption patterns, the lifestyle, the movements, and behavior in waste management; these are all fields that are influenceable with an effort/reward program. A green behavior has never been recognized as a valuable skill so far, with CCs and LETS programs we see a shift in what has value (de-Blasa b., 2018). In many Northern European countries, it is possible to earn credits (or legal tender money) by giving back some resources for waste management, mainly plastic containers; it may not seem incredibly innovative, still, I would like to focus the attention on the fact that before a plastic bottle had absolutely no value. Once this social/environmental innovation was introduced it has become a valuable source of income, which of course is used mainly by people who need this alternative source of wealth but with an effect on the whole country's health. To attribute value to objects and resources that were just discarded in the past opens up an entirely new market, a market that addresses potentially every single person on the planet and best targets the socially excluded and the ones looking for alternative survival sources. Talking about innovation.

#### 1.4.2 Main stakeholders of CC market

As for any business initiative worldwide, CCs projects must pay attention to its stakeholders being them defined as: "A party that has an interest in a company and can either affect or be affected by the business." The primary stakeholders in a typical corporation are its investors, employees, customers, and suppliers. However, the modern theory goes beyond this original notion to include additional stakeholders such as communities, government or trade associations." (<https://www.investopedia.com/terms/s/stakeholder.asp>)



Figure 9 Stakeholders' management by Power and Interest

In cases characterized by novelty and early stages of the life-cycle (such as most of the social innovation projects), external stakeholders play a key role in whether the company will succeed or not. Mapping the stakeholders is a complex task being the economic environment connected with almost every human field but following classical theory, we will identify the most important for a social innovation project whatsoever. The model we're following categorizes the stakeholders according to two dimensions, power, and interest. By power we mean the ability of the stakeholder to influence (positively and negatively) the operations, authorizations, compliance and overall success of the projects. By interest we mean the extent of correlation and willingness to interfere with the external organization e.g. if we're running an e-sport event an external stakeholder will be the government, characterized by high power, but a very low interest for this type of circumstance. (Daskalov, 2017)

For our purpose, we will attribute a score for the following type of organizations for both power (P) and Interest (I) from 0 to 5 :

*Table 1 Main Stakeholders and scores of Power and Value*

ACTORS	POWER	INTEREST
THE CUSTOMER (any cc user)	5	3
SUPPLIERS	2	2
INVESTORS	5	4
EMPLOYEES	2	5
UNIONS	2	1
CITY (GOVERNMENT)	5	5
PROFESSIONAL ORGANIZATIONS	1	1
ACTIVISTS	1	5
PRESS	5	4

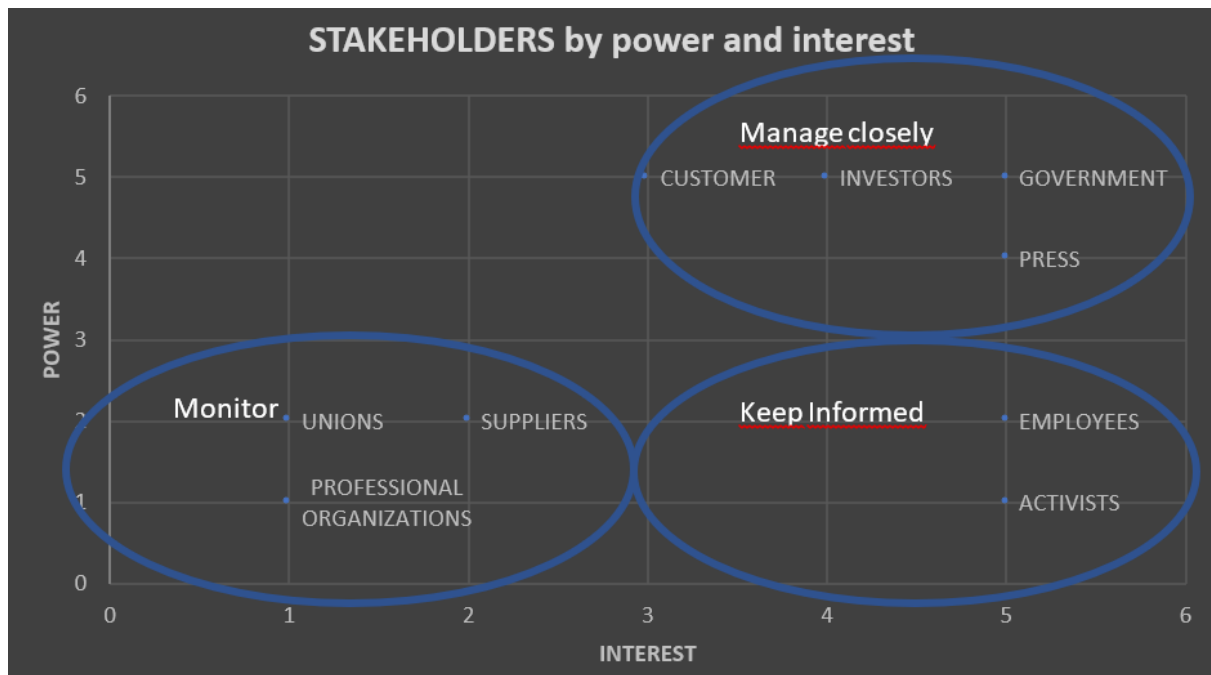


Figure 10 Stakeholders in a CCs scheme

This model groups the stakeholders on the base of their cardinal position on the Power/interest diagram and, depending on the quadrant a different approach is suggested: Keep satisfied, Monitor, Keep informed and Manage closely. For CCs projects specifically customers (intended as both user base and partnerships), Investors, the press and the government are the stakeholders to manage with greater attention and eventually involve inside the mechanisms of the project.

### 1.4.3 The social relevance of CCs as place-based innovation

A peculiarity concerning the world of Complementary Currencies is their geographical limitations: most of the projects come from the local community's needs to directly address a local problem, highlighting the circumscription of the initiative. The research here running is intended to discover the correlation between the factors characterizing CCs initiatives and the scalability of Social Innovation; in other words, we would like to understand why and when a local project could expand to increase the impact and the spectrum of activities and services offered in more than one region. If a project such as the B£ (Brixton Pound) would not have been local but national for example, many things would have changed. First, one of the objectives, which is to keep the money circulating locally would be broken, but the overall social and economic aid which is provided by the organization could be expanded to a way wider public. B£ is not the only project involving the use of CCs throughout the UK, there are many more and they approximately work in the same way (local currencies); here are some examples of locations in which similar projects are currently running: Bristol, Cardiff, Cornwall, Exeter, Kingston, Liverpool, Plymouth, Worcester. Being so similar between each other, one may argue why a network among these complementary monetary circuits does not exist. The case of the UK is unique in terms of networking since these projects are increasingly coming together under the name of "transition cities", a network of sustainability-oriented initiatives. Through a mechanism of currency exchange (by previously setting an exchange rate among British complementary currencies) the goal of helping the local economy could be satisfied while incentivizing tourism activities and advantages between the connected communities. No

harm would be addressed to clients, retailers and the overall British economy if the number of transactions is limited. Human capital would increase instead, linking localities and people which may have great differences even if coming from the same country (a situation that exists in any given state worldwide). It could be also a great tool to deliver enlightened values to a broader public and creating commonalities where needed. Still, most of the projects remain local and this analysis will try to understand why by analyzing the basic elements on which those projects have been founded on.

#### 1.4.4 The necessity of promotion and growth for CCs projects

The complementary currencies projects stand today as a novelty known by few and used by people that are trying to improve their social and economic conditions (through the use of the community and the opportunities given by a parallel currency to the legal tender) or people that try to give real effort for the local economy driven by values and civil responsibility. One huge pro of the CCs projects is that they are open to everybody. The trend in the western world, confirmed by many polls, is a growing concern to the human and environmental problems that plague the contemporary era. This shift in the priorities is to be seen particularly in millennials, the so-told people born after the 90s worldwide. This means that the potential market is huge: the international movement for civil rights, nature protection, and economy reinvention could take advantage of several local projects that are trying to impact the local situation across Europe, North and south America, Africa, and eastern Asia. The difference between the reached market and potential market is the difference between a small company scale and a larger one. If the CCs initiatives were able to completely capture this modern movement they would be able to create a larger community that consequently would bring more money in the circuit, more shops willing to accept an alternative currency and the overall trust in these “new money” would be enhanced. 21<sup>st</sup>-century marketing practices teach that the customer base must be captured through an Omni comprehensive experience, whatever may the activity be, from buying coffee for your empty coffee machine to trying your new vehicle before even paying for it. The fact that the scale of CCs projects is small does not mean that they should observe the same rules regarding communication, positioning, branding or even direct marketing as other industries’ organizations do. After all, the SMEs that join the project are mainly seeking personal promotion and visibility: a sprint through marketing toward a larger customer base that would enlarge the local visibility and the sustainability of the entire local system (if a large enough number of local business is involved). These considerations are nowhere to be found in the existing literature which investigates under an impact and reason to be points of view, but anyone who has understood the relationship between brand success and marketing positioning could notice this leak in the existing organizations. Why does nobody know about complementary currencies? Why where there is a well-known project going on the users do not even reach 10% of the local population?

CCs base their impact on the small contribution of each of its participants, whatever is the activity, e.g. environmental cleanups, to buy in local shops, participating at social inclusion events, make your own time available in exchange for someone else’s time. This means that the increase of the impact directly connects to the number of active users which in turn depends on the effort in communication throughout the local community. It is anyway clear that there are valid reasons behind this lack: marketing is a relevant cost. Running any type of (effective) marketing campaign is a costly activity that non-profits organizations relying on donations cannot afford. *This is a severe barrier to scaling.*

## 2. THEORETICAL FRAMEWORK

The insight on the world of complementary currencies validates the fact that this tool has the possibility to improve the social, economic and environmental issues affecting different layers of today's society. So far, the typologies of projects active across the world are monotonous, they are *restricted to a local level* and do not seem to be able to reach *critical mass* in order to further expand and amplify the beneficial effects of the initiative. This may seem entailed to the nature itself of local currencies and the strategic decisions that the social entrepreneurs have taken are coherent with this fact. The digital advancements give large room to these initiatives for growth and expansion, both in services and geographical scope, to coordinate and collaborate on a national or multinational level and add up the effort of different communities by creating a system in which social value-adding behavior is rewarded. Why is this possibility not a reality yet? What does it take for social innovation to scale up?

*To solve this question, one should observe which factors influence the strategic decisions behind the projects, to discover if the market is ready for this kind of innovation, to discover if local dimension best suits complementary currencies.* A cross-case analysis on real projects is to be run to determine the weight of different architectural elements that could control the final configuration of any CCs company. The analysis's objective is to give the possibility to social entrepreneurs to evaluate which is the best dimension to their firm depending on the community, project, geographical location, market, economic and managerial, governance factors. To understand where to focus if someone wants to emulate a local project or scale up the idea toward bigger scenarios. "The case study method is particularly appropriate for an in-depth investigation of a contemporary phenomenon within its real-life context, *especially when the boundaries between the phenomenon and the context are not clearly evident.*" (Warbroeka, B., Hoppe, T., Bressers, H., & Coenen, F. (2019). *Testing the social, organizational, and governance factors for success in local low carbon energy initiatives.* *Energy Research & Social Science*).

Every strategic decision is affected by external and internal stimuli, the final form that an organization assumes is a summary of all the factors that influenced its configuration. The idea is to reverse engineer the CCs initiatives in order to determine why they are how they are. If a CC project is locally oriented, it means that the factors that brought to this configuration in that geographical area and time frame were favorable to the birth of a project shaped in this way. If the goal is to help a specific local community, that is because of the interaction, project, geographical, market, economic and managerial, governance factors that turn out in favor of this decision according to the driving purpose, instead of spreading operations country-wide. The purpose of the analysis is to determine which factors can influence the path of a CC project and its final shape. Let's suppose that inside national borders exist a huge variety of lifestyles, values and day-to-day goals depending on the selected geographical area: the project will be most likely community-oriented, reflecting the institutional characteristics of that group. There is no insurance that the entrepreneur actually decides to go against the signals of the market, government or community, but since the ultimate goal is to make the firm proceed in its pursuit of an impact it is probable that the initiative will be tailored around the market factors and not against them. Warbroeka, B., Hoppe, T., Bressers, H., & Coenen, F. (2019) identify three main categories of variables which may influence the success (and consequently the range of action of a social innovation project): Factors related to the project itself, interaction with the local community, and governance setting and linkage to government. These groups of success factors for community projects listed in the above-cited study are used

in this thesis to describe the case studies. The model will be adapted to this specific sector by adding and removing a small number of elements.

In the second step of the analysis, the selected projects will be clustered based on their scale configuration: *International (CI)*, *Local (CII)*, *Independent (CIII)*. It is important for the reader to acknowledge that our clustering decisions are just one of many possible ways to group different organizations. So far, the research community has investigated the impact of the projects, the categories, and generations of CCs and their configuration. From the literature, a standard definition of the typologies of different Complementary Currencies is pretty recent, because the functions that this tool can embrace are numerous and it has been hard to find a common definition that could have been accepted from the international academic community. Before proceeding into discovering which key factors may influence the scalability of Social Innovation it would be useful to understand which types of CCs exist and if they can be investigated all inside the same category.

Arnaud Michel, Marek Hudon (2015) identify four types of complementary currencies:

1. **Service Credits:** this system is based on the exchange of a standard value currency, which in most cases is Time. Members receive credits for each hour they provide a service (any type) to someone else; they can exploit those credits to use someone else's service.
2. **Mutual exchange currencies:** its value can either be linked to a national currency, be time-based or even a mix of the two. As the members exchange the currency, one account is credited and the other is debited, having a zero-sum game. They aim to provide access to additional liquidity and interest-free credit and to encourage import substitution.
3. **Local currencies:** They are paper-based currencies sometimes convertible to national legal tender and circulate within a geographically confined region. Their purpose is to complement the national currency, increase the local economic activities and support local businesses.
4. **Barter Markets:** Participants usually join a club and receive than some local currency, basically an interest-free loan. These currencies are not convertible and are utilized to exchange goods and services at regular market events. They mostly aim to foster solidarity economy but they also sometimes incentive the re-use of goods for environmental reasons.

The boundaries of the different types of CCs projects are not so evident, in the same initiative different types of exchange may coexist and even though the functional mechanism may be different, this research considers the projects independently from their proper category; almost all of them are local currencies. Although other typologies are not so numerous in 2020 (there are active cases of mutual exchange and service credits currencies) there are exceptions.

*Indifferently from the category of CC, the case studies are clustered under the different sizes*, in other words, they are grouped by the degree of scale that they have reached so far. One may argue that scalability is not given

only by one organization's dimension, but from many other factors regarding the human capital, the skills, the replicability, the business sustainability and so on. That consideration is true, but when looking to an object from far away the most intuitive observation can be made on its size. Further on the similarities, or differences, in the data set values inside each cluster will tell if the projects' dimension is a reliable proxy to investigate the correlation of the data inside and outside the clusters.

Which architectural component is to be analyzed is a question that found the answer in the literature. Local low carbon energy initiatives (LLCEIs) are a great example of social innovation developing in the world and many times they develop around the use of an alternative measure of credit, a complementary currency. These initiatives work when the collective effort can influence the local per capita emissions on a detectable scale. Beau Warbroeka (2016) collects a set of 16 success factors belonging to three categories: Factors related to the LLCEI, Interaction with the local community, Governance setting and linkage to government. Comparing the success factors to both the scalability and CCs literature there is a strong correlation of what is considered a success factor and a scalability requirement. Also, since many LLCEIs are complementary currencies' projects themselves I decided to start from that set of variables. This research looks at the scalability of Social Innovation as a business process that involves also managerial and economic factors that are not listed in the reference model. The next table lists all the variables as-is from "Testing the social, organizational, and governance factors for in local low carbon energy initiatives".

Table 1 Original Factors from (Beau Warbroeka, 2016)

Factor's category	items
Factors related to the project itself	<ul style="list-style-type: none"> <li>- Project champions</li> <li>- Human capital</li> <li>- Size</li> <li>- Availability of time</li> <li>- Access to funds</li> <li>- Board diversity</li> </ul>
Interaction with the local community	<ul style="list-style-type: none"> <li>- Alignment with local values and frames of reference</li> <li>- Alignment with the institutional characteristics of the local community</li> <li>- Visibility</li> <li>- Community involvement</li> <li>- Bonding capital</li> </ul>

	<ul style="list-style-type: none"> <li>- Bridging capital</li> </ul>
Governance setting and linkage to government	<ul style="list-style-type: none"> <li>- Linkage to government</li> <li>- Linkage to intermediaries</li> <li>- Supportive governance arrangements</li> </ul>

For the purpose of this research, the success factors listed must be modified in a more pertinent set to Social Innovation, Complementary Currency case. Five factors have been added (bold typeface) and a new Factor category added: Economic and managerial factors. Access to funds has been moved from ‘Factors related to the project itself’ to this latter category. The next table is the definitive collection of factors used in this research. They may be addressed further on in this assessment as architectural factors, architectural features, variables, scalability factors.

*Table 2 Adapted list of Factors influencing the scalability of a social innovation*

Factor's category	items
Factors related to the project itself	<ul style="list-style-type: none"> <li>- Project champions</li> <li>- Human capital</li> <li>- Size</li> <li>- <b>Impact</b></li> <li>- Access to funds</li> <li>- <b>Customer Base</b></li> </ul>
Interaction with the local community	<ul style="list-style-type: none"> <li>- Alignment with the institutional characteristics of the local community</li> <li>- Visibility</li> <li>- Community involvement</li> <li>- Bonding capital</li> <li>- Bridging capital</li> </ul>



Managerial and economic factors	<ul style="list-style-type: none"> <li>- Access to Funds</li> <li>- <b>Partnerships</b></li> <li>- <b>Regulatory compliance</b></li> <li>- <b>Business sustainability</b></li> </ul>
Governance setting and linkage to government	<ul style="list-style-type: none"> <li>- Linkage to government</li> <li>- Intermediaries</li> </ul>

This set of factors describes the architectural elements that every social-oriented organization deals with when running a project or marketing Social Innovation. The considered literature on scalability and CCs give a preview of what elements are assumed to be keys in achieving success and scale increase. The next paragraph takes the main enunciated factors and formulates hypotheses on how they could turn out before the data collection and the interviews with the case studies' representatives.

## 2.1 Hypothesis and predictions

This section is intended to anticipate with the support of reviewed theory and literature what the outcomes of the investigation could be. Throughout the two models taken as reference for this research, many factors stood out as important to grow Social Innovation. Among them we can identify:

- Commitment and management competence
- Ability to meet social demand
- Ability to obtain necessary resources
- Communication
- Scaling with others - Alliance-building
- Earnings generations

All of them can be translated into variables that will be illustrated in the chapter methodology. This research is seeking for those factors enabling a social organization to scale up if willing and reaching a broader public (which implies a higher impact). Before getting into the real analysis, it is good practice to discuss how the data could turn out. Since the listed factors are enounced as success factors for the implementation of a scale-up strategy, each of them is expected to be higher in value (the values that will be self-assigned to the variables through a survey) in the cluster CI (bigger scale) compared to clusters CII and CIII. The factors are listed one by one to logically forecast what the outcome of the investigation will be.

### ***Commitment and management competence***

This factor puts the focus on the human capital of the organization: leadership, goal setting, quality management, evaluation, independence. These characteristics are key whatever scale an organization may be, still the bigger the scale the higher should be the management competences and the skills of the employees. Since these factors will be evaluated through a self-assessment the outcome will be biased by the positive judgment that the interviewee always will have toward her own organization. It is expected to collect similar values throughout the analyzed cases no matter the reached scale.

### ***Ability to meet social demand***

The purpose is key and must be aligned with a real need on the market. To scale-up, the considered model argues that being able to identify a concrete social need (that translates in social demand) is a decisive factor in achieving the desired scale. "A recognized social need usually guarantees more than sufficient market size" (Austin, 2006, p.7). There will be not a properly correlated variable to be evaluated (it is not possible to investigate with a survey if the purpose is a recognized social need, which is always one, or a mix of the sustainability pillars: it is not an architectural characteristic of the project, it is instead a factor characterizing the external market environment) so the topic will be asked during the interviews that the reader can find in Annex B with the complete text.

### ***Ability to obtain necessary resources***

Social organizations strive to get funds. Many of them are non-profit organizations and the overall amount of investments in such types of companies is marginal compared to the capital movements worldwide. This time it is expected that the scale influences the amount (and ability) and vice versa to gather a significant amount of resources to run the business. The corresponding variable is Access to funds.

### ***Communication***

Communication is part of the family of marketing and translates to Visibility towards customers and other businesses and institutions. In the introduction, it has been introduced the issue of lacking a marketing approach in the industry of social organizations and CCs projects in particular. Being this a very important factor in scaling a project to a wider public and multiple markets it is expected that the organization that has reached the bigger scale (out of the companies that decided to collaborate to this research) will have better approached the importance of marketing and the creation of a customer-centric experience. It is then expected a big difference between the smallest and the biggest participants.

### ***Scaling with others - Alliance-building***

Particularly in the world of complementary currencies, (along with all the social-oriented companies) Partnerships are a key feature to:

- Deliver a consistent value proposition
- Expand the network of entities using the CC
- Increase the speed of money (Velocity of circulation)

- Validation

Alliance-building is embedded in every CCs project to different degrees: B2B, Local government partnership, projects in the same industry, organizations outside the CCs' industry. It is expected that every single initiative which uses a Complementary Currency has in its strategy to either find interesting partnerships or 'scaling with others' if the strategy is oriented toward scaling-up. The number of partnerships and the degree of the collaboration would probably be based more on the personal strategy of the organization rather than the scale. However, a company which is present in many markets may have more actors involved in creating direct links with the alternative monetary circuit.

***Earnings generations***

Most of the CCs initiatives worldwide are run by a non-profit organization. Earnings generations do not revolve around the concept of profit and shareholders' value, but it looks at how the organization can shape the business model in order to collect revenues that can support the daily operations, salaries, new services, debts, etcetera. Since it is difficult for either small organization or social enterprises to gather funds from the current financial system and investors' pockets, being able to generate a moderate source of revenues from the core business has become a key factor in the theme of the scalability of Social Innovation; this concept will be later addressed as *Business sustainability* and bigger projects likely entail higher revenues (as well as higher costs and less community participation). However, many factors can influence business sustainability so an unexpected outcome on the answers of the participants is not excluded.

### 3. METHODOLOGY

#### 3.1 Summary

Qualitative analysis is performed in this thesis due to the high diversity among the projects using CCs and particularly the ones that decided to cooperate with this research. The case studies' descriptions are performed through the factors listed in the model introduced in the last chapter after an accurate adaptation of the elements to CCs projects. The architecture of any project is well depicted when all the factors get described obtaining a summary of the internal and external behavior of the organization considered. This investigation is carried on through a survey of seventeen questions delivered to the selected cases. The qualitative analysis starts with the observation on the different configurations related to the scale: if a small projects collect a low score on Visibility and in a larger one the same element is way more developed it means that at different scales a diverse approach is done on that particular business ambit. The data collected would not be enough to capture all the shades that are present in this industry especially when very different projects are compared with each other. The survey tries to be omni-comprehensive of the different cases that could exist, regarding each factor. However, the many configurations that a CC project could assume endanger the accuracy of the choices the respondent can choose among. The maximum cases depicted per variable are five (# of answer per question in the survey). Another research instrument is needed to complete the profiles of the organizations and attribute a much more understandable sense to the respondent's answers. This research method is (online) interviews. Through a discussion performed around five main questions on the scalability of CCs, their potential and networking power this research expects to gather relevant information to better leverage the survey's data in the search for an answer to the research question.

The variables and the collected scores are to be reviewed and commented one by one, pointing out differences and similarities among clusters. The elements that will show a strong increase in importance from cluster CIII to CI will be those elements that acquire importance as the scale increases meaning that they could be key in achieving sustainable growth for the organization and foster the possibility to scale social innovation. Furthermore, a focus will be done on the highest value factors (based on the average of the scores collected in the survey): the elements in which a CCs project performs the best, must be identified with the intent of intertwining those findings with the ones obtained from the analysis of the important evolution made on the several business ambits in different scale's case studies. This should allow this research to come out with a reviewed list of architectural features, showing the factors that are predominant in importance and grow as the scale of a CC project increases. As well as for the factors, the interviews' answers are summarized and commented on one by one and the collected opinions exploited for the discussion.

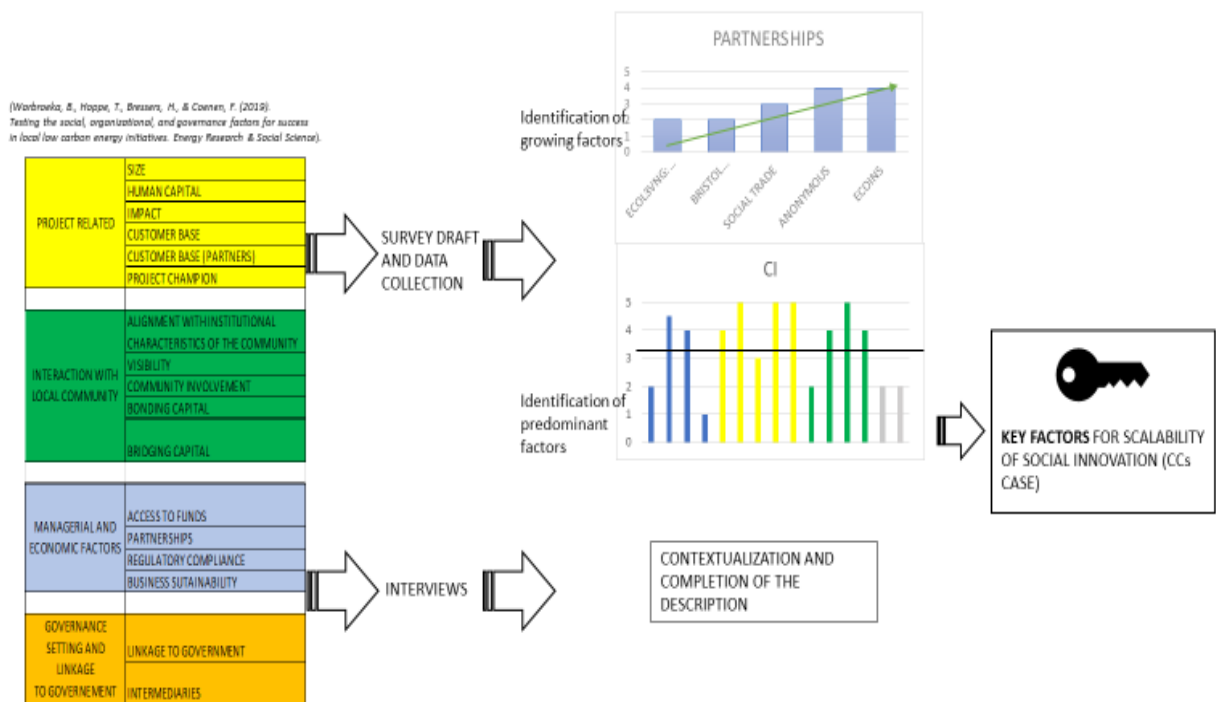


Figure 11 graphical representation of the methodological flow

### 3.2 Variables

When it comes to scaling Social Innovation, the literature considers many real cases, diverse not only in size and the number of penetrated markets. The “SCALERS” model discusses that seven categories must be considered and developed to scale up, from staffing and communication to earning generation and stimulation of market forces.

The seventeen variables listed below aim at covering all the important ambits considered essential in the scalability literature. To understand how much a single project has “scaled”, Size and Customer base (both users and retail side) are used as dimensional parameters on which a further clustering phase is based on.

- **Size:** Some studies looking into success factors of CCs projects specifically highlight the importance of founding and steering group size. Indeed, the importance of a sizeable group of volunteers becomes apparent since non-profit organizations such as sports clubs, as well as LLCEIs, struggle to retain volunteers and sustain their participation
- **Human Capital:** A relevant stream of literature looks into the role of human capital in entrepreneurial and new venture success, and provides a basis for various propositions that further specify the mechanisms and capacities through which project champions, or other involved volunteers, manage to establish the project that survives.

- **Impact (assessment):** CCs projects can be evaluated as successful depending not only on economic parameters but also on the effectiveness in achieving the triple bottom line goals. This variable investigates which methods are used to assess the impact, from no measurement to methods validated from the scientific community.
- **Customer Base:** It is fundamental for scalability purposes to achieve a sustainable increase in the customer base which can happen only if the market needs are met. This variable is meant to compare the different customer base of the selected projects to understand the correlation between the size of the customer base and the scalability opportunity.
- **Project Champions:** the so-called project champions are important driving forces for CCs projects. Project champions are understood as key committed individuals involved in social initiatives that have a “prominent role in starting, endorsing or carrying out a project”. Various studies have qualified that ‘project champions’ are not only individuals but can be core groups of committed individuals that are critical for project success.
- **Alignment with the institutional characteristic of the local community:** structural features and their impact on organizations can be viewed through institutional theory, which appears to be able to substantiate the intricate relationship between CCs projects and their local communities. The influence of community-level social and normative features is achieved mainly through two mechanisms: connectivity of firms with local organizations and the presence of community institutions.
- **Visibility:** This variable is fundamental to any business; initiatives need to create a community. Visibility refers to the degree of activeness inside the world of media, marketing and communication. The influence on consumers, society more in general, could be crudely measured through the online success of a communication campaign and the interaction of individuals.
- **Community Involvement:** Extent to which CCs providers inform (e.g. organizing meetings, distributing flyers), consult (e.g. sending a survey to assess what sustainability measures community members are interested in taking, or asking the residents how income generated by the LLCEI should be spent), and involve (in ownership and financial participation and co-creation) the local community.
- **Bonding Capital:** Use of relationships within the local community to access resources (such as new customers and financial capital). It also refers to the access to creating a community that bonds around the values sustained by the CCs project.
- **Bridging capital:** the extent to which the community created can link to heterogeneous types of communities and organizations with the consequent creation of cross-sectoral opportunities and social capital.
- **Access to funds:** The ability to fund the initiative with start-up capital, government incentives, donations, investors. There is a strong connection between the success and the possibility of scaling-up the CC project when the availability of funds is great.

- **Legal compliance:** Monetary sovereignty is a delicate topic; therefore, norms and laws often do not leave room for (convertible) complementary currencies. This extent to which the strategic design is compliant with the local law and regulatory framework.
- **Business sustainability:** Funds and investments create the possibility of developing the project itself which has the purpose of impacting the local status quo. However, the initiative will not last long (also if it is for-profit) if it is not able to sustain itself with some form of revenues and capital accumulation. This variable looks at the extent to which the project can generate income for daily operations and future amplification of service and projects.
- **Partnerships:** the extent to which the firm can deliver services through collaboration with different companies and industries. The wider the spectrum of industries touched and the bigger the number of companies involved the better the service offered.
- **Linkage to government:** another set of linkages that influence the success of CCs projects is their linkages with local government. This involves partnerships, funding, cooperation, co-creation, and patronage. The bigger the number of shared activities the stronger the link
- **Linkage to intermediaries:** Intermediaries are actors that create “new possibilities and dynamism within a system”. A valid example could be the NEF (new economics foundation). Many CCs initiatives refer to research institutions for supporting innovative projects and this variable values the extent to which the firm has exploited the industry expertise to create the project.

Through these seventeen variables, we shall be able to understand the set-ups of the organizations, their overall strategy and the approach toward scalability.

For instance, we expect a project directed toward a scaling process to be big in dimensions (size 31+) and sustainable through autonomous revenues.

Many researchers affirm the complementary currencies can be seen as a response to social injustice, economic inequality and unfair competition made by multinational organizations versus local shops and SMEs in general. One may expect to find those issues in the third world or developing countries, and that would be true. However, the phenomenon of CCs is taking place in another part of the world, the one in which the three abovementioned disequilibria should be smaller, such as Europe, Japan, North America and some countries of South America.

The phase of data collection is composed of a survey draft based on the architectural features highlighted from the bibliography (the data set). The data collected from the survey will be used to determine which variable holds the highest importance in each of the three clusters in which the organization will be divided depending on the overall scale reached.

Table 3 The 17 factors divided by category

PROJECT RELATED	SIZE
	HUMAN CAPITAL
	IMPACT
	CUSTOMER BASE
	CUSTOMER BASE (PARTNERS)
	PROJECT CHAMPION
INTERACTION WITH LOCAL COMMUNITY	ALIGNMENT WITH INSTITUTIONAL CHARACTERISTICS OF THE COMMUNITY
	VISIBILITY
	COMMUNITY INVOLVEMENT
	BONDING CAPITAL
	BRIDGING CAPITAL
MANAGERIAL AND ECONOMIC FACTORS	ACCESS TO FUNDS
	PARTNERSHIPS
	REGULATORY COMPLIANCE
	BUSINESS SUTAINABILITY
GOVERNANCE SETTING AND LINKAGE TO GOVERNEMENT	LINKAGE TO GOVERNMENT
	INTERMEDIARIES

### 3.2.1 Survey draft

Identifying the architecture of a project means performing different types of analysis: strategy comprehension, observation of the BU and role and tasks of the employees or else the way the company relates to the external environment. This analysis focuses on a set of variables that describes four fields, project-related factors, local community factors, managerial factors, governance setting and linkages to government factors. A complete set of values describing all of those fields gives a good picture of how the company behaves toward the surrounding environment and a brief of the overall strategy. The literature behind the world of CCs delivers to researchers the factors that best depict what's important in a project of this type independently from the dimension and scope of the organization. Starting from the variables that have been described in the last section, the CCs representants can choose between 3 to 5 different alternatives which are thought to best cover the spectrum of cases in the reference market.



E.g.

On a scale from 1 to 10, how would you rate the Human capital of your organization (in terms of skills, capabilities and autonomy)

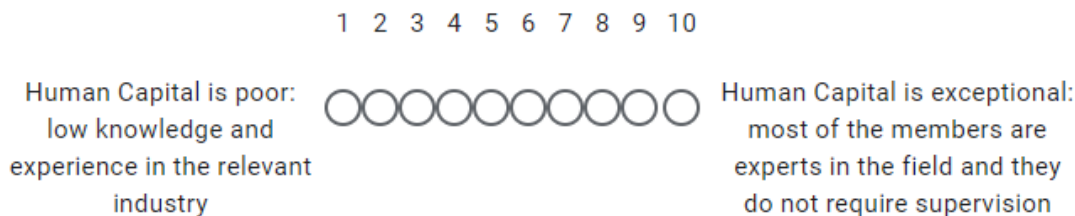


Figure 12 Example of question from the survey (Human capital)

The survey draft process ends when the questions are fluently formulated, and the readers can recognize the situations of their organization in one of the depicted cases. The easiest part should be to send away the survey and get responses, after all being the world of CCs relatively new and to be researched, the organizations should be willing to join the cause.

It is not quite like this.

The fact of the relative newness of these initiatives is reflected by the difficulty in contact them. First, most of the projects can be found through press articles that discuss the novelty of the complementary currencies (many of those articles are dated in the period 2008-2014) and practitioners' articles. No database containing the most important or visible projects exists (it used to exist at [www.complementarycurrency.org](http://www.complementarycurrency.org) but due to lack of funding the project has been interrupted). This shows a severe lack of linkages between organizations that use the same tool, have the same objectives but operate in diverse geographical areas.

Retrieving back the SCALERS model:

- Staffing
- Communications
- Alliance-building
- Lobbying
- Earnings generations
- Replication
- Stimulating market forces

It is clear that “alliance-building”, “lobbying” and “stimulating market forces” could be better exploited and that should be necessary for these organization to expand their influence and visibility further than just in the local environment. This issue will be further discussed in the *Recap and Limits* section, still, it is important to

introduce now the difficulties in retrieving a significant population for the research analysis, being it qualitative or quantitative.

### 3.3 Qualitative analysis

Before getting into details of how the analysis is conducted, which has been previously anticipated, it is necessary to explain the choice of a purely qualitative method instead of resorting to quantitative or statistical investigations. In the previous sections, the difficulties of “entering” the world of complementary currencies have been introduced along with the lack of a reference point in the literature or online about the several projects ongoing worldwide and their structures and operations. For running a statistical analysis of any field, the population (sample) must be big enough to reach a certain confidence interval that allows the researcher to validate or deny her hypothesis. When analyzing a product or system we can get useful information about the whole concept/development process by looking at its architecture. A simple example is given by the automotive industry: according to different objectives such as Maximum speed, comfort, marketing target, costs, final price, branding, the architecture of the final product changes deeply.



Figure 13: Cars' architecture comparison

In this example neither of the cars is meant to become something different, it is a specific object for a specific need. This example is useful to understand how we will conduct our qualitative analysis: comparison of the architecture of the CCs projects under different workloads, which are indeed dictated by the scale of the initiative and the size of its users' base. By clustering the projects in three categories of dimension we will look and at the differences in the architecture that they developed to sustain that workload. It will be measured in terms of the size of the firm, customer base (#users) and n° of markets penetrated. By architecture, it is meant the configuration of the different business areas of the firm which can be accurately described by the values of our variables. Once obtained the data the differences will tell us which field has the highest weight in scaling up projects meant for Social Innovation.

In order for the analysis to be effective and reflect a successful case in the real business world, the company should be in its maturity phase; this is to be sure that the firm analyzed does not switch to a completely new configuration in a matter of months.

#### 3.3.1 The selection process

Even though few informatic and physical places exist containing basic information on complementary currencies' projects worldwide, web research-proven to be useful only for the identification of the initiative itself but almost useless when looking for data and research information. Most of the data collected on impact,

success, and strategy of the single project are brought to the research world by independent studies on a specific project (most of them with qualitative data research and surveys to members). Luckily, some projects stand out for the fame they could accumulate or for the different way of conducting the business, making them front liners in the world of Complementary Currencies and object of studies and interviews. For our academic purposes, it is necessary that the project entails some basic characteristics such as the issuing of a Complementary Currency (convertible or not convertible) and that the initiative is not just a pilot experiment but instead is an affirmed company able to create an impact in its sphere of action. There is no restriction on the geographical provenance, instead, diversity on the location of birth and operation could give us insight on how different initial conditions can modify the shape and strategy of a project. Another important aspect is that the CC must be legally compliant to any degree: we must be sure that the way the company evolved is inside the sphere of legality and it is not striving against its government to operate, because such a situation could cause the closure of the project itself. We are going to select and cluster the projects on the base of the scale reached (especially in terms of geography), so we will need to find projects that have faced this topic in different ways. Independent, Local and international will be the three dimensions on which the degree of the scale reached will be assessed. Where to find the organizations anyone needs for their analysis? Many practitioners inside the world of Complementary Currencies can exploit the knowledge of the industry, the contacts and the data of the previous academic researches. Else they can physically go to the office of that specific organization and ask for an interview. Italy shows a poor set of initiatives involving the use of CCs, with some known exceptions such as the Sardex in Sardegna region (IT) (<https://www.sardex.net/>). What if the researcher must do a valuable investigation without all of these facilitations? The key is in the awareness of what she is looking for, which companies, in which geographical area. In that way and with many difficulties the researcher can find (online only) the contacts of people in the industry. Sometimes that is not enough: the companies that are more visible in the online environment, such as the Brixton Pound, refuse to collaborate to case studies, probably because of the many requests that they receive yearly (they are in an absolute way the most famous CCs initiative worldwide). There are many more organizations that operate the same business, sometimes in similar ways; more than 50 out of 70 e-mail contacts found, no longer exist even though they are still available online. This is due to the short lifecycle of many of the initiatives involving Complementary Currencies. The organizations that lasted more than a couple of years or sometimes months are few. We can then speculate that two factors that have a huge influence on this topic are “access to funds” and “business sustainability”; we expect low values for those variables even for affirmed projects.

Hereafter many candidates for the analysis are described one by one in their main characteristics; The survey has been sent to each one of them, but the answers arrived from just a few numbers of projects. I would like to begin with four companies who decided not to cooperate followed by the five that answered our request for collaboration. The following descriptions intend to let the reader get inside the reality of some of the main projects of Complementary Currencies active today worldwide even if some of them could not be added to a list of the participants of this research.

### *B£*

The Brixton pound (B£) is one of the brightest examples of local currencies that can impact and improve the local economy by boosting the consumer’s preferences toward shops and merchants in the Brixton area. When

we refer to “new economics” the Brixton pound gives us a successful example of what a local currency can do and achieve:

- Encourage local trade & production
- Support and build diversity and resilience in the local Brixton economy
- Raise awareness of the local social economy
- Encourage and facilitate a self-help model in order to protect the social and financial future of Brixton
- Encourage local sourcing to decrease CO2 emission
- Raise Brixton’s brand image

The United Kingdom is leading environmental and Social Innovation in the last decade following the focus of the last governments toward these issues. Brixton is just the most successful of many initiatives in other cities and neighborhoods, such as Bristol, Cardiff, Cornwall, Exeter, Kingston, Liverpool, Plymouth, Stroud, Worcester. B£ was launched in September 2009 as a paper-based, convertible, government-supported currency to face the economic difficulties of the inhabitants of London’s southern neighborhood. Local shops and SMEs must now face the competition of gigantic multinational firms that are driving away customers from the purchase in physical shops (or just with a lower brand image) also for very basic needs. Arnaud Michel, Marek Hudon (2015) identify four types of complementary currencies: B£ is classified as a local currency. Remember that the bibliography on CCs entirely agrees that definitions and classifications are extremely imprecise due to the deep differences between different projects worldwide.

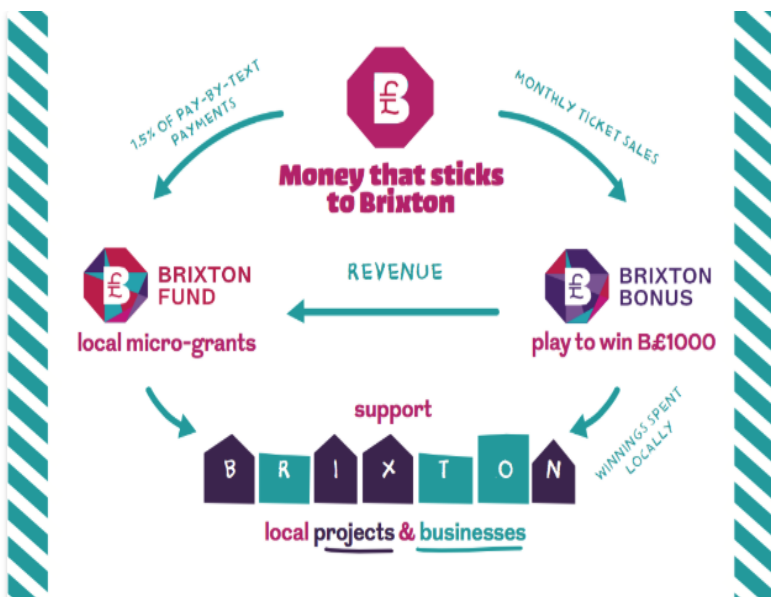


Figure 14 Brixton Pound's Business Model

Although this project is one of the most visible both in literature and online, they do not cooperate with case studies whatsoever. This research consequently was not able to collect data on the architecture of Brixton Pound.

Outcome: not participating

### E-PORTEMONNEE

Limburg, Belgium. The E-Portemonnee (e-wallet) is an electronic savings and reward system. It is designed to facilitate sustainable environmentally friendly behavior, rewarding participants for positive actions such as

switching to a green energy provider, delivering goods to the local secondhand shop, or putting a sticker against junk mail advertising on your mailbox. The E-Portemonnee is a local initiative limited to one single geographical region in Belgium. Its activities are not only recycle-related, but they focus on community-oriented actions which can have an impact on the environment as well as on social issues. Northern Europe is leading the way about this kind of initiative with several regions inside the same country running alternative incentive systems to improve the community's life and, in the case of the E-Portemonnee, to abate the carbon footprint of the inhabitants of the geographical area. As Hugo Wanner (Chief of the project and the waste company which launched it) says in an interview available on Youtube, the project is to stimulate people's behavior to reduce their waste, to separate better and in a broader sense to stimulate environmentally friendly behavior. He also answers the question: what does anyone can do with the earned points? Any individual can go to the municipality and exchange them for light bulbs, containers to do composting, and many different items. Today the project covers 44 municipalities. If a municipality joins the system, it has to achieve the minimum goal of managing its waste items as well as other objectives, for example, leading the behavior toward culture, sports and they can use the currency scheme to incentive toward these goals. Can complementary currency help change the world? Hugo Wanner replies: "The central money system, the monopoly we have today, is a threat to our society, it does not solve the problem, but it actually creates them. A Complementary Currency is one of the tools we can use to solve several problems caused by the profit-growth paradigm" (Peetoom, 2019)

Outcome: not participating

#### *ITHACA HOURS*

Ithaca hours was developed in 1991 as a response to difficulties in the local economy: big firms were running away one after the other from the area, subtracting jobs and opportunities for the whole community. The idea was to increase trade and exchanges through a local currency (standard objective for almost any complementary currency). Tim Allen (committee promotion of the currency) states that when anyone uses dollars to buy corporations' products, just a small percentage of the expenditure sticks to the geographical area to be reinvested. Hours can be spent only in Ithaca. 1 inhabitant out of 10 (2000/20000) is today an Hour user. (Jeffrey Jacob)

Outcome: not participating

#### *BERK SHARES*

This is another successful example of the local currency which has been developed in Massachusetts with the aid of the "Center for a new economics". Since its launch in 2006, it has reached a broad expansion touching and obtaining the collaboration of 400 businesses so far. The currency is pegged with an exchange rate to the US Dollar \$ with a ratio of 1.05. A 5% discount is applied if the transaction is done in Berkshares instead of legal tender. The basic goals are the same as standard local currencies intertwining the economic goal of keeping the wealth in one geographical area with social and environmental effort. Once again, the "local perspective" is opposed to the global as to obtain competitiveness and react to the international economy of profit which strengthens only a strict circle of multinational companies. The USA is following Europe in the lead of innovation in CCs projects still maintaining the dimension of this innovation local and not trying to scale-up toward a collaboration through different states or nearby geographical areas.

Outcome: not participating

### ECOINS

With Ecoins<sup>\*</sup> we face a new type of Complementary Currency's initiative.

Announced in April 2018, Ecoins<sup>\*</sup> is a recycling incentive program based on simple reward principles: you earn virtual money (Ecolones<sup>\*</sup> in Costa Rica), for all the recyclable materials you bring to a designated collection center that can be traded in for discounts on goods and services. This time we are in front of a mixture of Barter Market and service credits CCs. Furthermore, we can easily understand the primary goal of Ecoins<sup>\*</sup> is environmentally oriented, making this currency, if not unique, at least very rare. Most of the local currencies that spread around the world are meant to improve the local economy and address social issues, while Ecoins<sup>\*</sup> promotes environmentally responsible behavior, awareness about recycling and by doing so it makes possible to obtain standard services (such as a laundry service for example) for a lower price, helping in this way families that are willing to participate at the initiative and that can exploit the reward from Ecolones<sup>\*</sup> to reduce the daily expenditures while contributing to environmental conservation. When we talk about scaling up an innovation Ecoins<sup>\*</sup> has a pioneering view on complementary currencies: Proxima communication (the holding company that launched this project) has planned to penetrate the South American market in dozens of countries giving each time, the name of the legal tender currency to the virtual coin. We can already find Ecoins in Panama, Perú, Guatemala, El Salvador. A network of firms, green activists and recycling areas has seen birth because of the effort of Proxima communication which understood the potential of rewarding a certain behavior and sell that "attention space" to companies that are trying to improve their green attitude and brand image. When looking at Ecolones<sup>\*</sup> an important question that should be asked is: "Which factors have contributed to make Ecolones<sup>\*</sup> an international initiative instead of remaining local?" is it maybe because it is for-profit? Does South America have better market opportunities than Europe? The environmental field is more exploitable than social and economic issues?" By reverse-engineering the initiative we will try to find an answer and assess which factors are determinant for Social Innovation to scale up in services and geographically.

Outcome: Participating

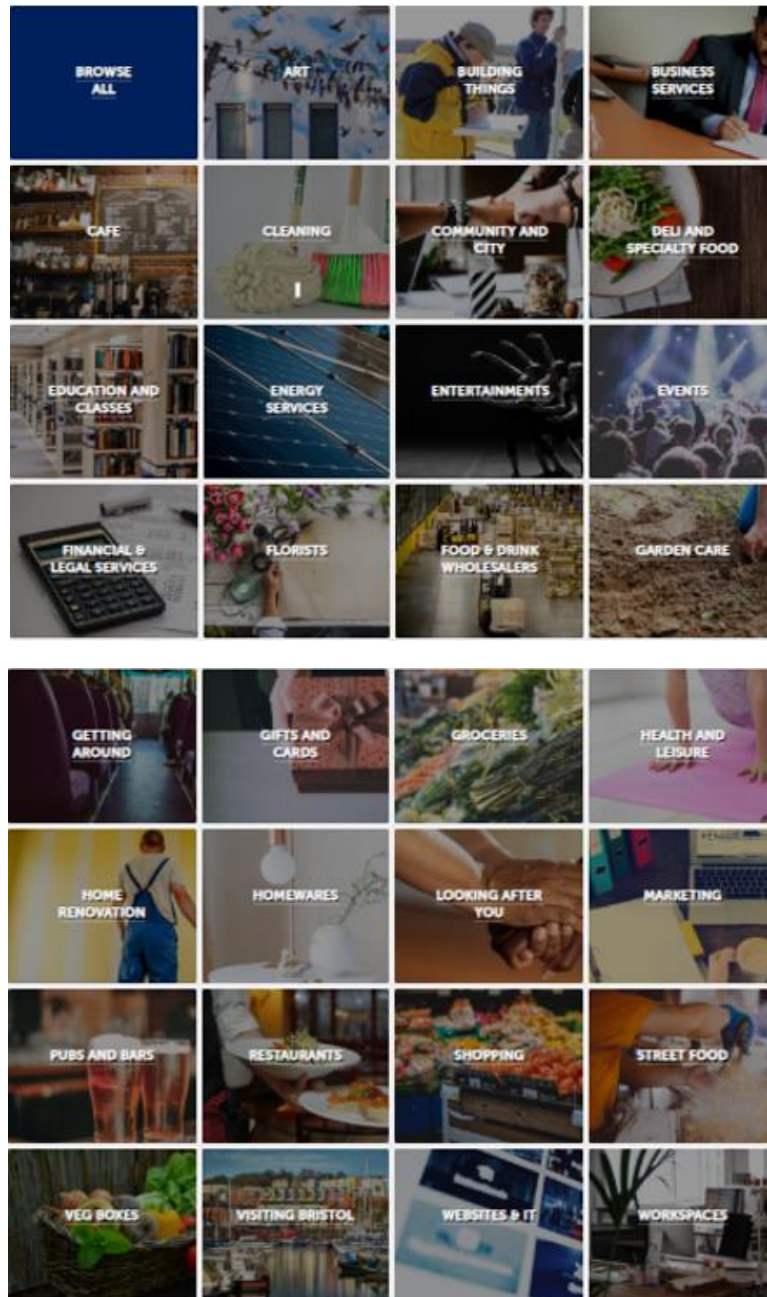
### BRISTOL POUND

*"The Bristol Pound aims to create a more resilient, sustainable and inclusive local economy. By encouraging people and businesses to buy locally, £B keeps money circulating right here, supporting local job creation. Anyone can use paper £B. But if you live, work or study in Bristol, you can open an account on our phone app and use digital £B. There's a map on the app and an online directory to help you find participating businesses."* (<https://bristolpound.org/>) A local currency that is achieving the goal of stimulating the local economy is Bristol Pound. This project has agreed in participating in this research through both a survey and an interview. The project perfectly reflects the goals and values of the local currency, especially under the economic point of view.

*"Bristol City Council has committed to spending 100% of the Bristol Pounds they receive with local, independent businesses – supporting local jobs and our city. This keeps more money in Bristol, making our local economy stronger and fairer. Bristol Pound members can make payments to Bristol City Council in Bristol Pounds: council*

*tax, business rates, BID payments, and market rents. This can be done as a one-off payment or as regularly scheduled payments, or better still, you schedule the entire year's payment.”*

This description of what an individual can do with Bristol's local money is a good picture of deep cooperation between this non-profit organization and the local government not in terms of daily operations but sponsorship and validation. From a marketing point of view, if you can pay taxes with local currency, that currency becomes real in the mind of both consumers and partners (SMEs). Many other services are associated with the use of the Bristol Pound, hereafter an image from their website showing the range of service accessible with this innovative mean:



*Figure 15 The product and services accessible to Bristol Pound's users*

All the goods of primary necessity and much more are accessible through the use of this parallel mean of exchange which ultimately increases the power of purchase of its members.

Outcome: participating

#### SOCIAL TRADE

*“The Social Trade Organization (STRO) is one of the few organizations in the world that develops alternatives for the monetary system. We do this because the current monetary system creates poverty and environmental problems. For twenty years we’ve been implementing projects in different parts of the world to develop new ways of working with money. The keystone in this is our award-winning payment software ‘Cyclos ‘.*

Social trade has taken the topic of Complementary Currencies and developed the technological support for any initiative: a software enabling social entrepreneurs to spread the currency among a community and to facilitate payments for all the users. This is a topic that so far has not been faced in this research although the technology behind each project could be a deciding factor in scaling up a project to a wider crowd. The typologies of Complementary Currencies are so numerous and various in nature (and methods of payment) that identifying a common technology that acts as a common denominator would be hard. Social trade has been developing in the last 20 years knowledge and research on currencies and payment technologies applicable to this tool. By focusing on the technological aspects and contributing to developing projects on the territory this organization has been able to diversify its portfolio of activities and specialize both in Complementary Currencies’ projects and payment software R&D.

Outcome: participating

#### TURUTA

*“Turuta is a virtual balance that each partner has in her online account. These are units of value that are used to exchange instead of official currency. The value of these units corresponds to voluntary dedication to social projects. Of an hour of full dedication, we call 10 Turutes. We give the equivalent of a tour to a euro so that they can interact as if they were local euros. When exchanging we use the Exchange Card or directly in your Online account (from the web or your mobile). Each partner is responsible for keeping their account current. The great advantage of Turuta is that it is like a local euro and can, therefore, be used to exchange for everything we need”. As we understand this and gain confidence in its operation (reliability), there will be more and more involvement and users will be able to obtain more products, services, and knowledge, which otherwise, with the (scarce) euros they could hardly acquire. Turuta can also reserve the euros to buy products that we cannot produce here.*

The Turuta is a tool so that the community is becoming more resilient (self-sufficient with the basics). This is a successful example of an independent project (CIII) and functional local currency. It can rely on a circuit of 200 users who continuously support each other in Vilanova, Spain.

Outcome: participating

#### ANONYMOUS

*The survey provides the possibility to participate in this case study anonymously, one participant chose this eventuality. It is a local currency located in France and it has reached a considerable scale.*



Table 4 The selected case studies

	REFERENCE MARKET	INCENTIVE TOOL	PURPOSE	NATURE
Bristol Pound	Local	Local currency	Social	For-profit
Turuta	Local	Barter Market	Environmental	Non-profit
Ecolones	International	Complementary currency	Environmental	For-profit
Anonymous	Local	Local Currency	Social	Non-profit
Social trade	Local	Barter Market	Social	Non-profit

### 3.3.2 Projects Clustering

Clustering the projects is the step that lets observe which are the differences in the strategy and the architecture of an organization. It is expected to find similarities in the values of the factors analyzed inside the same cluster. At the same time, it is expected to find deep differences in factors' values when comparing different clusters. One faced issue is the low answer rate to the poll. This research hoped into a bigger population to analyze, however, the events related to methodology execution offer the opportunity to investigate and discuss the accessibility of this industry. This reflection will be carried on in the next chapters. Despite the problems encountered I decided to keep considering the projects divided into three groups; two of them have one only representative.

Since the analysis is focused on the scalability of Social Innovation, the parameters on which the projects can be grouped shall be based on the scale of the initiative, its overall dimension. Peculiarities such as n° of employees, n° of market penetrated, n° of active users are the parameters on which the division of the scale of the different initiatives will be conducted. It is reasonable to assume that a company that has 50+ employees, operates in 3 countries and has 10'000+ users, will have a different business configuration than a CC project that is run by less than 10 people, is only local and have hundreds and not thousands of users (nonetheless it is

not said that the previous have a deeper impact of the latter). So, this is the goal: what does change in the operative configuration while the size of the projects grows?

To answer this question, it has been necessary to separate the inquired projects in three different clusters:

1. International projects
2. Local projects
3. Independent projects

*Table 5 Clustering parameters*

Cluster	Employees (expected)	Markets	Users
International projects	>30	>2	> 10000
Local Projects	10-30	1	500-5000
Independent projects	>10	1	<500

Depending on the scale of the projects that have answered the survey, their data will compose an average and the data will be compared on the groupings done with these parameters. The Size parameter is merely indicative, and precedence is given to the number of markets and user base. The qualitative analysis will reside in discussing why those differences came to be according to the literature on social innovation and scalability. The challenge is to overcome a severe lack in the data available through logic induction in the findings and discussion phase.

### 3.3.3 Interviews

Adding depth to the survey is necessary because the few data obtained through the questionnaire can shape the architecture of the project but cannot describe the characteristics and differences that distinguish the projects that use complementary currencies. Jaap Vink from Social Trade, Diana Finch from Bristol Pound, Ton Dalmau from Turuta and last but not least Karla Chaves from Ecoins participated to a one-hour Online interview in which they have been asked five questions and let roam free around the key factors for scaling Social Innovation and CCs in general. The interview adds up information and helps depict better the singular case under analysis. Joining the contribution of the survey results with direct keys to reading obtained from the interviewees' opinions it will be possible to create a complete picture of the case studies.

I allow myself to add a personal consideration: each interview was delightful and my interlocutors sharp and very kind; I thank all of them for sharing their experiences to the sake of this research and I express admiration for those who can create value by taking care of something instead of breaking it.

### 3.3.4 Data Analysis

Five project managers agreed to collaborate on the survey and four on the interviews. The information gathered from the latter will be useful to contextualize the CCs projects and let the respondent clarify their practitioners' opinions on the main topic this thesis is addressing. The data collected from the survey contribute to describing the architecture of the project, the relationships with key stakeholders, the relative importance of the community over the business model and the internal skills and capabilities. Although no statistical analysis will be performed (over performing a qualitative approach, the population of the sample is too low and disaggregate to achieve sensitive results), two main observations can be made on the data set. First, all the projects are described on the same variables which permit to compare the cases, especially referring to their scale. If the value of one element is 1 in CIII (smallest size cluster) and it can be noticed that it gradually grows when looking at CII and CI, that is a signal that the importance of that factor grows as the scale of a CC project enhances. Even if a clear 'trend' cannot be identified on scores of this typology of data set, the increase in one factor's value across the clusters will be observed and taken into consideration.

Second, there are factors in which the different CCs projects perform better than the average. The average score of the answers is 3.25 (all clusters). The elements that have the highest scores are the ones that are considered key in the business strategy and on which are assigned more attention and resources. This observation could be useful to understand which factors are considered key in the different cases indifferently from the considerations on the scale. Summarizing: the variables on which is possible to observe a 'growing trend' can be addressed as factors influencing or influenced by the increasing scale, the variables which scores are above the average of the values of the answers to the survey can be addressed as predominant and consequently keys for the strategy of the project. By intertwining the outcome of the first and second observations this research should be able to locate those factors which mainly influence the scalability of social innovation.

## 4. FINDINGS

### 4.1 Factor's commentary

Scaling up social innovation is an important theme because of the impact. Many social entrepreneurs are dedicating their career and effort in bringing impact and change; potentially, they could expand their influence and contribution to a wider public if their projects would enlarge their sphere of influence, increase their activities and expand in several markets. Complementary currencies are not the most traditional tool in Social Innovation, but they are one of those that can bring contribution while operating on the inefficiencies of the current economic system by giving its users an alternative. The research question has been all along: Which factors contribute to scaling up a social innovation? In this chapter and the next one also another topic is to be discussed: is it the best direction to scale up a Complementary Currency?

Before proceeding with the analysis of the results a focus on the case selection is necessary. The reader should know by now that the real business world related to complementary currencies is indeed a niche that is difficult to get in contact with. More than 150 organizations have been contacted and few answers arrived showing collaboration to fill up the two investigations methods. This can be reconducted mainly to three factors:

- There is not a certified directory that collects the active projects per territory, plus, there is not an accessible network from which it is possible to obtain the information on the existence of specific projects worldwide.
- Many projects do not survive the first steps of the lifecycle of such an initiative. This means that a consistent part of the data and contacts collectible online and via other methods are not active anymore.
- The CCs projects which are more validated in the industry e.g. Brixton pound, refuse to participate to case studies (this is due to the fact the CCs are gaining more and more attention and students worldwide contact those organizations which visibility is higher)

Those issues are difficult to overcome if the researcher is not inside the grid of projects and she has not built a consistent network of contacts. A qualitative analysis was the best choice to the extent of this thesis to get a coherent overview of the topic under investigation. The findings of the analysis show coherence among the members of the cluster CII highlighting similarities among companies of similar scale, both internally and toward the external environment. CI and CIII registered high scores in many important factors demonstrating that good results can be achieved in both scale categories. They have not registered the highest scores on the same factors, and this lets us understand which factors are prioritized in these projects characterized by a very different scale.

Hereafter the table of the results of the received surveys.

	CI	CII			CIII		SUM	AVG
VARIABLES	ECOINS	BRISTOL POUND	SOCIAL TRADE	ANONYMOUS	ECOL3VNG: TURBUTA			
SIZE	2	1	3	2	1	9	1.8	
HUMAN CAPITAL	4,5	4	4,5	3	4	20	4	
IMPACT	4	2	3	4	3	16	3,2	
CUSTOMER BASE (n° USERS)	60000	1500	1500	2800	200			
CUSTOMER BASE (n° PARTNERS)	100	500	600	200	54			
PROJECT CHAMPION	1	3	4	4	1	13	2,6	
ALIGNMENT WITH INSTITUTIONAL CHARACTERISTICS OF THE LOCAL COMMUNITY	4	1	4	4	5			
INTERACTION WITH LOCAL COMMUNITY	5	3	3	3	3	17	3,4	
COMMUNITY INVOLVEMENT	3	3	3	4	5	18	3,6	
BONDING CAPITAL	5	3	5	5	3	21	4,2	
BRIDGING CAPITAL	5	3	4	4	4	20	4	
ACCESS TO FUNDS	2	3	3	3	3	14	2,8	
PARTNERSHIPS	4	2	3	4	2	15	3	
REGULATORY COMPLIANCE	5	4	4	3	3	19	3,8	
BUSINESS SUTAINABILITY	4	1	3	2	5	15	3	
GOVERNANCE AND LINKAGE TO GOVERNMENT								
LINKAGE TO GOVERNMENT	2	3	3	3	3	14	2,8	
INTERMEDIARIES	2	2	5	4	2	15	3	

Figure 16 Results and scores from the survey

For clarity purposes, the findings and observations are being listed one by one according to the variable, from Size to Intermediaries. Every score listed in the tables is connected to a specific question on the survey, each number corresponds to a different answer. The reader may read the complete survey in ‘Annex A’ or read the set of the question at the beginning of each explanation in the next pages.

**Size:**

*Which the size of your Complementary circuit organization?*

---

- one to five employees → 1
  - six to fifteen employees → 2
  - sixteen to thirty employees → 3
  - thirty-one to fifty employees → 4
  - fifty-one + employees → 5
- 

Table 6 Scores of Size

	CI	CII			CIII
VARIABLES	ECOINS	BRISTOL POUND	SOCIAL TRADE	ANONYMOUS	ECOL3VNG: TURUTA
SIZE	2	1	3	2	1
AVG	2	2			1

All the collaborating organizations affirm to have less than thirty active employees managing and working on the projects. With no specification done by the projects’ representative, we assume that those are the employees with a registered contract and that volunteers and project champions are not included. This variable was meant to be a ‘control variable’, useful to create the criterion of clustering: it was expected in the beginning that analyzing different scales, a growing number of employees would have been detected. Out of our population, it is a member of CII that holds the highest number of employees. The participants are characterized by very different business models which provides diverse requirements in term on numbers of employees.

**Human Capital:**

*On a scale from 1 to 10, how would you rate the Human capital of your organization (in terms of skills, capabilities, and autonomy)*

---

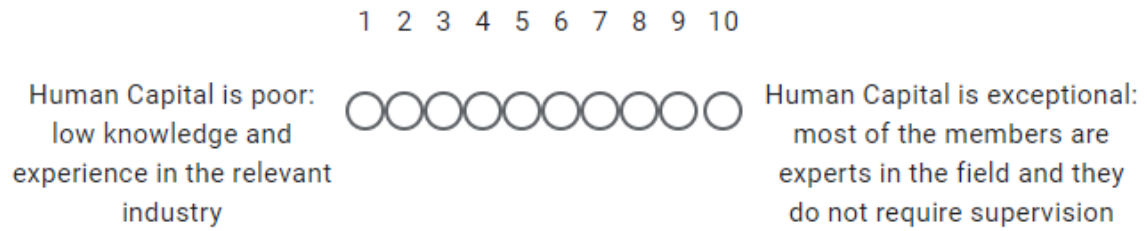


Table 7 Scores of Human Capital

	CI	CII			CIII
VARIABLES	ECOINS	BRISTOL POUND	SOCIAL TRADE	ANONYMOUS	ECOL3VNG: TURUTA
HUMAN CAPITAL	9	8	9	6	8
AVG	9	7.6			8

*Human Capital: understood as knowledge and experience in the relevant industry, self-employment, or leadership. When looking at your employees, do you believe that:*

*Human Capital is poor: low knowledge and experience in the relevant industry; the personnel has operative roles and low horizontal specialization.*

*Human capital is adequate: operatives show knowledge and independence. Control and vertically integrated managers are necessary.*

*Human Capital is exceptional: most of the members are experts in the field and they do not require supervision.*

The objective was for the responsible in charge of filling the survey to reason on strengths and weaknesses, knowledge of the industry, independence of her workers. The original score from (Beau Warbroeka, 2016) model was from 3 to 5; to give a wider descriptive span the scores were turned into the range 1-10. The final values will be divided by two to stick to the scale of the other factors which values can be the maximum five. Looking at the values collected, the interviewees answered with confidence in their employees, no score is below 6 (5 would correspond to ‘Human capital is adequate: operative show knowledge, leadership and independence’). These results do not give relevant information on how a company behaves in terms of human capital when scaling to different sizes, still, it gives us valuable information on the internal cohesion and the capabilities of the people inside the interviewed organizations. Further consideration can be done. This measure is probably biased by the self-evaluation: it is reasonable to assume that the evaluation would be in

any case higher than the real situation. This does not mean that the human capital is necessarily poor after all the parameters for the evaluation have been clarified in the question: skills capabilities and autonomy.

**Impact(assessment):**

*Understood as reached goals in terms of social or economic or environmental improvement thanks to your complementary initiative. How does your company try to measure it?*

- 
- No measurement on impact → 1
  - The measurement is based mainly on surveys → 2
  - The measurement is based on several methods validated inside the company → 3
  - The measurement is based on several methods validated inside and outside the company → 4
  - The measurement is made by external entities (statistic national institute → 5
- 

*Table 8 Scores of Impact assessment*

	CI	CII			CIII
VARIABLES	ECOINS	BRISTOL POUND	SOCIAL TRADE	ANONYMOUS	ECOL3VNG: TURUTA
IMPACT	4	2	3	4	3
AVG	4	3			3

One of the most biased topics in the complementary currency’s world is impact measurement. Are CCs effective? Is their impact tangible? To what extent these initiatives contribute to the three pillars of the triple bottom line and the seventeen global sustainability goals?

Many studies argue that understanding the degree of impact is difficult (Ahmed M. F., 2018). There is not a standardized (or at least effective and realistic) measurement method across the CCs community to understand what is changing through the projects. The easiest dimension to investigate is social, which can be assessed through interviews and surveys, followed by economic and environmental dimensions. Due to this, the aim of this question is directed toward the methodology instead of the scale of the impact: we ask our interviewees to score their behavior based on how they get data and intelligence. As expected, the minimum effort made is surveys; all of the cases use this method mainly. Four out of 5 cases go further: they developed internal methods and validated them through time. In just one case, in CI, dealing with a way larger user base, externally validated methods are used. This is necessary because while the customer base grows, the bias of the investigation methods grows along.



## Customer Base:

Could you approximately quantify the size of your project's customer base? (ACTIVE USERS)

---

Table 9 User base

	CI	CII			CIII
VARIABLES	ECOINS	BRISTOL POUND	SOCIAL TRADE	ANONYMOUS	ECOL3VNG: TURUTA
CUSTOMER BASE	60000	1500	1500	2800	200
AVG	60000	1933.336			200

This variable is functional for the construction of the clusters. The main indicator of the reached scale is the user base: the higher the people inside the CC system, the higher the necessary resources, coordination and services to deliver. This does not mean that a complementary currency that has a lower customer base is less effective or developed in terms of activities and community involvement projects. However, in terms of scalability, satisfying the environmental/social needs of 60000 users is a completely different task than managing a local scheme with a structure built for a community of a few thousand. This thesis aims to understand how the architecture of a complementary currency organization changes as the workload changes and the workload enlarges as the customer base grows and the circulating capital of the organization consequently increases. Ecoins is the biggest and most international organization working with CCs that this research was able to find, this gives an idea to the reader that nowadays the biggest recognized organizations are still a niche in the sustainability world. If more and more social entrepreneurs will decide to operate on the territory and communities through complementary currencies many more organizations may arise and some of them may decide to scale internationally. The others will remain local to focus on one specific community. In a possible multicurrency future, the user will be able to choose between a close community and a big and open one.

## Project Champions:

*Project champions are understood as key committed individuals involved in the initiative that have a “prominent role in starting, endorsing or carrying out a project”. Looking at your project do you believe there is a figure (or more) like that? \**

---

- There are no Project Champions, everything is run internally → 1
- There is one Project Champion, but her effort is discontinuous → 2
- There is a Project Champion which constantly brings effort → 3
- There are several Project Champions → 4

- The project is entirely in the hand of external Project Champions → 5

Table 10 Scores of Project Champions

	CI	CII			CIII
VARIABLES	ECOINS	BRISTOL POUND	SOCIAL TRADE	ANONYMOUS	ECOL3VNG: TURUTA
PROJECT CHAMPIONS	1	3	4	4	1
AVG	1	3.66			1

Project champions are standard figures in project management. They acquire a very important role throughout the development of the project itself becoming the point of reference of the several divisions working for that common objective. When dealing with Complementary Currencies often something similar happens. CCs give the chance to individuals to put into practice their values and social effort: this often causes that inside the community the users which needs are best met by the projects assume a recognized role of leadership. This role gets also recognized by the organization by involving this figure inside the operations and the decisional process. Project Champions is not always present as the collected data show. In particular, it is possible to observe that only inside CII the values of the answers are above one. This pattern offers room for observation: the right scale for a project champion figure is a medium-sized community. Out of sixty thousand people spread across 4 nations, it is difficult to identify a figure that elevates herself at a national level (and arrives at being noticed by the CC organization itself), so the score declared by Ecoins is understandable as it is the representant of one of the only international CCs worldwide. In the same way in a small and very united community, there is no need for a project champion and most likely all of the users would cooperate to the same amount and collectively. The situation changes, socially, when more people are involved. It is complicated for a community of more than a thousand people to reunite and gather the effort and the opinions of everybody. It is more likely in a situation such this one that the people with the strongest values and that can put more effort into the project would rise above the others (at least in terms of fame and visibility) and that they may become validated project champions also from the organization's point of view. Although this variable does not seem fundamental to scale to international dimensions, it looks like it is a functional coordination and communication mechanism when the organization is expanding locally, and it is involving more and more people inside the same community. Given the distribution of the results of the surveys, it's observable that project champions are an important transition factor that contributes to the local coordination and sense of community. Can it be considered also an important factor toward successive scalability objective?

**Alignment with the institutional characteristic of the local community:**

*connectivity of firm with schools, churches, neighborhood councils and so on. What would you say about the strategy toward community institutions?*

- No community Institutions in our market → 1
- There are community institutions, but we operate without any contact → 2

- There are community institutions and we have contacts with few of them → 3
  - There are community institutions and we have contacts with most of them → 4
  - Our strategy is entirely based on reaching community institutions to organize our activism → 5
- 

Table 11 Scores of Alignment with the institutional characteristics of the local community

	CI	CII			CIII
VARIABLES	ECOINS	BRISTOL POUND	SOCIAL TRADE	ANONYMOUS	ECOL3VNG: TURUTA
ALIGNMENT WITH THE INSTITUTIONAL CHARACTERISTICS...	4	1	4	4	5
AVG	4	3			5

Social innovation does not only aim at disrupting the market and the social tissue with just one great idea but also at finding a new mechanism to improve the network of existing social companies, no-profit organizations, religious institutions, schools and many more institutions that deal with the social aspect of the life as the main purpose. In the literature, the alignment with the institutional characteristics of the local community is highlighted as a crucial success factor that divides projects able to ‘sneak’ inside the community from initiatives that lose the grip of the involvement of its users. Apparently, four out of the five interviewed are aware of the importance of this factor which is being considered important in all the clusters and candidates themselves as the main driver for scalability as well. Complementary currencies embed a community nature and linking to the institutions which are a reference for the potential users in the market is a fundamental step to achieve validation and bridging capital. It could also give access to resources such as physical places to exploit, contacts, funds, and public attention. This factor is present in many CCs projects and the collected data show that managing accurately this factor is a requirement at any stage. Consequently, it may be as important as purely financial factors when dealing with scalability. It is embedded in the nature of the process of scaling to get in contact with new markets and realities, each of them influenced by the local institutions which in turn deeply influenced the local individuals.

### Visibility:

*demonstrate the success and values of the project. Visibility can also be interpreted as sharing success stories in the formal media and on social media. What would you say about your initiative? \**

- Not active on any media → 1
- Updates on the website only → 2

- Sharing successes: on the website and social media → 3
- We use a third-party social media managing company → 4
- A dedicated department for social media managing and branding → 5

Table 12 Scores of Visibility

	CI	CII			CIII
VARIABLES	ECOINS	BRISTOL POUND	SOCIAL TRADE	ANONYMOUS	ECOL3VNG: TURUTA
VISIBILITY	5	3	3	3	3
AVG	5	3			3

Many times, during this research the lack of marketing approach has been cited as an issue for the scalability of social innovation. More than ever the market has shifted from a product-centric view to a customer-centric view enriched by a full experience. This topic is valid pretty much in every industry and has become central in the choices of consumption of many consumers especially in the western world. Visibility is a variable that touches this topic, which asks the interviewee to analyze the marketing effort inside her organization. All of the companies analyzed utilize both website and social media profiles to get in contact with the user's base and the partners around the area of competence. They share successes, initiatives and projects, community goals and periodic reunions. This is a fundamental part of bringing the community together: the clarity on communication and advertising makes the values and objectives of the organization visible to the whole customer base that can modify and improve its behavior according to the requirement of the project. This time, it's possible to observe that one of the predictions done in the previous chapter is confirmed by the data: scaling up to multiple markets and with a continuously growing customer base communication and visibility acquire even higher importance. It must be said that Ecoins™ is a project ran by a marketing and communication agency that showed to be able to transfer knowledge in this Social Innovation. As for today, this research believes that the marketing effort, communication, clarity and information availability put at disposal of the customer base of Ecoins™ are the most advanced in the industry of complementary currency. All of the other initiatives answered with a score of 3 → Sharing successes: on a website and social media. This is the 'middle value' because although it is a good strategy to manage the internet point of contact with the customer base, the marketing experience has taken multiple diverse directions in the last 10 years including promotions, purchase experiences, extra informational services and so on. In case the resources for dedicating an entire BU to this purpose are not sufficient, many agencies today are specialized in this type of marketing development (answer 4).

**Community Involvement:**

*the extent to which the Complementary currency's project enables the local community to become involved (information, consultation, participation) and contributes to its success. Regarding community involvement: \**

- It is completely outside the decision process → 1
- It is inside the decision process through surveys deliverance → 2
- It inside the decision process through surveys, brainstorming sessions and other methods → 3
- A process of co-creation is enabled (with community's representants) → 4
- Entire initiatives are run from community members individually → 5

Table 13 Scores of community involvement

	CI	CII			CIII
VARIABLES	ECOINS	BRISTOL POUND	SOCIAL TRADE	ANONYMOUS	ECOL3VNG: TURUTA
COMMUNITY INVOLVEMENT	3	3	3	4	5
AVG	3	3.33			5

Another prediction has been confirmed by data collected: the higher the scale the more the difficulties in involving the community inside the decision process and initiatives. This is due to the higher standardization of operations in projects which are run simultaneously in different geographical areas. Standardization makes it difficult for communities to self-organize and create community improving actions because the operations must follow a precise scheme to let the whole system continue working on a national and international scale and affect the addressed issue through the continuous flow of the operation in its scheme. The results show that there is an inverse relationship between the number of users and the involvement of the community (intended as collaboration and inclusion inside the decision process). Following the reasoning Turuta, with 200 active users, is the one organization that succeeded in creating the most cohesive group of individuals sharing goals and values (or just understanding the advantages of utilizing a CC). An exception is made by our anonymous interviewee, which, with 2800 active users (1300 more than social trade and Bristol pound) have decided to involve the community inside the decision and development process (4 → A process of co-creation is enabled (with community's representants)).

**Bonding Capital:**

*involves strong social networks between homogenous groups. Trust, reciprocity, social norms, and values arise from these social networks. Would you say that: \**

- The project has not created Bonding Capital → 2

- The project has contributed to increasing the community bonding capital → 3
- The project has increased bonding capital and created a brand-new community → 4
- The project has created a community which aims at increasing the bonding capital itself → 5

Table 14 Scores of Bonding Capital

	CI	CII			CIII
VARIABLES	ECOINS	BRISTOL POUND	SOCIAL TRADE	ANONYMOUS	ECOL3VNG: TURUTA
BONDING CAPITAL	5	3	5	5	3
AVG	5	4.33			3

This variable is a factor that can be found mostly only in social initiatives, in other industries creating bonding capital is not a priority. It is possible to observe homogeneity in the values of our five companies. Although each of them is running a project based on the use of Complementary Currencies there are big differences in how they are exploited, which brings diversity in the architecture of the organization and the analyzed factors.

Bonding capital is not something that is easy to measure, the self-evaluation made by the interviewee could be biased because it is based on observation and only in some cases, surveys. Taking back the definition of Bonding capital which ‘*involves strong social networks between homogenous groups. Trust, reciprocity, social norms, and values arise from these social networks*’ it can be interpreted as community involvement inside the community itself, unrelated to the organization which runs the project. Users that dedicate part of their time to social and environmental activities, with or without compensation given by the CCs circuit, are by nature inclined in building these type of social relationships and this can happen at any scale level CI, CII, and CIII: the three clusters even if diverse in scale, aim at the same user profile, they have the same market reference in different geographical locations.

**Bridging capital:**

*has the potential to provide opportunities, resources that do not come from bonding social capital. It refers to social networks between heterogeneous groups that connect across different communities. Do you think that:*

- The project has not created Bridging Capital → 2
- The project has contributed to increasing the Bridging capital in the territory → 3
- The project has increased Bridging capital and created new communities’ interactions → 4
- The project has created a community which aims at increasing the bridging capital itself → 5

Table 15 Scores of Bridging capital

	CI	CII			CIII
VARIABLES	ECOINS	BRISTOL POUND	SOCIAL TRADE	ANONYMOUS	ECOL3VNG: TURUTA
BRIDGING CAPITAL	5	3	4	4	4
AVG	5	3.66			4

Unlike other industries in which the scope is mainly on one product/process/business ecosystem, the world of CCs, or better, its communities, include individuals coming from every layer of society, from diverse jobs, realities, cultures and geographical origin. This has been proven to be one of the main drivers in the formation of bridging capital: “Bridging social capital is a type of social capital that describes connections that link people across a cleavage that typically divides society (such as race, or class, or religion). It is associations that 'bridge' between communities, groups, or organizations.” (www.socialcapitalresearch.com/what-is-bridging-social-capital/). This is one of the variables which are incredibly difficult to assess due to its pure sociological value. However, the interviewee showed that bridging capital is considered important by their communities and that the CCs project has contributed to increasing it consistently. This factor is community-oriented; it can be considered more a consequence of the project than a stated architectural part of the business model. The main goal of CCs is to overcome social issues through economic improvement and healthy human values such as environmentalism. To achieve these objectives, the community must feel like one, despite all the internal differences. Another perspective is that, through the sharing of values and world-class themes, geographical distance is overcome. The mere fact that this research was able to put in contact a student in Northern Italy with five different projects in five different countries thanks to the achievements made by their initiatives locally, is a demonstration of the built of bridging capital.

**Access to funds:**

*The extent to which the project can raise funds and has a stable flow of income. The larger its stable flow of income, the higher the ordinal value assigned. About your project:*

- Funds are mainly personal capital → 2
- Funds are also donations → 3
- Funds are start-up capital provided by local communities → 4
- Funds start-up capital provided by local communities and Government subsidies → 5

Table 16 Scores of Access to funds

	CI	CII	CIII
--	----	-----	------

VARIABLES	ECOINS	BRISTOL POUND	SOCIAL TRADE	ANONYMOUS	ECOL3VNG: TURUTA
ACCESS TO FUNDS	2	3	3	3	3
AVG	2	3			3

From a first look at the values collected through the survey, it is immediately clear that this is one of the most delicate factors when it comes to social enterprise: lack of funding. Social entrepreneurship has not reached yet level profitability to be appealing to the international investment scene. Impact investing, which is growing at a huge rate in the last 10 year, is directed versus other types of projects which are in hands of more visible and quoted companies, not reaching then local realities. Four out of the five interviewees answered that funds are collected through donations and inside the very local community. For organizations almost unknown on the international scenes is difficult to imagine that they can gather international funds or even national crowdfunding. Answer number 5 has been inserted to discover if the local government offers financial support over cooperation and legal compliance. No one answered with a score of 5 showing that, although the local government offers support, there is no room for financing local social enterprises even though they are going to support disadvantaged layers of society (which are usually a direct cost to the local government in terms of help, food, and social capital). It is interesting to observe that the biggest of our interviewees have the lowest score (which means they are not collecting money from the communities, but it does not give any hint on the overall amount). One of the causes could be the fact that Ecoins is a for-profit organization. The variable ‘business sustainability’ will go in-depth on this topic. The results of the scores of this factor may suggest that funds are not important as other factors for scalability; this is not correct, the question of the survey is intended to understand where the funds come from, and not the overall scale of the collected money to run or expand the activity.

### Partnerships:

*The extent to which a company can deliver services through collaborations with different industries. Can you affirm that:*

- 
- There are no partnerships with any other firm → 1
  - There are partnerships to similar companies inside the same industry → 2
  - There are partnerships to companies outside the industry to deliver a wider set of services → 3
  - There are partnerships with a firm inside and outside the industry and the local government → 4
  - There are international cross-industry partnerships → 5

Table 17 Scores of partnerships

	CI	CII	CIII



VARIABLES	ECOINS	BRISTOL POUND	SOCIAL TRADE	ANONYMOUS	ECOL3VNG: TURUTA
PARTNERSHIPS	4	2	3	4	2
Customer Base (partners and shops)	100	500	600	200	54
AVG	4	3			2

This variable is oriented on the strategy toward partners more than the size of the created network, still, it's interesting to compare not only the approach but also the numbers on the market. This factor grows in value as more as the organization has included partners from all the different spheres of the market. The approach can be local: in this case, the extension of the currency system occurs to local shops and organizations inside the same industry such as the ones building social inclusion and sustainability. The strategy can include partners outside the industry itself aiming at including firms that are seeking for sustainability, or the local government itself. The approach can be international: having partners which are present in all the market penetrated, such as multinational companies or franchises. One important characteristic to be aware of is whether the local government has become a supporter or partner of the organization. From the stakeholder analysis is clear that the government organs must be managed, informed, contacted and included, in other words, managed closely. This is the main difference between scores 3 and 4. Lawmakers hold the keys of almost every aspect of the day to day operations, partnerships, regulations and payment validation. They do not directly influence the operation on the field but for what regards authorizations and permission, local government is the most important stakeholder. Managing closely can be interpreted as including those stakeholders inside the decision process or giving them extra-power in the day-to-day operations. Therefore, the range goes from 'no partnerships' to 'There are international cross-industry partnerships' (5). The inclusion of the government is, to extent of the knowledge gathered during this research very important, as well as other partnerships such as local shops and other services providers to enlarge the value proposition of each project. (Luca Cacciolatti, 2019)

### **Regulatory compliance:**

*Regulatory compliance: the extent to which the local national legislation permits to operate on complementary currencies initiatives. Regarding the local legislations, it:*

- 
- Forbid complementary currencies → 1
  - Forbid complementary markets if the currency is convertible to legal tender → 2
  - Permits complementary markets when the currency is not convertible to legal tender → 3
  - Permits complementary markets when the currency is convertible to legal tender → 4
  - Provide incentives for complementary markets (public funding or concessions) → 5
-

Table 18 Scores of regulatory compliance

	CI	CII			CIII
VARIABLES	ECOINS	BRISTOL POUND	SOCIAL TRADE	ANONYMOUS	ECOL3VNG: TURUTA
REGULATORY COMPLIANCE	5	4	4	3	3
AVG	5	3.33			3

When it comes to Complementary Currencies a topic results as very important: monetary sovereignty. CCs could result dangerous from the governmental point of view because they could damage the value and power of the legal tender (if developed in mass or on a wide scale). This factor is intended to understand the degree of flexibility in developing a CC in each country.

Table 19 Scores related to the country of provenance

CostaRica	5
Spain	3
France	3
UK	4
Netherlands	4

This factor does not focus on partnerships in a broad sense, but it focuses on the degree of freedom that a CC project has inside its own country. It is not obvious that the local legislation permits alternative monetary circuits. However, in the analyzed countries no score is below 3, showing that legislation permits such projects. Although Ecoins operates in 5 countries, it encountered favorable conditions and easy agreement with the local government in each case. It is good to remember that the scope of Ecoins is mainly environmental and deals with recycling and an effort/reward system; there are deep differences with a circuit that deals with social and economic objectives. It is possible to observe that one of the main differences in the legal permissions relies on the convertibility of the complementary currency to the legal tender. Many projects have chosen in their strategy to peg the value of the currency to the legal tender for many reasons: communication toward customers (value is always clear), possibility to satisfy payments requests also outside of the complementary circuit and overall validation toward stakeholders. Even if it appears that western countries permit this scheme, it would be interesting researching which countries of the world permits respectively a convertible and a non-convertible Complementary Currency even if this topic belongs to a different area of investigation.

### Business sustainability:

Business Sustainability: The capability of remaining financially self-subsistent through any kind of revenue (donations, marketing provision, subscription fees, sponsorships, investments). Looking at your project would you affirm that:

- 
- The project is not self-sustainable → 2
  - The project is not self-sustainable, but we are capable to collect funds cyclically → 3
  - The project is self-sustainable → 4
  - The project is self-sustainable, and we can invest part of the profit in new services and projects → 5
- 

Table 20 Scores of Business Sustainability

	CI	CII			CIII
VARIABLES	ECOINS	BRISTOL POUND	SOCIAL TRADE	ANONYMOUS	ECOL3VNG: TURUTA
BUSINESS SUSTAINABILITY	4	2	3	2	5
AVG	4	2.33			5

Most of the complementary currencies worldwide are non-profits organizations. Their noble purpose of creating a new economy that can help the ones in need is put in danger by the fact that revenues cannot cover costs in most of the cases and the breakeven point is far in time from the beginning of the projects. Business sustainability is a fundamental factor also to an organization that is not profit-oriented because there is still an intensive use of financial and non-financial resources. In the collected data is possible to observe different situations, clusters CI and CIII appear to be the most sustainable projects from the case studies. Ecoins is a for-profit company that extended its operations to several countries, Turuta is a local currency with two hundred users and a super-cohesive community. In both cases the projects are self-sustainable.

Two opposite approaches bring to the same ultimate result. What does it mean in terms of the scalability of Social Innovation? Probably is not the scale conditioning the balance in revenues and costs which may depend on many factors: Business Model, Community involvement, ability to find necessary resources. Although all of the projects in the CII cluster appear to have problems in achieving financial sustainability there are not enough data to affirm that a non-profit local currency project with more than one thousand users strives to make its initiative self-sustainable.

### Linkages to government:

Linkage to the government *greatly influences the success of CCs projects on a scale from authorizations to sponsorship. Thinking of development of the project can you affirm that: \**

- 
- No linkages with the government → 1

- Linkage to a government limited to authorizations and control → 2
- Linkage to the government with goals sharing and data sharing → 3
- Co-creation system enabled with the government → 4
- The project is made and sponsored by the government itself → 5

Table 21 Scores of Linkages to government

	CI	CII			CIII
VARIABLES	ECOINS	BRISTOL POUND	SOCIAL TRADE	ANONYMOUS	ECOL3VNG: TURUTA
LINKAGES TO GOVERNMENT	5	4	4	3	3
AVG	5	3.33			3

Over authorizing or denying the possibility of creating a complementary circuit, Local governments play a key role in the strategy and operations of a social organization. This variable is meant to understand to what extent a partnership with the local lawmakers is beneficial for the company and the scalability of the same. In this case, it is possible to observe a growing trend from the CIII cluster to CI. No project has zero links to the government. In all cases, the government is inside the decision of a management process with goals and data sharing. The highest value is reached by Ecoins in Costa Rica where the government is a sponsor of the project itself. This factor appears to be key to the validation and expansion of the influence of the organization. It could also be propaedeutically used to the increase of the user base. In terms of scalability, it appears that a solid relationship with traits of co-creation with the local (or national) government is a predominant factor in achieving a bigger scale. This relationship is not necessarily decided by the law in force in the country. It is the mixture of the strategy of the CC organizers and the willingness to the cooperation of the individual in charge of the local government in that specific time frame.

#### Intermediaries:

Intermediaries are actors that create “new possibilities and dynamism within a system”. e.g. NEF (new economics foundation). Remembering the process of development of the project can you affirm that: \*

- There are no linkages with intermediaries → 2
- There is a linkage to intermediaries limited to consultancy → 3
- There is a linkage to intermediaries with goals sharing and data sharing → 4
- There is a co-creation system enabled with the intermediaries → 5

Table 22 Scores of Intermediaries

	CI	CII			CIII
VARIABLES	ECOINS	BRISTOL POUND	SOCIAL TRADE	ANONYMOUS	ECOL3VNG: TURUTA
INTERMEDIARIES	2	2	5	4	2
AVG	2	3.66			2

This factor is about networking. All the relevant industries worldwide have some type of recognized point of reference, Complementary Currencies' projects have not. Knowledge sharing, replication, and conglomerates have become common in every affirmed industry inside an economy where sensitive information is kept secret, but all the rest is shared, mostly online. It has been decided to call this factor 'intermediaries' because currently in the industry the only type of point of reference is not a governmental institution, but research centers, such as the NEF (new economics foundation), The CCRC (complementary currencies resource center), Grassroots Economics or Qoin. These agglomerations of researchers are active inside the industry supporting projects, analyzing trends and data and gathering the researches on this field worldwide. A useful project was created by CCRC: a database of all the enrolled CCs projects worldwide. Unluckily the project was stopped due to lack of funds. Research suffers the same issues as any other industry. In the data set, it is possible to observe different values, from 'there are no linkages with intermediaries' (2), to 'There is a co-creation system enabled to the intermediaries. It appears that there are no links to the scale of the organization although the expert hands of practitioners could result in precious in case of planning to scale this type of Social Innovation. Furthermore, the intermediaries have gathered visibility in the last twenty years in the world of Social Innovation, but the geographical distance to many projects worldwide (all the intermediaries cited reside in EU) can be a great limitation to the global coordination or at least existence sharing. A question on the interviews that will be later presented and discussed is specifically directed toward the research of a common network.

#### 4.2 Data charts

The Factor's commentary has been useful to understand the business architecture of the cases considered. Every organization is characterized by a different configuration both internally and toward the external environment. After all, the external environment is different in each case, being all the case studies from different countries. The previous analysis tried to collocate the values obtained to a real context, but it does not answer the main question: which factor is important when scaling a social innovation? The factors this research is looking for are business characteristics that become more and more important as the scale of the project or organization increases. All the listed factors contribute to healthy growth, they should be developed together as part of an integrated scaling-up strategy. A first hint can be found in analyzing the results obtained factor by factor and looking at the trend the values have in real-life case studies; this should ensure a better view of the evolution of the architecture of a CC project when scaling. The following charts are the values obtained per factor in the survey organized in increasing order depending on the organization size.

In increasing order: Turuta, Bristol Pound, Social trade, Anonymous, Ecoins.

Many factors do not show a well-defined trend; only the factors with a clear growing trend or a stable but with high values trend will be extrapolated. The extrapolated factors are architectural features that are more developed the bigger the scale of the innovation.

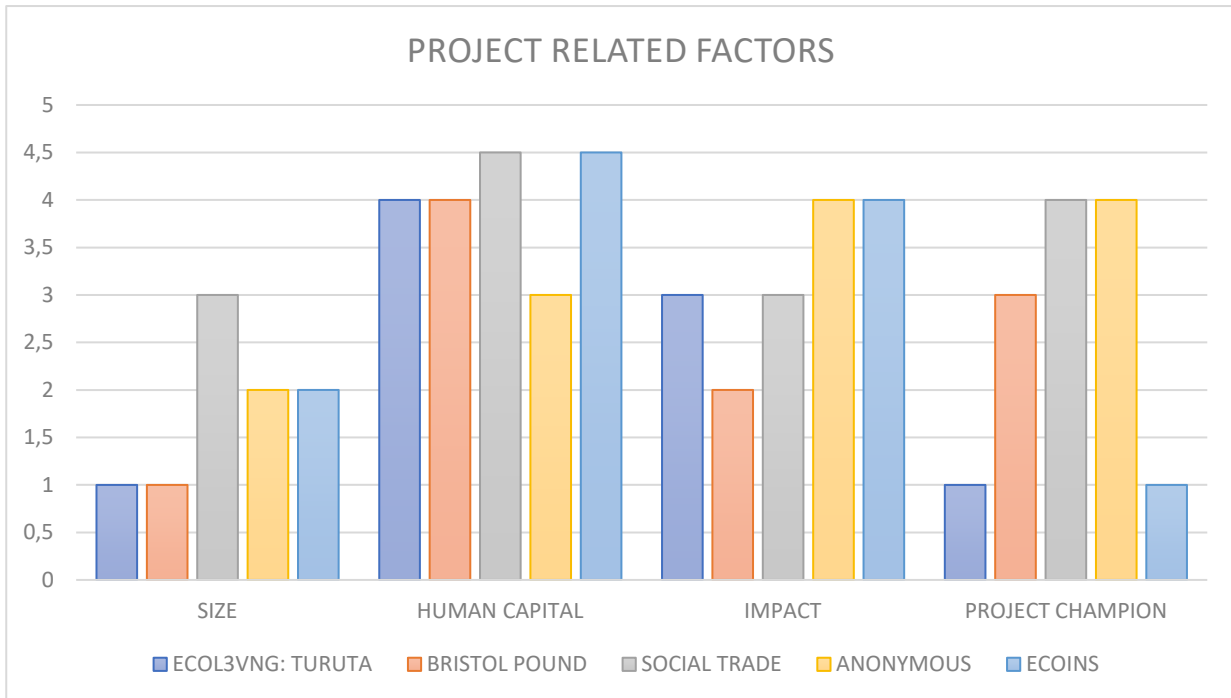


Figure 17 Bar Chart of Project-related factors

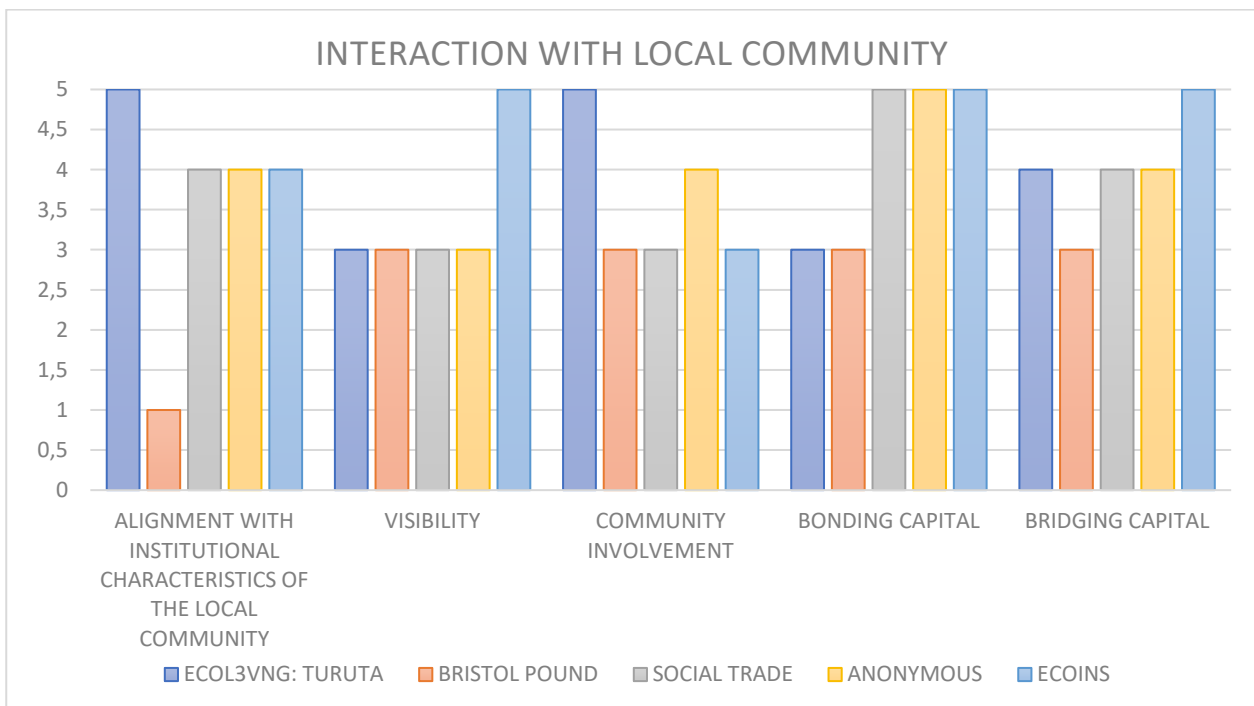


Figure 18 Bar Chart of Interaction with the local community factors

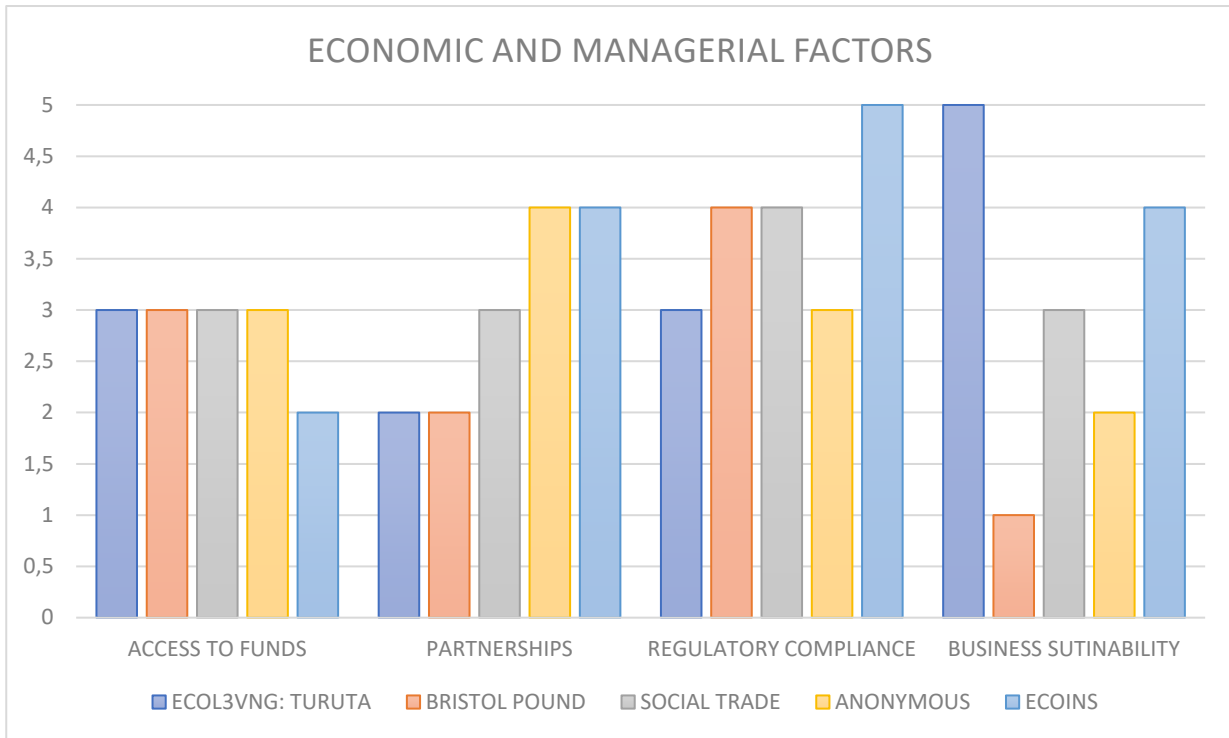


Figure 19 Bar Chart of Economic and managerial factors

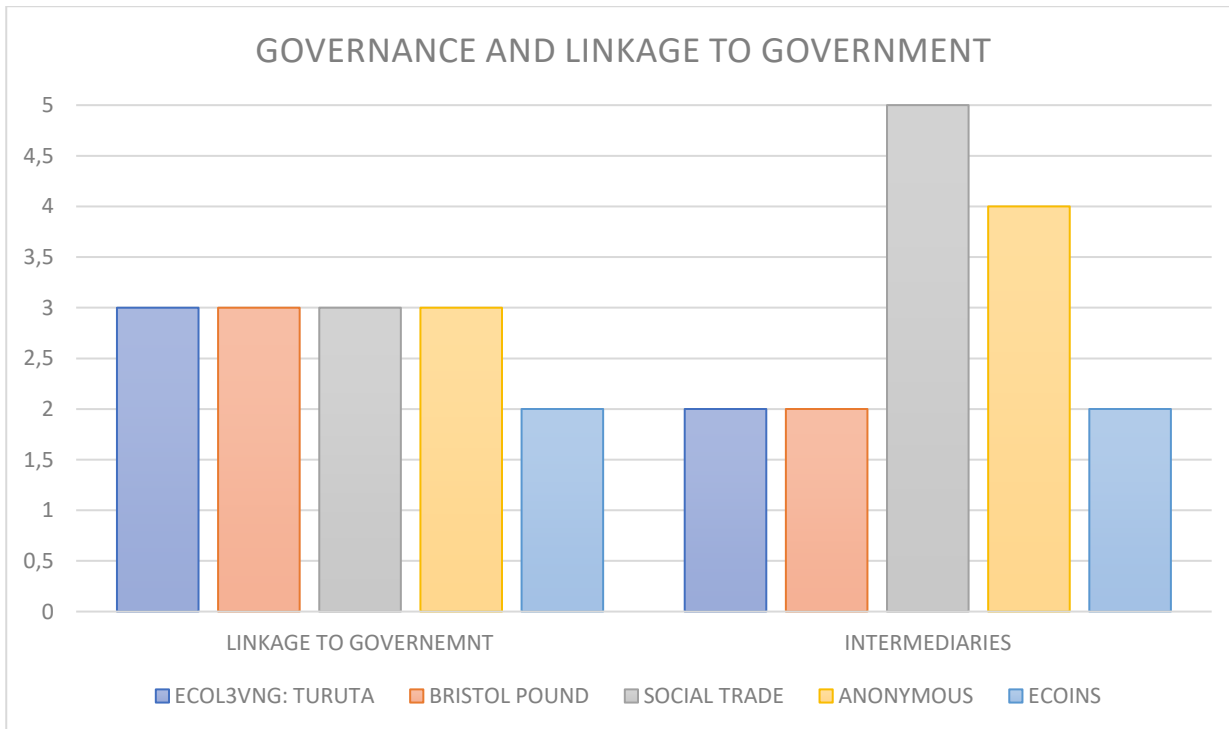


Figure 20 Bar Chart of Governance and linkage to government factors

8 Factors out of 15 show a growing (or stable at high scores) trend when the scale increases. The next graphs are the 8 factors which trends appear correlated to scale, for clarity purposes they are showed one by one.

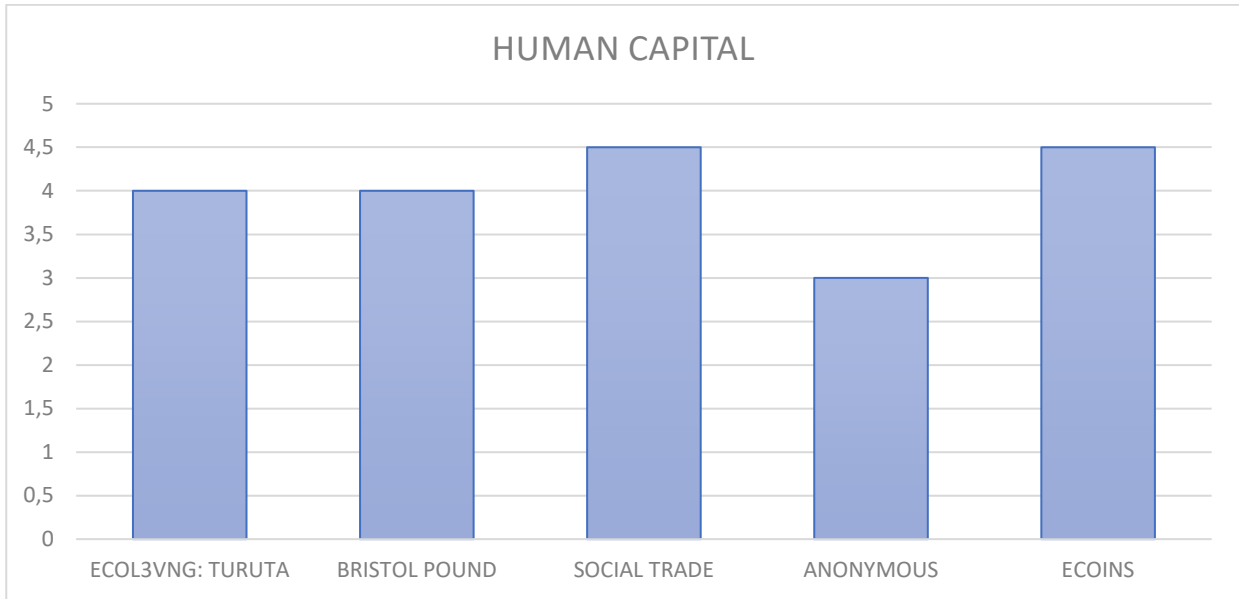


Figure 21 Factors correlated to scale: Human Capital

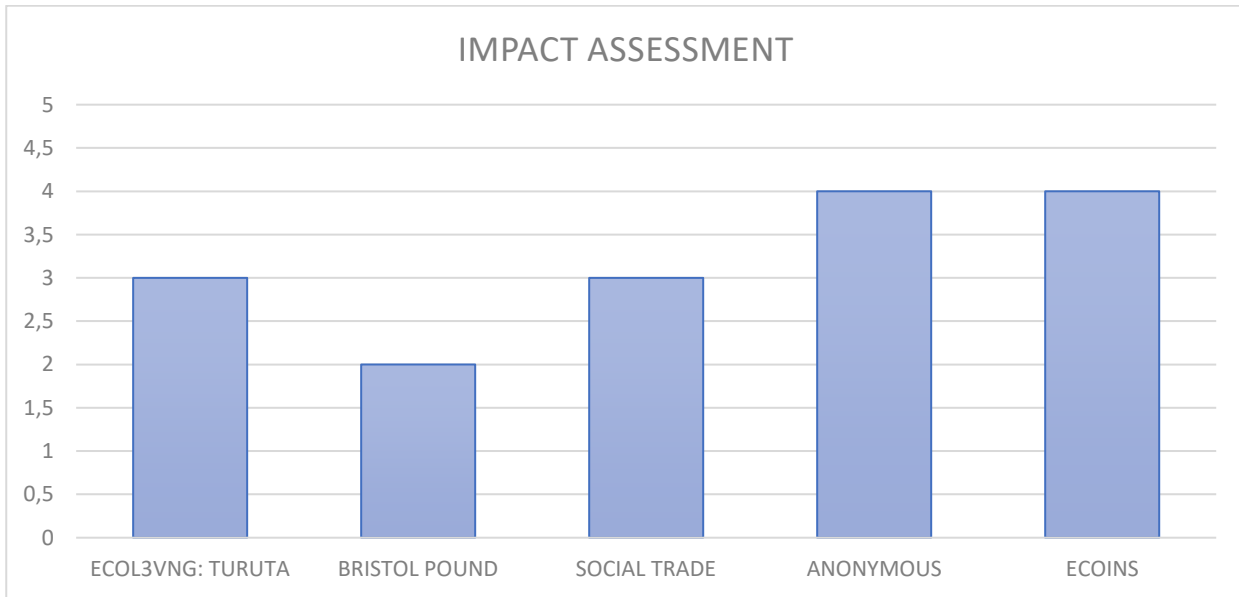


Figure 22 Factors correlated to scale: Impact (assessment)



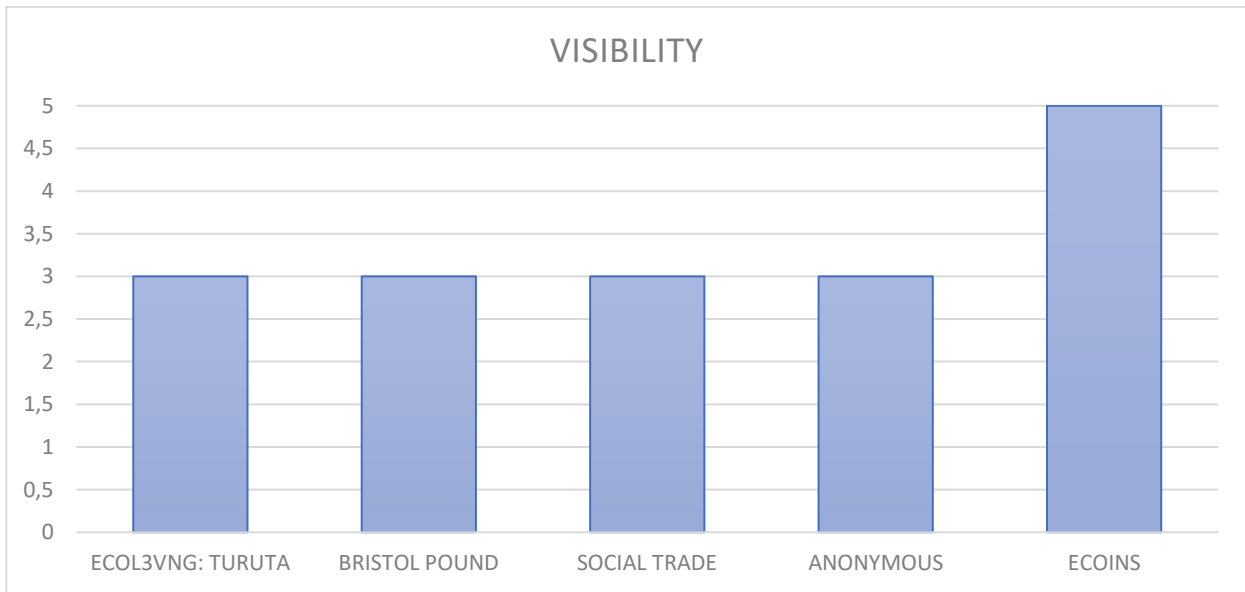


Figure 23 Factors correlated to scale: Visibility

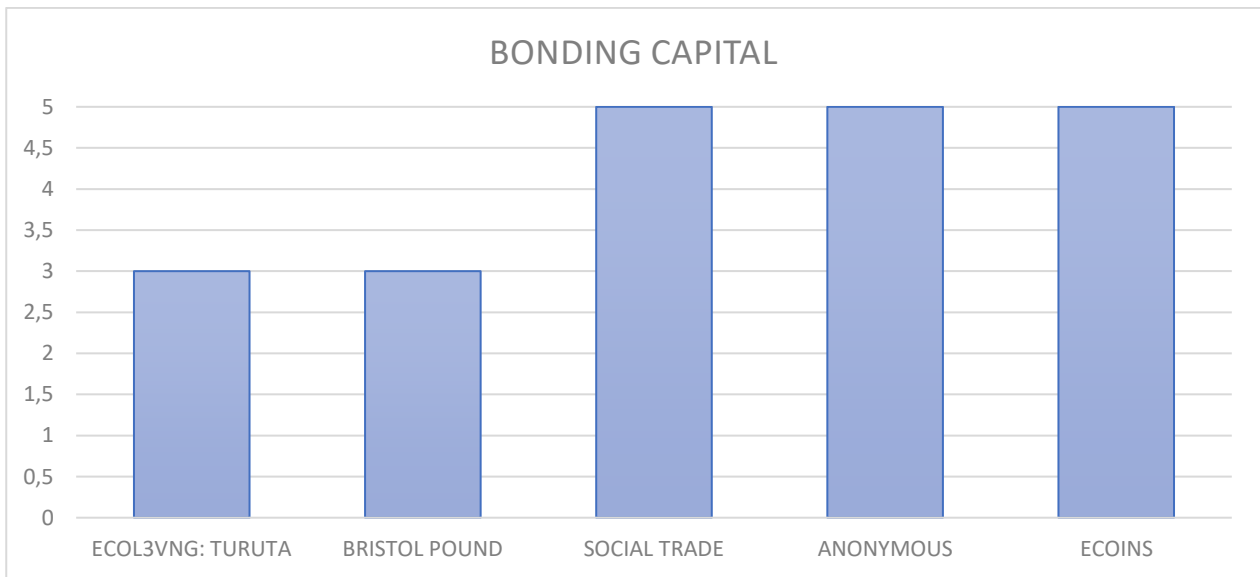


Figure 24 Factors correlated to scale: Bonding capital

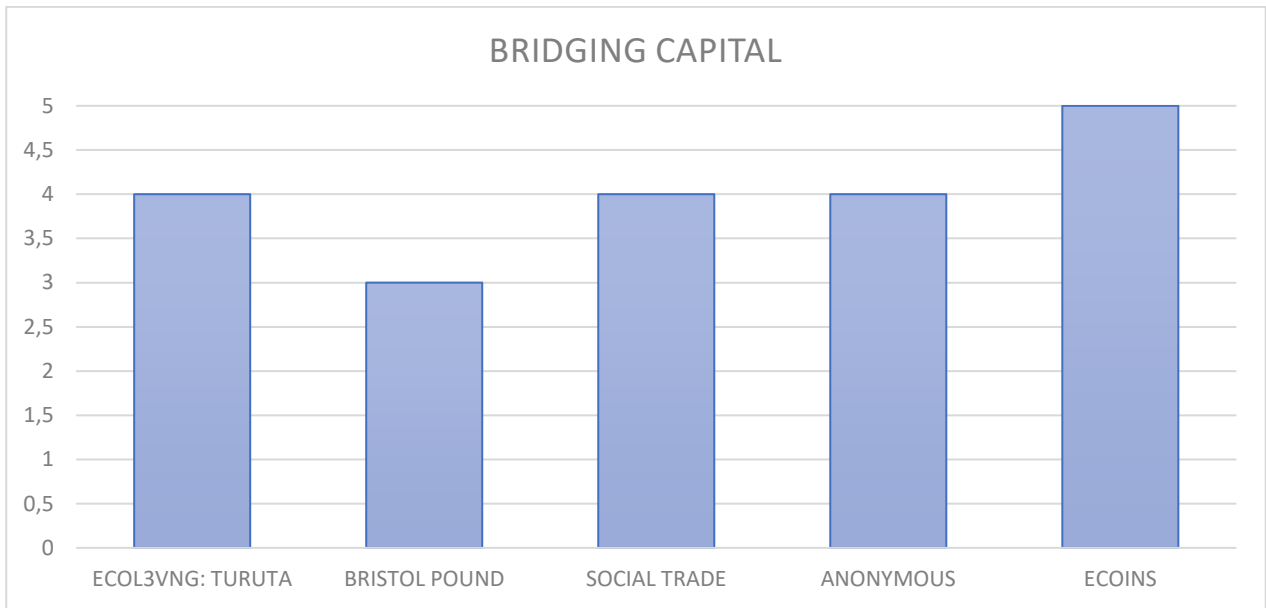


Figure 25 Factors correlated to scale: Bridging capital

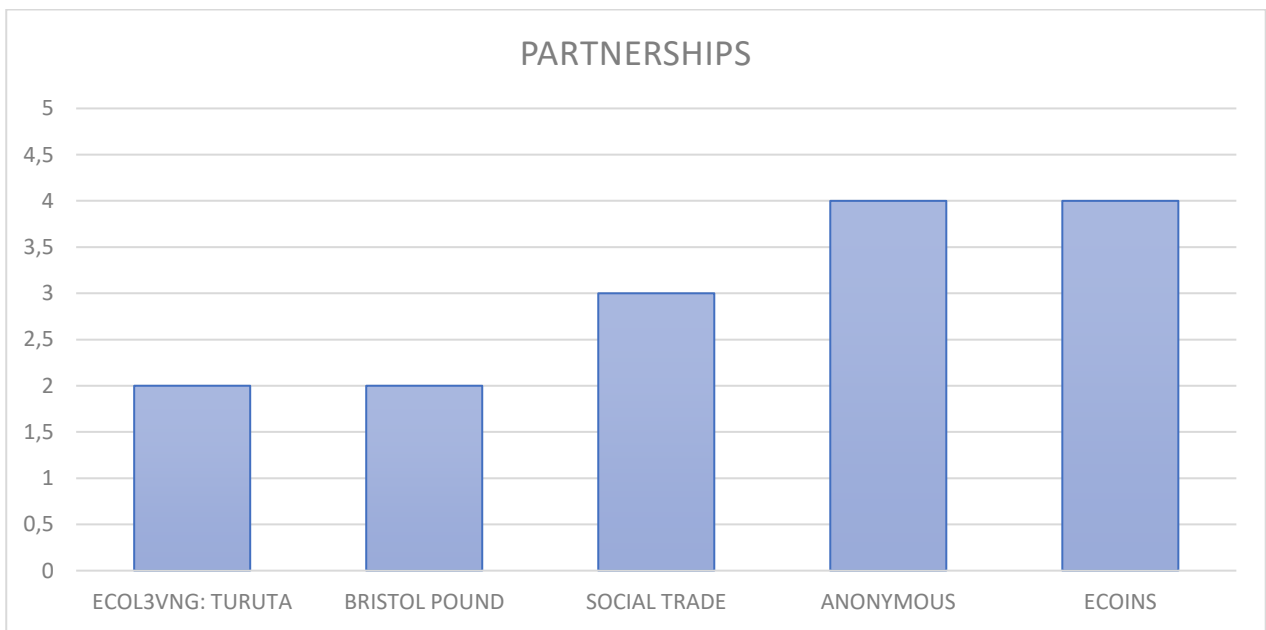


Figure 26 Factors correlated to scale: Partnerships

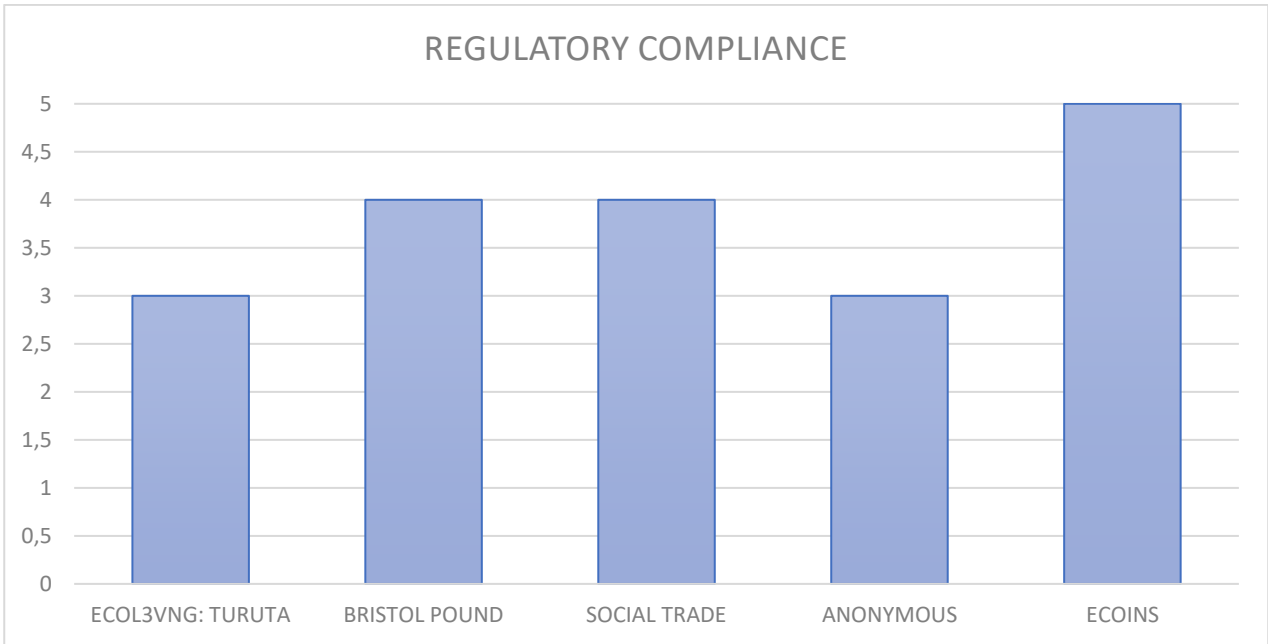


Figure 27 Factors correlated to scale: Regulatory compliance

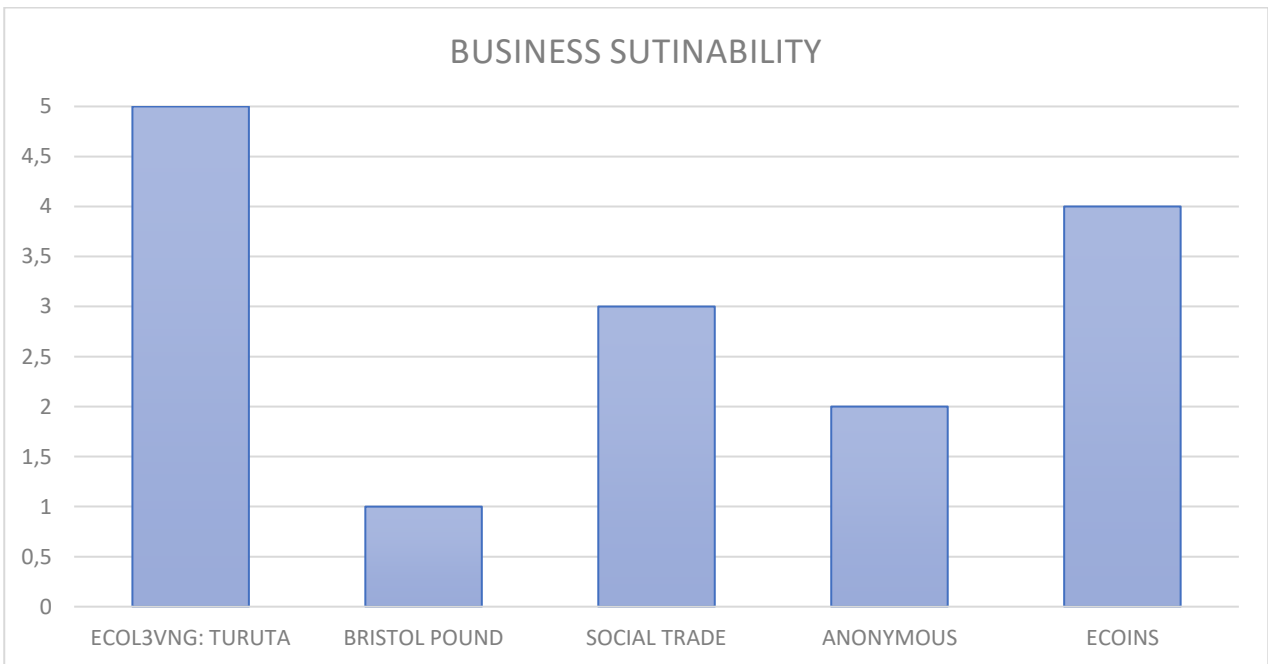


Figure 28 Factors correlated to scale: Business sustainability

The following table is to recap the factors which appear to be influenced by the scale reached by the CCs project.

Table 23 Recap of Factors correlated to a scale

Factors correlated to a scale	
Human Capital	Project-related
Impact (assessment)	Project-related
Visibility	Interaction with the local community
Bonding capital	Interaction with the local community
Bridging capital	Interaction with the local community
Partnerships	Managerial and economic factors
Regulatory Compliance	Managerial and economic factors
Business sustainability	Managerial and economic factors

Exception made to Bonding Capital and Bridging capital and regulatory compliance, these factors are under complete control of the organization and are managed according to the strategy: it is then possible to affirm that these factors grow propaedeutically to scaling and not consequently. Every project is stronger in certain ambits and weaker in others but that is not particularly important, it is the clear increase in value as the scale increases the information that is needed. Identified the factors that seem to increase in value when scale changes, now the analysis turns on the best-performing factors per cluster, with the purpose of comparing each group to the Factors correlated to scale. The listed features appear to have a growing trend but among them, some factors collect way higher scores when assessing the company's architecture. Remembering that connected to a high score there is the 'best practice' the next step is to identify those elements.

### 4.3 Key Factors

To better observe which factors are more performing, the average scores of the values collected from the interviewees' answers (calculated on the entire data set) is being used as a threshold: 3.25. All the factors in which scores are above the average are considered to be relevant in their cluster's scale. This research is based on the observation about what is different in different scales' organizations to better capture how they internally dealt with the scalability of their Social Innovation (remind that the CCs are used to different purposes in each project although they are practically the same tools). Beyond which factor is best performing in each cluster, also the number of factors per cluster above the average can be important information. It would be reasonable to assume that the International cluster may have more values above the average (the scale of the project makes it necessary to approach each sector with more effort and resources to result successful). Still, a well-performing independent project may overcome the scores of the other two clusters in specific categories (e.g. Interaction with local community factors).

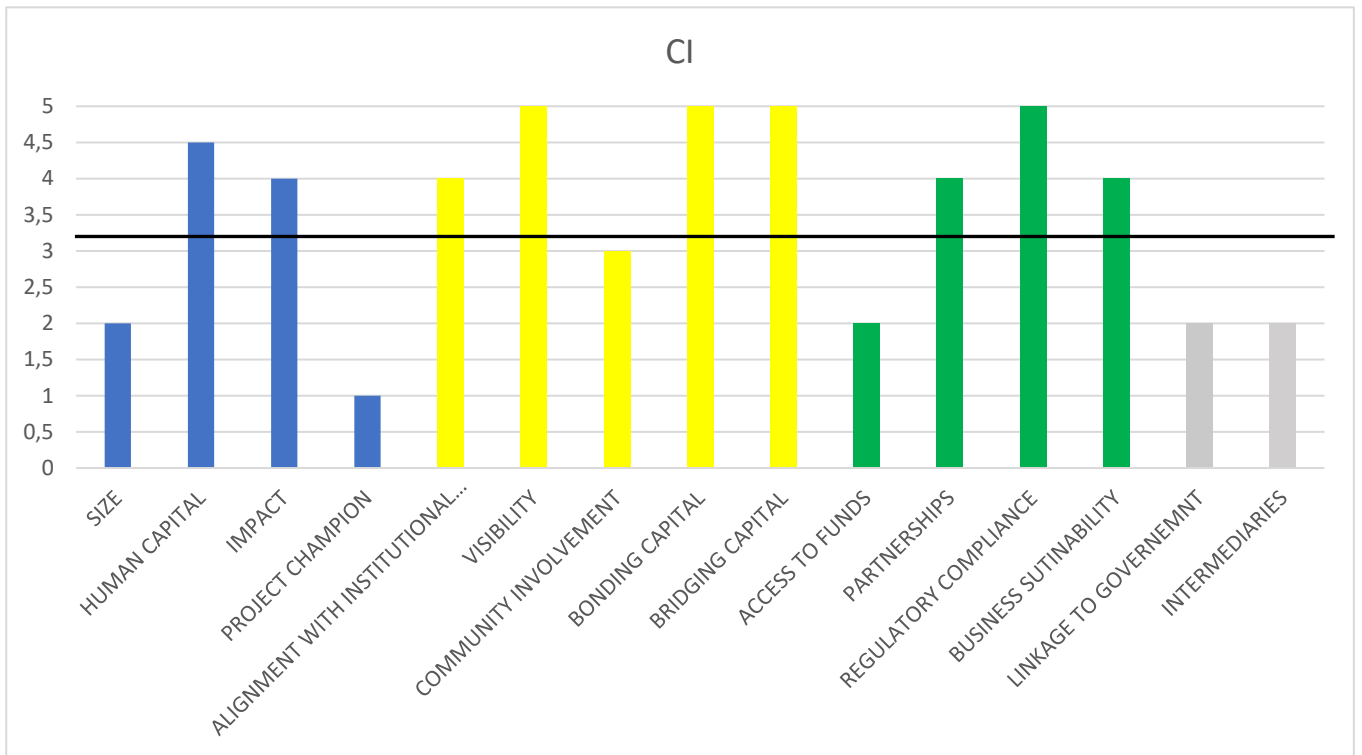
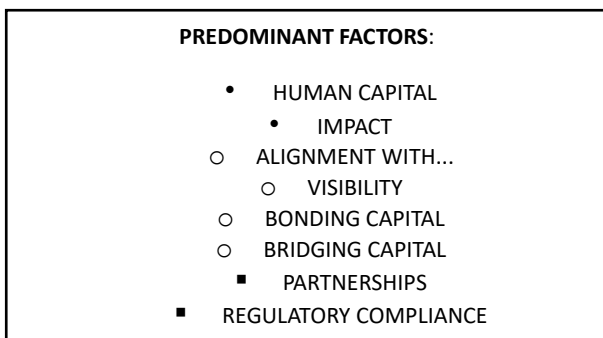


Figure 29 Bar chart of factors that overcome the average score of 3.25 in Cluster 1



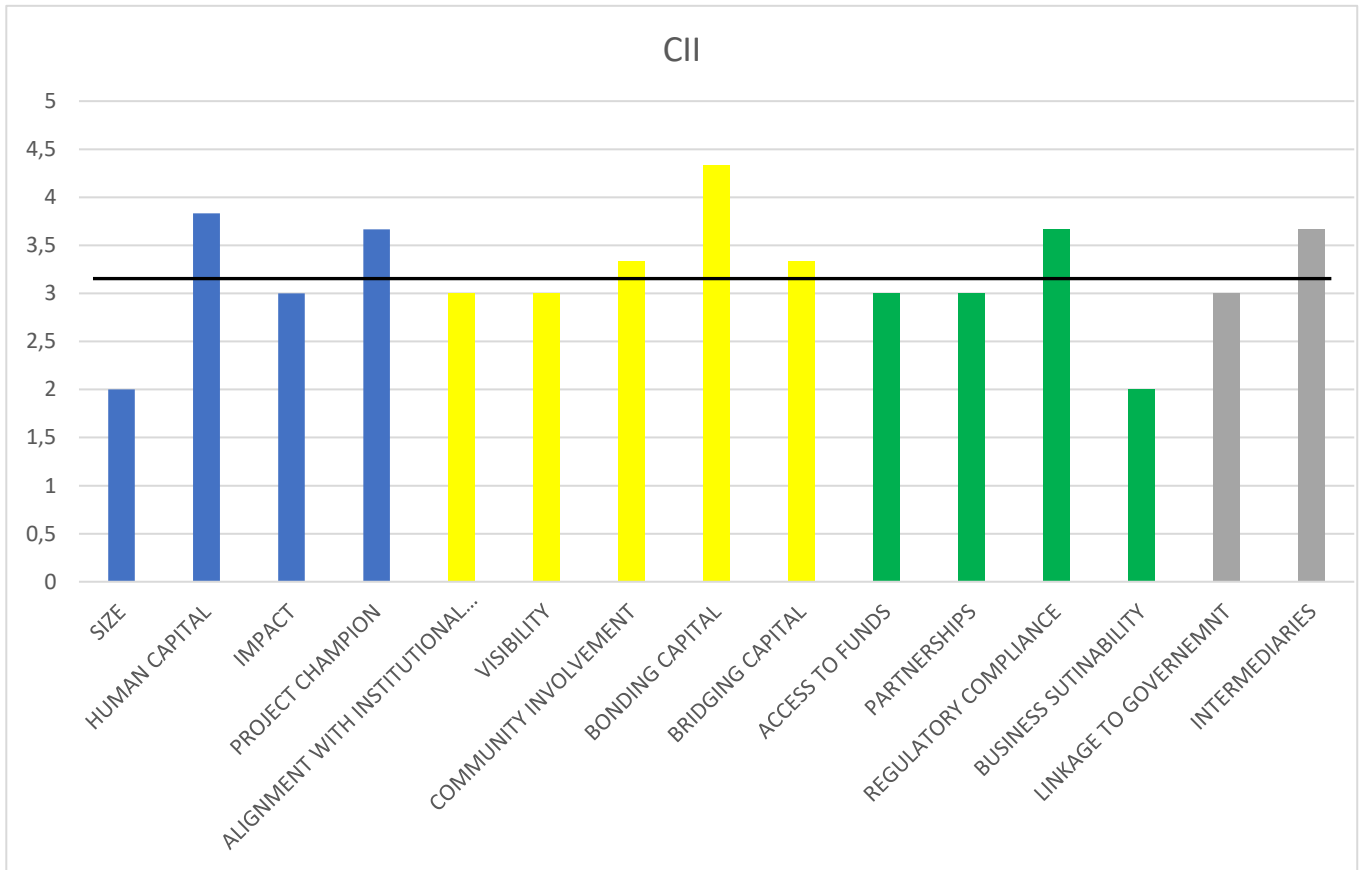


Figure 30 Bar chart of factors that overcome the average score of 3.25 in Cluster 2

- PREDOMINANT FACTORS:**
- HUMAN CAPITAL
  - PROJECT CHAMPION
  - BONDING CAPITAL
  - REGULATORY COMPLIANCE
  - INTERMEDIARIES

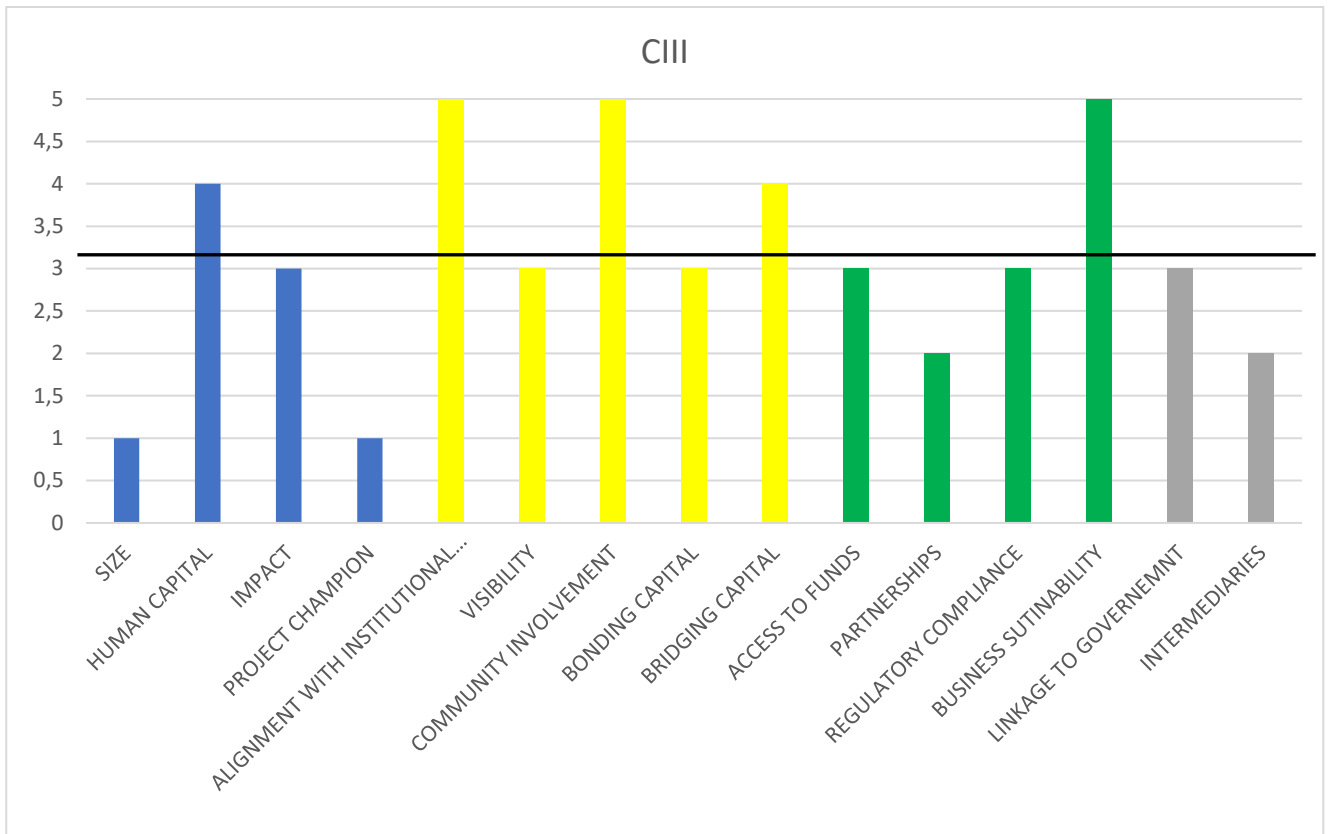


Figure 31 Bar chart of factors that overcome the average score of 3.25 in Cluster 3

- PREDOMINANT FACTORS:**
- HUMAN CAPITAL
  - ALIGNMENT WITH...
  - COMMUNITY INVOLVEMENT
  - BRIDGING CAPITAL
  - BUSINESS SUSTAINABILITY

Table 24 Factors correlated to scale on Cluster in Which that factor is predominant

Factors correlated to scaling	Category of the variable	Clusters in which the factor is predominant (score > 3.25)
Human Capital	Project-related	CI-CII-CIII
Impact (measurement)	Project-related	CI
Visibility	Interaction with the local community	CI
Bonding capital	Interaction with the local community	CI-CII
Bridging capital	Interaction with the local community	CI-CII
Partnerships	Managerial and economic factors	CI
Regulatory Compliance	Managerial and economic factors	CI-CII
Business sustainability	Managerial and economic factors	CI-CIII

The factors correlated to scale are identified based on an eventual growing trend in value when the scale is increasing. It is no surprise to see CI present in each factor being CI the international cluster and peak in a growing trend measured on the scale of the projects. This further skimming let us put the focus on the factors in which CI stands alone: Impact (measurement), Visibility, Partnerships. Those are the predominant factors that are common only on the international scale (> 2 markets - >10000 users) and that presents a growing trend as the scale increases. Intertwining the factors correlated to scale with the predominant factors appearing in the CI cluster only we obtain the factors which are more developed in an international scale organization and that have a growing trend as the scale increases:

- **Impact (assessment)**
- **Visibility**
- **Partnerships**



#### 4.4 Interviews' commentary

The methodology of this research involves the use of an additional means of investigation: interviews. The values obtained through the use of the questionnaire are obtained on a scale of five possible answers. Although the questions are designed to include as much as possible configurations in that specific area, in a complicated industry such as CCs is, it is not possible to make sure that one of the answers 100% reflects the case in question. For this reason, one of the fields of the questionnaire asks about the availability of an online interview to obtain further information and allow interviewees to better specify the configuration of their organization. The bias due to the self-assessment (therefore better values than the real situation) is not eliminated, but the possibility is given both to the interviewees and to the researcher to make their position more accurate. The questions prepared for the interviews do not investigate the architectural factors again, but seek to approach scaling up the topic in more general terms and exploit the direct experience of social entrepreneurs to obtain opinions on the validity of a scalability strategy in this sector, such as and what to do and what aspects to pay more attention to.

##### Objectives

The objectives of the interviews are translated into questions. They are:

- The viability of the scalability strategy in the Complementary Currencies' sector
- Which factors they believe are the most important in pursuing this strategy
- Discover if the local dimension is better for complementary currencies
- Verify the existence of an international referral network for social entrepreneurs and alternative currency projects
- Which advice to give to a future social entrepreneur

#### Q1: 1. Can complementary currencies scale at a national or even global level?

Table 25 Summary of Interviews' answers to question 1

	<i>Ecoins</i>	<i>Bristol Pound</i>	<i>Social Trade</i>	<i>Turuta</i>
<b>1. Can complementary currencies scale at a national or even global level?</b>	Our model is growing fast, and it is already national and international with the intention of expanding even more and achieve greater impact on each new community we will be able to create. So the answer is yes.	We have enough global trade. It is creating inequalities and extreme consumption. Probably they can, not sure if they should.	The dream is to have a currency for each level: neighborhoods, cities, regions, nations.	Globally we have a system that does not work; healthy micro-economies are the future, local production with local supply.

The opinions collected differ coherently to the business model of the organization answering. The organizations that have made the expansion of a Complementary Currency to national borders and beyond the part of their business plan argue that the expansion of the alternative economic system can bring advantages both in terms of impact and of sustainability and profitability of the company itself. The companies that instead based their strategy on creating a local economy claim that the world is experiencing enough globalization and that the Complementary Currencies are a half-hour opposed to this system, once again local against international. Among the opinions, we can read about a future hope that the global economy will accept a system in which many microeconomies deal with the social, economic and environmental situation of that region relying on the ability of CCs to influence the goodness of the community that uses them.

**Q2: 2. Which of the factors listed in the survey appears predominant in achieving the scalability of the project?**

Table 26 Summary of Interviews' answer to question 2

	<i>Ecoins</i> (30000 users)	<i>Bristol Pound</i> (1500 users)	<i>Social Trade</i> (1500 users)	<i>Turuta</i> (200 users)
<b>2. Which of the factors listed in the survey appears predominant in achieving the scalability of the project?</b>	Expanding as much as possible requires resources. Approach more and more the world of impact investing, which is growing very fast. The <b>funds</b> are a central factor in a scaling-up strategy. Another decisive factor, even if not cited in the survey is <b>timing</b>	<b>Communication Value proposition and BM:</b> The first thing you do is a lean BM settlement. Find a reliable value-adding characteristic. Always maintain <b>business behavior. Technical and technological factors:</b> the platform. Now we could set up with a different technical and regulatory approach.	<b>Purpose.</b> Sometimes is to increase social cohesion, environmental, others more economic. Another important factor is <b>Professional teams, marketing, and sales, Technologic development, brokers</b> to get new business: <b>Human capital.</b> You may expect a shop to pay with CCs, but it won't happen at the beginning. It's better to start b2b. Mutual credit can be a good start. So, the answer also is the <b>customer base.</b>	<b>The product, the service.</b>

By responding to the questionnaire, the interviewees carried out a self-assessment on all the factors deemed important for the scalability of Social Innovation and its management. Therefore, the values reflect how the company positions itself concerning these characteristics and not the importance of these factors in the interviewee's opinion. It is interesting to observe that in four interviews ten different factors have been cited with no repetitions among the interviewees. Access to funds, Timing, Communication (visibility), product and services (value proposition), the business model, Technical and technological factors, Customer base, Human capital. The plurality of different key factors when dealing with innovation is evident and depending on the different backgrounds the organization prioritizes different factors. The value proposition (which is deeply influenced by the range of different partnerships and service providers willing to join the complementary scheme) is key for smaller-scale projects. It is for larger organizations as well, but a scalable project wouldn't be scalable at all if it would not propose a service that heightens customer satisfaction. The importance of a

professional and competent team is cited twice. The competence of the coworker and the goodness of the values of the employees in this industry has been protagonist all along the interviews showing the importance of the human capital in these types of organizations. An important aspect related to the human capital that was highlighted by Mrs. Diana Finch from Bristol Pound is the business behavior: in real cases showing competence and professionalism is fundamental especially when building partnerships. The partner-to-be must be sure that this alternative payment system is a valuable project managed by equally valuable people or would never join a new system with the risk of losing money.

Values and purpose commonly drive the actions of social companies; also, this factor is cited between the predominant along with the Customer base and Technologic development. The project which scaled successfully the most puts the focus on funds: expansion both in size and services requires investments and appealability on the international scene, which offers choices to appear through contests on sustainable initiatives. Another factor has been pointed out which was not considered but will be further discussed in this research: timing. The interview enriched the sphere of factors important for scalability purposes and confirmed two out of three key factors, Visibility, and Partnerships.

**Q3: 3. Should complementary currencies remain local?**

*Table 27 Summary of Interviews' answer to question 3*

	Ecoins	Bristol Pound	Social Trade	Turuta
<b>3. Should complementary currencies remain local?</b>	We believe that it is not necessary, although the local dimension suits the local currencies' projects. A community is not necessarily geographic, a community can be composed by people is diverse regions of the globe.	It completely depends on the purpose.	We want to achieve certain targets, economic or social, CCs is a mean to reach such goals. If the goal is to stimulate business, then yes, it should stay local.	It is very important to create the local community; it is the maximum value that can be created. Synergy. At the national level, however, it is important to create a clear microeconomy.

When asked this question all the interviewees recognized the effectiveness of local currencies schemes and the beneficial impact on one specific community. The creation of multiple and healthy micro-economies is believed among the participants to be a viable way to express the potential of Complementary Currencies around the globe. However, it all depends on the purpose. If the mission is to improve a local economy and that requires a specific configuration of the organization (much of the diversity of CCs projects derives from the different purposes and the different locations they were built-in) then the local scale would fit that organization, because it is the scale required to act effectively on the social need to address. Creating strong synergies locally can make a true impact on communities, including more local purchases, reduction in transportation, improved recycling, social inclusion; Ton Dalmau from Turuta defines these characteristics as the 'maximum value that can be created. It is reasonable to assume that an international organization such as Ecoins cannot be able to create the same bonding among members and the same effects on the fabric of the local society. The purposes are different and the scale as well, the tool is the same. Once again, the diversity reachable using a Complementary Currency manifests in the different shapes of the organizations. The

touchpoint is the coordination and involvement of communities: Ecoins affirm: 'A community is not necessarily geographic; a community can be composed of people from diverse regions of the globe.' This fact can be exploited creating both types of CCs projects: before the digitalization of our society, international communities were rare and mostly institutional or scientific. The projects using Complementary Currencies were exclusively local at the time and conducted during periods of economic crisis. This can evolve: now it's not necessary to have experienced a local crisis to create a system able to fight against social injustice and for the environment; now communities sharing values of sustainability and equality are global and numerous, simply they are not coordinated.

**Q4: 4. Is there a consolidated network that connects the various social entrepreneurs?**

*Table 28 Summary of Interviews' answer to question 4*

	Ecoins	Bristol Pound	Social Trade	Turuta
<b>4. Is there a consolidated network that connects the various social entrepreneurs?</b>	It does not exist as far as I know. We build our own list of connections	Not currently.	Sharing the same software enables different cities to allow trade between its users. In the Netherlands, there is such a thing. But they are social entrepreneurs and they're not into CCS. There is nothing exclusively on CCs. You can only connect them if they use the same payment system and currency model.	There is an internationally consolidated network. It is advancing at the level of theoretical cooperation; it is advancing but it must advance much more.

Why is it so difficult to find and get in contact with organizations dealing with CCs innovations? For any affirmed, industry simple online research would be enough to find numerous contacts, brands, opinions, researches. Although the research world is very active on the field of CCs and the interest around this topic has grown (in terms of academic interest) it is quite not like this for public attention and the lack of awareness on CCs is a strong barrier to connect individuals to this schemes (Ahmed M. F., 2018). Networking effort is necessary to solve many visibility, accessibility and awareness issues that limit the potential impact of this Social Innovation. CCs projects all work toward a shared purpose and the synergies that could exist thanks to the ease of knowledge sharing and the opportunities created by the interaction of communities geographically nearby, are not exploited at all.

**Q5: 5. What advice would you give to someone who wants to grow their social enterprise?**

*Table 29 Summary of Interviews' answer to question 5*

	Ecoins	Bristol Pound	Social Trade	Turuta
<b>5. What advice would you give to someone who wants to grow their social enterprise?</b>	Global vision, patience into development. Coordination and negotiating with all the stakeholders are central.	Make sure you know what problems you are solving. Make sure the different sources of stakeholders get involved. Who pays for what? Who are the beneficiaries? It's difficult to make an ask into the value proposition.	start only if you have enough resources and time: social trade took 3 years to go live. There have been projects that reward behavior. If the citizen of the company shows environmentally friendly behavior that is rewarded with CCs and. If you using as a reward someone must pay. You need to find a way to give value.	He must look for other 'cabezones' (big heads, Human capital); the scheme is based on local enrichment, a structural system. It is a system that grows slowly but that counts on the real economy of the people.

In order of growing scale: Human capital and interaction with the local community, Social need and stakeholder's management, access to funds and business sustainability, Global vision and stakeholders' management. The bits of advice are very consistent with the view they have of this business which in every single case is investing resources to improve inefficiencies of current society indifferently from scale or geographical location. Although each interviewee has told different advices, they all concern about a factor that have been included in this research, validating the importance of the variable assessed to describe the CCs projects.

**4.5 Recap and limits**

This section is intended to review the findings and address limits of the methodology used, relating to the type of industry analyzed.

Hypothesis and predictions have been made in the Theoretical Framework chapter regarding factors highlighted by the reference literature on scalability.

The expectation was to find higher values regarding these factors for those organizations that have been able to reach a CI cluster's scale (>10'000 users; ≥ 2 markets). The collected data instead show that each cluster performs the best in certain categories and this fact does not appear correlated to the scale of the project: the cluster of smaller scale is stronger than the others in variables regarding the interaction with local community, in which it is able to achieve way better results than international or local projects. The fact that the predictions based on the models of scalability are not 100% accurate is an indicator of the high variability of how a complementary scheme can be organized and run.

In the next table, the reader can see the recap of the previsions and their outcome after data collection.

Table 30 Outcome of predictions in the light of the information gathered

Factor	Variable	Prediction	Outcome (Y = prediction confirmed) (N = prediction denied) (NC = not confirmed by data)
Commitment and management competence	Human Capital	collect similar values throughout the analyzed cases no matter the reached scale	Y
Ability to obtain necessary resources	Access to funds	the scale influences the amount (and ability) and vice versa to gather a significant amount of resources to run the business.	N
Communication	Visibility	the organization that has reached a bigger scale should have better approached the importance of marketing and the creation of a customer-centric experience. It is then expected a big difference between the smallest and the biggest participants.	Y
Scaling with others /Alliance-building	Partnerships	The number of partnerships and the degree of the collaboration would probably be based more on the personal strategy of the organization rather than the scale.	Y
Earnings generations	Business sustainability	bigger projects likely entail higher revenues (as well as higher costs and less community participation). However, many factors can	NC

		influence the business sustainability so an unexpected outcome on the answers of the participants is not excluded	
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Although the population of the analysis is limited to five organizations, it's possible to observe that the forecast is moderately accurate only in some cases. Others show values that are not entirely coherent with the theory behind the scalability of social innovation/organization. This can be attributed to the CCs industry. There is not a standard, a common shape, or a homogenous modus operandi, so there is not a single strategy, a common architecture or a homogenous behavior toward the analyzed factors. In many other industries similarities and touchpoints can be found in every aspect of the business: marketing, operations, financial management value proposition. In such a situation a framework on whichever topic would be valid under any circumstances. Complementary currencies are a mean, they can be used in several ways for many purposes. It is not a surprise then, that they manifest in different configurations. Consequently, the models considered cannot be accurate in 100% of cases. We cannot exclude that with a higher population in our sample the significance of the data would have better confirmed the relationship between scale and the listed and analyzed factors. In the next chapter, Discussion, a focus on the reachability of the organizations in this industry is done. The approach used in the methodology, especially in the data-gathering phase has not been as successful as it could have been while investigating another topic. In light of the considerations made on the characteristics set out in this industry, obtaining the mix of answers to the questionnaire and interviews can be considered a success. Looking at the data distribution and considering that a higher value always is associate to better performance:

- Cluster CIII (Turuta) leads alone in 3 categories: Business sustainability, alignment to institutional characteristics of the community, community involvement
- Cluster CII (Bristol Pound, Social Trade, Anonymous) leads alone in 2 categories: project champions, Intermediaries
- Cluster CI (Ecoins) leads alone in 6 categories: Impact, Regulatory compliance, Visibility, bonding and bridging capital, partnerships

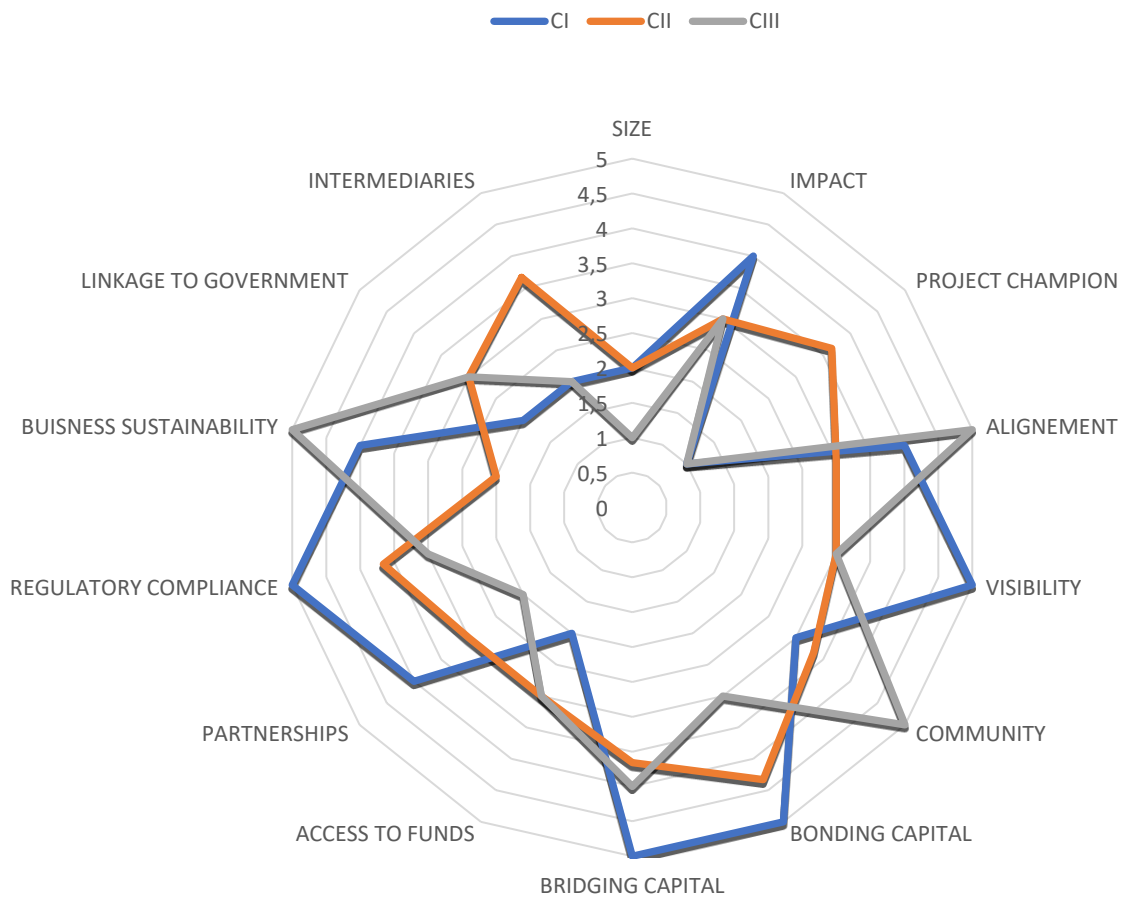
Although the data may be biased by the self-assessment and tight population, the organization that has scaled the most leads the way in 6 categories out of 14 (42.8%) showing that some ambits are indeed key to achieve a scalability-oriented strategy. Another important food for thought is given by the fact that the highest value of the business sustainability variable is achieved by the smallest scale organization, which however boasts excellent results towards the community in terms of involvement and donations. Sustainability is not a one-way road; it can be achieved with diverse strategies and multiple means and it is not necessarily related to scale.

Table 31 number of predominant (score > 3.25) factors per factors' category

Cluster	Predominant factors				Predominant factors	Change from average
	Project-related factors	Interaction with local community factors	Managerial and economic factors	Governance setting and linkage to government		
CI	2/4	4/5	3/4	0/2	9/15	+42%
CII	2/4	1/5	1/4	1/2	5/15	-22%
CIII	1/4	3/5	1/4	0/2	5/15	-22%

Figure 32 Radar Chart of the scores collected on fifteen variables (Customer base is excluded)

### Radar chart of collected values (per cluster)





## 5. DISCUSSION

According to the objectives set, the research revealed a few general findings. The models regarding the scalability of a social innovation well fit complementary currencies cases which showed satisfying performances in the main analyzed factors. Certain scalability factors seem to be important or at least strongly related to (and therefore important for) being able to scale innovation, a complementary currency specifically. Depending on the type of CCs, the way it is used, the business model of the organization and the ideas and opinions of the social entrepreneurs change drastically. The values are the same as Complementary Currencies today in every single case. Many times, in the literature describing CCs the fact that they exist in so many different forms makes it difficult to categorize and overall, study, is cited; My personal experience brings me to affirm that this is true as well.

### 5.1 Scaling up social innovation: Is it a viable strategy?

There are two different ways of answering this question. First Looking at the dataset, which would return the values of a few cases compared based on their scale; in that case, the answer would be yes. Ecoins is well structured and has penetrated five markets already with great (environmental and social enhancing) results. This organization is a unique model, and the present research did not find other international projects relying on CCs, blockchain cases excluded. Second, one could look at the state of the art of complementary currencies' initiatives and interviewees' opinions. If scalability is a walkable and advantageous strategy, how come that there is only one project worldwide that has overcome the locality of action for the sake of many communities and not just the nearest geographically? When asked 'Can complementary currencies scale at national or even global level?' two-out four interviewees answered negatively arguing that an international/global monetary system (even if different and not socially oriented) have failed already and stimulated too high levels of international trade with deleterious effect on emissions and local economy's health and sustainability. The other two interviewees (Ecoins and Social Trade) are in favor of scaling this tool nationally, internationally. These two organizations, in particular, have experienced that international market scenario, one directly scaling to several new markets outside the local borders, the other through commercial relations and technology development and marketing. Under these circumstances, scaling appears to be a strategy able to bring sustainable business growth and an increased overall impact. It must be said that conversely to all the other case studies, Ecoins' CC is entirely environmentally-oriented which permits to focus on broader territories and not to face many institutional peculiarities of local communities. Across this research, many differences found in the architectural features of the organizations could be explained based on the type of CC and the overall purpose of the initiative. If the CC focuses on social fairness and the local economy's resilience, a local scale permits to deeply focus on what the community needs. This is what Ecolov3ng: Turuta is doing in Vilanova: with a scale of 200 users it succeeded in creating and empowering a strong community of individuals willing to participate in local currency/service credit schemes. The values collected from Turuta's survey show that the majority of the predominant factors belong to 'interaction with the local community' coherently to its Business model. Although the project belongs to the independent scale, it was also able to reach business self-sustainability conversely to the other business cases. In such circumstances scaling would deteriorate the equilibrium created (Gómez, 2017). CII shows a different situation. The average user base is 1830, nine-time higher than CIII. As local currencies, they keep the social and economic purposes central, but the economic value prevails. The intent is to create an effective help in a local grasping economy and through this

enhancement, bringing social value. Different projects with similar scales show different strategies confirmed by nonaligned scores. Scaling a social innovation can be done on multiple dimensions; the aim is to have a broader view of the diversity developed through monetary alternative using the seventeen factors describing the business model and relationships with stakeholders; scaling is necessary other than beneficial for any CCs community: more members cause increased trust in the currency, more partnerships increase both value proposition and opportunities to generate earnings. This Social Innovation has the potential to be an effective networking tool for social purposes first, but to other innovations as well that maybe will be developed in the future. Independent, local and ultimately international projects coexist in different parts of the globe. After the considerations made on the variety of Complementary Currency's types and the plurality of objectives to achieve, the answer to the question 'Is scalability a strategy to go?' is neither yes nor no. It all depends on the purpose, geographical and political location, the complementary system. Projects with a bigger scale appear to perform better in many ambits bringing more consistent results in terms of impact and validation of the system, but there is too little data to affirm that they would not work as well on a small scale and vice-versa.

## 5.2 Key Factors for Scaling Social Innovation

In case an organization undertakes a path of development of Social Innovation and subsequently scaling it, it is part of the strategy to achieve financial and social enhancing results, some factors claim higher importance for the success of the project. Both from the data set and the interviews the factors that are addressed as key and were under investigation in this research are:

- **Impact (assessment):** Developing new and more accurate methods to assess the real impact of the initiative is the main tool to keep track of the social, economic and environmental effects brought on the field. The higher the impact, the more effective the organization appears to the market (users, partners, investors, institutions). The importance of this factor is not to increase the impact through different measurements' methods; impact is a key measure to check the overall performance of the project and this reflects directly on community involvement, validation of the currency, access to funds and many more aspects of the strategical effectiveness. Managing the methods of impact assessment is the first step to keep track of this main KPI.
- **Visibility:** Visibility refers to the effort put into the marketing management investigating the tools and the presence of a dedicated department. The communication of the values, objectives and the value proposition is key to appeal both the retail and customers' end. Almost every individual is reachable through a smart marketing strategy including the weakest layers of society which could advantage themselves the most from CCs projects. In the introduction, the lack of a marketing approach has been highlighted. The customer-centric approach has become necessary and a standard worldwide; something to which social innovation entrepreneurs should be always aware. Adapting a social initiative to the requirements of the current market is not only a must but also a competitive differential since few CCs projects (out of the cases analyzed) have created a brand image able to attract many different types of segments interested in contributing the social and economic rebalancing of its local economy.
- **Partnerships:** the value proposition is the reason by which a customer perceives joining the community of alternative credit useful. If the value proposition is weak the customers will not find

convenient to join the system since they could walk other options to satisfy their social values (and needs), maybe through donations or activism. For a CCs system to be effective there must be the possibility to use the alternative currency to satisfy standard needs such as buying essential items and basic necessities. In some cases, public services are accessible through alternative payments. In Rome, Denmark, Sweden, Norway, Germany, and other northern countries it is possible to convert the plastic waste in tickets for public transportation, legal tender or complementary currency if the project is made by a CC based organization. These features are important extras to the value proposition of a project which generally tries to attract local shops inside the circuit to make goods available to the user base.

Although the discussion focused on these three variables this research recognizes the shortage of data to strongly affirm that they are strategically more important than the other twelve. They seem to be conditionate by the scale and show to have been developed more in the process of scalability of the social innovation they are applied to. All the factors obtained from the two scalability models discussed play a key role in making scaling possible; the relative importance may change according to geography culture, customs, local institutions, general awareness on social and environmental issues. This research has skimmed the factors to obtain those strategic elements that are considered key in real business cases, but never to belittle the importance of Access to funds, Community involvement, linkages to government and other factors which are always key when running a business.

### 5.3 The ideal CCs project

What features should a Complementary Currency project has to achieve greater scale and enhanced impact is a combination of different factors. This research has identified many weaknesses in how the projects are run, also outside the analyzed cases. Some are related to the lack of visibility and brand awareness which deeply reduces the potential customer (user) base and consequently weakens the relationship with other stakeholders such as investors, angels, local institutions. Many projects have only one channel of communication, it is preferred the website which often is poor in graphics, content, accessibility and contains old data. Some weaknesses are related to the convertibility of the currency and red tape from the government which in all cases should be a guarantor of the goodness of the initiative, enhancing the validation of the currency and the value proposition through collaborative relationships and co-design. Some are related to the lack of a technological standard tool which, if used simultaneously and mutually agreed could be a fantastic networking instrument. It could also create new opportunities for extending the brand name over the local communities' boundaries. Social Trade has been developing a technological platform on which CCs can circulate and be managed (and eventually regulated); it scaled in range of products and services while contributing to the development of the industry itself. An ideal CCs project would fill those leaks creating a customer-centric experience, backed by the government, recognizing and addressing a strong social need, implementing a technology that allows interconnecting with other projects. It could be environmentally oriented or social-oriented, it could be local, but it could try to grow national to exploit the synergies created by the interactions of many communities. Diversity is a strength in this 'early phase' of this Social Innovation and the plurality of projects will ultimately define which are the best practices to adopt.

### 5.4 Research process ex-post analysis

After having discussed the merits of scalability along with the opinions of the interviewees, now the focus shifts on the elaborate, the research method and the industry nature that has influenced the outcome of the research. This thesis saw birth as a search for an answer to a complicated question: why our monetary system is so unfair and destructive? Which innovation could make the world a bit fairer and healthier?

This research strongly believes in the potential of the analyzed types of projects and believes as well that the potential impact of these schemes of alternative economy and citizens' stewardship can be huge if scaled to higher levels. Defining the methodologic approach has been the toughest part of this investigation. The literature on social innovation's successful examples and scalability is richer than initially expected, still, it appears that a focus on CCs as a tool to scale has not been faced yet. The questions to solve have been then:

- How to understand which factors are key to scale up
- How to gather relevant intelligence from the CCs industry

A qualitative approach was appropriate for this type of case study with a small population and high diversity among the participant. Quantitative analysis is used inside the CCs research field mainly to find a correlation between factors selected to describe the topic in question. This approach requires to satisfy the minimum size of the sample to find a significant result. Most of these researches come from specialized journals and practitioners with years of experience in the field. Regarding this study, the difficulties in reaching the organizations willing to collaborate have been cited already: this brings us back to point two. The tools used in this thesis are *direct contact, polls and online interviews*. The entire process has been conducted outside of the principal intermediaries' channels (which are few) with the support of the literature and web researches, country by country. It is good practice to understand if this approach has been effective and fits correctly this niche of social organizations. The amount of collected data, filled surveys, and interview indicate that:

- Direct contact and related methods are not such effective tools to investigate a business niche
- The CCs industry is difficult to reach

The needs of this research were to obtain as much as possible answers to the survey and, since common citizens which are not inside a CC project cannot answer the questions related to a company's architectural structure, only people inside the organization could have answered us. This means for the company to allocate an employee's (or manager's) time to be active in a research project regarding their own industry. Although the collaboration would require just a small amount of time, the survey and the interview can be made from someone who owns the whole knowledge about the company's structure. Chances are high that the individual this research has looked for is a 'high-level manager'. In small business realities, a manager's time has shown to be difficult to obtain. If listed companies had to be investigated it would have been easier to gather those kinds of data in other ways (companies report, financial statements) and the group of people able to answer us, would have been more numerous. For each survey deliver a personalized e-mail has been created with the survey attached to it in the native language of the receiver (English, Spanish, French). The reader can find in Annex C one of the contact lists collected mainly online to whom the survey was sent. Out of seventy contacts listed, only twenty contacts are active and just one of those lists decided to join the research by answering the survey. In terms of collected data, the data gathering process has brought little results. This outcome is also connected to the nature of the industry itself. The second point to discuss is about the degree of visibility and

accessibility of the industry. Why is the complementary currency industry so difficult to reach? During this research it has been observed:

- Low answer rate
- A high rate of non-existing (or not updated) contacts
- The short life cycle of the projects

The methodological approach has shown that it is not easy to obtain information about the architecture of a project or company even if none of the requested data are strategic or confidential intelligence. We already have discussed the possibility that this is a resource related issue, but other peculiarities are worth writing about. All the contacts (Annex C) were collected online from the official website of the projects. The websites, which should be the main informative windows to external stakeholders and users as well, do not get updated. This is not valid in highly visible projects and initiatives. A tough challenge has been to understand which part of the complex system of the social venture to investigate when dealing with the scalability of Social Innovation that works using Complementary Currencies. However, the trust in the potential of this instrument grew higher each time analyzing a successful case and its functioning. On this assumption, researching the factors affecting the scalability of social innovation was a natural conclusion, with the hope that this innovation will positively help in a soon system change.

### 5.5 Suggestions for future research

The plurality of shapes that a complementary currency project can assume points out that research that does investigate regardless of the type of scheme, location, and scale can reach little significant results. Following the definitions created from the international CCs research community could investigate a specific type or a specific location; there will be deep differences in the schemes anyway. Each project, especially if it has a local scale, is tailored around the unique characteristics of that place's community. Case studies focusing on just one project at the time should be run and analyzed to find a correlation between the community's features and the outcome on the business model of the CC project. In this way, a finer correlation between peculiar communities' features and the architecture of the project could be found. Many industries exploit digitalization to enlarge the sphere of influence and accessible knowledge. The CCs sector seems to not be interested in creating global synergies that could prove beneficial also to a local scale through best practice sharing, mutual funding, and networking. Why a sector which relies so much on community effort does not exploit the international CCs community? The visibility of this social innovation is still extremely poor. Awareness of the fact that extra currencies with social purposes exist is little and this greatly limits the expansion of current projects and the creation of new ones. In the world of social innovation, CCs seem to be still in the seed phase although they have been existing since a very long time. What would it take to bring the public attention to the potential of this scheme? Many projects do not overcome the pilot test, others affirm their influence and reach results and visibility. What has been done differently?

## 6. CONCLUSIONS

The combination of the analysis of the literature and the case studies shows that the factors affecting the scalability of Social Innovation are multiple with a diverse degree of importance. The starting assumptions on the factors have been gathered from literature on the scalability of social innovation, meaning that they all play a role in achieving the desired scale. In particular: (a) Impact assessment, (b) Visibility, (c) Partnerships, are the most developed factors in CI which show a growing trend as the scale increases. From the interviews other factors have been addressed as relevant for the scalability of the parallel currency scheme which cannot be found in the cited literature: (a) value proposition, (b) timing, (c) technological factors. Besides, the interviews show how the scale of a project, current past, and future, is extremely connected and coherent to the purpose of the complementary circuit and that scaling internationally is a choice that has been done only in one case among the case studies. Furthermore, Ecoins appear unique worldwide; this research did not find other organizations using CCs on international scenarios. The scale should fit the purpose if the objective is to change the status quo in a region or community, then the local scale is appropriate and more effective than a national or international project. However, the impact and effectiveness reached in the project which has a greater scale are indicative that scaling Social Innovation can lead to greater results.

It has been acknowledged that there is no international coordination and knowledge sharing, although some similar concepts are advancing in the UK only, with the Transition Network. The Complementary Currency industry is young in terms of development and expansion even if it is growing. It also lacks public attention and accessibility on the internet. This is due to the limited marketing approach when shaping the project's features; a Complementary Currency system can create social connections and enjoyable activities that enrich the customer experience while impacting the core issue. Visibility has proven to be a very influent factor in achieving success in scaling Social Innovation, for this reason managing social media and websites is not enough compared to the opportunities of customer involvement that could be created with social events, clean-ups, barter markets and other involving activities that can be managed through a CC. There is room to develop a customer experience that goes beyond the mere utilization of the currency and that exploits the beauty of social inclusion with a sustainable purpose to achieve. The plurality of systems that can be created with the same tool when used in different ways is both a strength and a weakness: it lets the project assume the best shape for the social need to address and for the characteristics of the market as well taking also into consideration that communities may have the same needs but a different perception of the problem and of the most accurate solution to it. The weakness is that this deep diversity among the initiatives makes it difficult for the researchers to cover the full spectrum of the mode of use of CCs with a comprehensive theoretical framework.

The interviews permitted to go deeper into the case studies and enrich the description of the functioning of each organization. Each interviewee highlighted the complexity of creating and managing a Complementary Currency scheme due to the numerous stakeholders involved, the limited access to funds (also through crowdfunding platforms) and the volatility of eventual earnings. The cited complexity impacts the scalability of Social Innovation as well, which has to deal with each of those factors to succeed. The social impact CCs can bring locally is worth the effort in each respondent's opinion and scaling is not excluded: the social entrepreneur must know the growth of a CC scheme is a slow and resource-consuming process and there are no registered cases of disrupting projects able to scale in one year. Complementary currencies work efficiently

on a local scale and they could potentially drive impact to a greater scale where there is a large enough community ready to adopt and use them as a coordination tool for action on location and the benefit of people and environment, depending on the scope of the currency.

Many projects in the world are achieving satisfying results: community inclusive behavior, clean-ups on sea and land, credit availability enhancement and increased purchasing power. This is currently happening in communities made of hundreds to thousands of individuals in many diverse ways. Disrupting the market through innovation is complicated although possible; Social Innovations face even more difficulties due to the hard-earning generations. It is part of the discipline of Social Innovation to understand how to overcome these obstacles and successfully bring a novelty able to impact the SDGs on a broader scale. Therefore, this elaborate was about trying to understand what is different between a sixty-thousand and a two-hundred CC community. The differences do not only reside in the Business Model and, although the purpose may be the same, the modes of the utilization of CCs are also fundamentally opposed. There are many reasons behind this diversity, one of each is the background in which the creators of the initiatives have conceived the BM and a different conception of the concept of community: once again the rivalry of local versus international comes under attention. A community is defined as a “social unit (or group of living things) with commonalities such as norms, religion, values custom or identity. Communities may share a sense of place situated in a given geographical area or a *virtual space through community platforms*”. The industry of CCs is entirely based on the dynamics of communities worldwide, consequently, it must take into consideration that this definition is continuously updating. Some issues may require international cooperation more than a local effort because massive collaboration can deeper impact both the status quo and the damages done by human activities. Mainly the environmental cause requires this type of borderless collaboration. The community active on the ecological field transcends the national borders; when dealing with other issues such as social inclusion, economic unfairness, the focus sticks to the locality of the problem since it is possible to properly act one community at the time with the current project's scale. It has become clear to the extent of this research, especially relying on the opinions collected during the interviews that there will not be a unanimous opinion on rather or not it is a viable strategy to scale-up an existing social project exploiting CCs. However, the identification of the key factors influencing the scalability of Social Innovation has been reached. Given the brilliant results achieved by each of the case studies analyzed, each project provides a solution to the different addressed issues on different levels and scales, consequently to the current and future objectives. It will not be just one worldwide-class project to create a clear path toward sustainability in an absolute sense, but the plurality of configurations that the CCs can reach sure has a better chance to foster change and awareness internationally.

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## ANNEX SECTION

### **Annex A**

THE SURVEY WAS THE DATA COLLECTION TOOL USED TO MAKE THE PARTICIPANTS DESCRIBE THE ARCHITECTURE OF THEIR ORGANIZATION AND POINT OUT IN WHICH FACTORS THEY ARE STRONGER AND WEAKER. ALTHOUGH THE COLLECTED DATA ARE SELF-EVALUATIONS, THE POSSIBLE ANSWERS ARE SPECIFIC, REDUCING THE CHANCES OF MIS-DESCRIBING THE FEATURES

#### Complementary currencies Scaling Factors

*The survey is 17 questions long, it will take around 7 minutes to complete it. The objective is to understand the correlation between several factors that are divided into three main clusters and the scalability of a social innovation, which is your own project ongoing.*

*The clusters of factors are:*

- *Project Related Factors*
- *Interaction with the local (or international) community factors*
- *Managerial and Economic factors*
- *Governance setting and linkage to government factors*

#### **Project-related factors**

**Size:** Which the size of your Complementary circuit organization? \*

one to five employees

six to fifteen employees

sixteen to thirty employees

thirty-one to fifty employees

51+ employees

**Project Champions:** Project champions are understood as key committed individuals involved in the initiative that have a “prominent role in starting, endorsing or carrying out a project”. Looking at your project do you believe there is a figure (or more) like that? \*

There are no Project Champions, everything is running internally

There is one Project Champion, but her effort is discontinuous

There is a Project Champion which constantly brings effort

There are several Project Champions

The project is entirely in the hand of external Project Champions

**Human Capital:** understood as knowledge and experience in the relevant industry, self-employment, or leadership. When looking at your employees, do you believe that: \*

Human Capital is poor: low knowledge and experience in the relevant industry

Human capital is adequate: operative show knowledge, leadership, and independence

Human Capital is exceptional: most of the members are experts in the field and they do not require supervision

**Impact(assessment):** Understood as reached goals in terms of social or economic or environmental improvement thanks to your complementary initiative. How does your company try to measure it?

No measurement on impact

the measurement is based mainly on surveys

the measurement is based on several methods validated inside the company

the measurement is based on several methods validated inside and outside the company

the measurement is made by external entities (statistic national institute

#### **Interaction with the local (or international) community questions**

**Customer Base:** Could you approximately quantify the size of your project's customer base? (Active users) \_\_\_\_\_

**Customer Base:** Could you approximately quantify the number of organizations that actively use your complementary currency? (local shops and partners) \_\_\_\_\_

#### **Interaction with the local (or international) community factors**

**Alignment with the institutional characteristics of the community.** Connectivity of firms with local organizations and the presence of community institutions (schools, churches, neighborhood councils.). About your project, what would you say about the strategy toward communities' institutions?

There are no community Institutions in our market

There are community institutions in our market, but we operate without any contact

There are community institutions and we have contacts with few of them

There are community institutions and we have contacts with lots of them

Our strategy is entirely based on reaching community institutions to organize our activism

**Visibility:** demonstrate success and enhance the visibility of the project. Visibility can also be interpreted as sharing success stories in the formal media and on social media. What would you say about your initiative? \*

We are not active on any media

We keep customers informed through updates on the website

We are active in sharing success on the website and social media

We have a dedicated department for social media managing and branding

We run marketing campaigns and update the customer base on every important media sharing platform

**Community involvement:** we expect that the extent to which the Complementary currency's project enables the local community to become involved (information, consultation, participation) contributes to their success. Looking at your project regarding community involvement: \*

It is completely outside the decision process

It is inside the decision process through surveys deliverance

It inside the decision process through surveys, brainstorming sessions and other methods

A process of co-creation is enabled

Entire initiatives are run from community members individually

### **Managerial and Economic factors questions**

**Bonding Capital:** 'bonding social capital', involves strong social networks between homogenous groups, which spring from repeated personal contacts. Trust, reciprocity, social norms, and values arise from these social networks. Would you say that: \*

The project has not created Bonding Capital

The project has contributed to increasing the community bonding capital

The project has increased bonding capital and created a brand-new community

The project has created a community which aims at increasing the bonding capital itself

**Bridging Capital:** Bridging social capital has the potential to provide additional opportunities, information, and resources that do not come from bonding social capital. It refers to social networks between heterogeneous groups that result from outward-oriented distant ties and connect or cut across different groups or communities. Do you think that: \*

The project has not created Bridging Capital

The project has contributed to increasing the Bridging capital in the territory

The project has increased Bridging capital and created new communities' interactions

The project has created a community which aims at increasing the bridging capital itself

**Access to funds:** The extent to which the project can raise funds and has a stable flow of income. The more funds the project can generate and the larger its stable flow of income, the higher the ordinal value assigned. About your project: \*

Funds are mainly personal capital

Funds are also donations

Funds are start-up capital provided by local communities

Funds start-up capital provided by local communities and Government subsidies

**Partnerships:** the extent to which your company can deliver services through collaboration with different industries. Remembering the process of development of the project can you affirm that:

There are no partnerships with any other firm

There are partnerships to similar companies inside the same industry

There are partnerships to companies outside the industry to deliver a wider set of services

There are partnerships with a firm inside and outside the industry and also the local government

There are international cross-industry partnerships

**Regulatory compliance:** the extent to which the project is compliant with local (or international) legislation on complementary currencies initiatives. Remembering the process of foundation and the current situation would you affirm that: \*

The local legislation partially forbid complementary market if the currency is convertible to legal tender

The local legislation partially forbid complementary markets even if the currency is not convertible to legal tender

The local legislation permits complementary markets when the currency is not convertible to Legal tender

The local legislation permits complementary markets when the currency is convertible to legal tender

The local legislation provides incentives for complementary markets (public funding or concessions)

**Business Sustainability:** The capability of remaining financially self-subsistent through any kind of revenue (donations, marketing provision, subscription fees, sponsorships, investments). Looking at your project would you affirm that: \*

The project is not self-sustainable, and we strive when looking for new funding

The project is not self-sustainable, but we are capable to collect funds cyclically

The project is self-sustainable

The project is self-sustainable, and we can invest part of the profit in new services and projects

## Governance Setting and Linkage to Government questions

**Linkage to government:** another set of linkages that influence the success of CCs projects is their linkages with local government. Remembering the process of development of the project can you affirm that: \*

There are no linkages with the government

There is a linkage to a government limited to authorizations and control

There is a linkage to the government with goals sharing and data sharing

There is a co-creation system enabled with the government

The project is made and sponsored by the government itself

**Linkage to intermediaries:** Intermediaries are actors that create “new possibilities and dynamism within a system”. A valid example could be the NEF (new economics foundation). Remembering the process of development of the project can you affirm that: \*

There are no linkages with intermediaries

There is a linkage to intermediaries limited to consultancy

There is a linkage to intermediaries with goals sharing and data sharing

There is a co-creation system enabled with the intermediaries

End.

## **Annex B**

### **Interviews**

ALL THE NON-ANONYMOUS PARTICIPANTS AGREED TO PARTICIPATE TO AN ONLINE INTERVIEW DURING WHICH FIVE QUESTIONS HAVE BEEN ASKED:

1. CAN COMPLEMENTARY CURRENCIES SCALE AT NATIONAL OR EVEN GLOBAL LEVEL?
2. WHICH OF THE FACTORS LISTED IN THE SURVEY APPEAR KEY IN ACHIEVING THE SCALABILITY OF THE PROJECT?
3. SHOULD COMPLEMENTARY CURRENCY REMAIN LOCAL?
4. IS THERE A CONSOLIDATED NETWORK THAT CONNECT THE VARIOUS SOCIAL ENTREPRENEURS?
5. WHAT ADVICE WOULD YOU GIVE TO SOMEONE THAT WANTS TO GROW HIS SOCIAL ENTERPRISE?

#### **Interview with Ton Dalmau, Associació ECOL3VNG (impulsores de la moneda social la Turuta)**

Can complementary currencies scale at national or even global level?

We have a system that does not work, capitalism: healthy and limpid micro-economies are the future, local production with local supply. When you have many micro-economies and the production system has recovered, then there will be a multi-currency future where the local dimension as opposed to global capitalism. The Sum of the micro-economies will be the national and the global level.

Which of the factors listed in the survey appears predominant in achieving the scalability of the project?

More than others, the product, the service. Of course, the other factors influence the scalability in terms of business but is the model of cc and its coherence with the social needs that drives the growth, even if slow

Should complementary currencies remain local?

Sardex is not local for example, with a good social component. So, it depends. The real important achievement is to create the local community, which is the maximum value that can be created. Synergy among the users, among their needs. At the national level, however, it is important to create a clear and limpid economy that can be achieved through multi-microeconomies.

Is there a consolidated network that connects the various social entrepreneurs?

Many people work in the field of complementary economic circuits, but an internationally consolidated network is not enabled now. Some networks favor the level of theoretical cooperation which is advancing but it must be much more developed. We are very attached to the global economy and very dependent on the government, which means that the linkages with the institutions are always necessary.

What advice would you give to someone who wants to grow their social enterprise?

She should look for high-quality human capital which shares the values and mission of the project; the scheme's goal is local enrichment. It is a system that grows slowly but that counts on the real economy of the population. Meetings and connections with the institution are fundamental when dealing with complementary currencies, always.

## Interview Jaap Vink, Social Trade

Can complementary currencies scale at a national or even global level in the nearby future?

Let's hope so. Social trade not only runs ccs but also develops models and software for managing it. The dream is to have a currency for each level: neighborhoods, cities, regions, nations. Maybe the northern part southern and middle (Italy) could have their CC. Same economic situation → one common currency. They could trade with other countries. Accepting neighbor ccs would be a nice step further. Even a global currency one day. We need a certain number of users and in this way, it makes sense to start at the regional and local levels. On a national scale, we would need 10 thousand users at least. The role of the government is not central at the moment, at least they would not stop it.

Which of the factors listed in the survey appears predominant in achieving the scalability of the project?

Purpose. Sometimes is to increase social cohesion, environmental, others more economic. Social trade LETS has multiple projects, social purposes and economic. Scaling up depends on the scope. If we focus on the economic projects locally the local dimension is correct. Factors: start with B2B because you could reach larger amounts of transactions. You may expect a shop to pay with cc, but it won't happen at the beginning. It's better to start b2b. Mutual credit can be a good start. So, the answer is the customer base.

Another important factor is Professional teams, marketing, and sales, software, brokers to get new business. The businesses do not only join CCs because of the values and concern for social issues, but they must also see an economic return in a sense. In these terms, having a professional team that can ensure professionalism and competence is fundamental to convince the SME to join the circuit. A good payment software is super important. Technologic base to expand as much as possible. Through the tech, the base is possible to make millions of users to cooperate. We have millions of users in China. 10 years of development.

Should complementary currencies remain local?

We want to achieve certain targets, economic or social, CCs is a mean to reach such goals. If the goal is to stimulate business, then yes, it should stay local. If you want to stimulate medium businesses than no than a national or regional scale could be more appropriate. It depends on the target; it does not make sense to scale up if you want to stimulate a local area. In the Netherlands, we started a network in which we facilitate different local currencies, 7,8 networks. We focus on Nation-wide companies. In Utrecht, they can pay in CC the users of another town using another CC. The networking can be a good way to expand the influence of social improving behavior and CCs in general.

Is there a consolidated network that connects the various social entrepreneurs?

In the Netherlands, we often see that social entrepreneurs are attracted to CCS, so multiple projects seeing birth in this region. As I said before, sharing the same software enables different cities to allow trade between its users. In the Netherlands, there is such a thing. But they are social entrepreneurs and they're not into CCS. There is nothing exclusively on CCs. You can only connect them if they use the same payment system and currency model.

What advice would you give to someone who wants to grow their social enterprise



Sardex is inspiring. You can have an economic impact. There are more serious projects coming through. When you first start exploring the topic CCs may appear the same, but they are not: different skills different purposes, different approaches. If you want to start only do if you have enough resources and time: social trade took 3 years to go live. There have been projects that reward behavior. If the citizen of the company shows environmentally friendly behavior that is rewarded with CCs and. If you using as a reward someone must pay. You need to find a way to give value.

### **Interview with Karla Chaves, Ecoins**

Can complementary currencies scale at a national or even global level?

It is possible if the CCs projects and social entrepreneurs will be able to use the market logic with a new vision, in contrast with the traditional monetary system, with the intent of creating something more sustainable, even more romantic. The goal should be not to fight capitalism but to change it from the inside, using new means and alternative money is one of them. Our model is growing fast, and it is already national and international to expand even more and achieve a greater impact on each new community we will be able to create.

Which of the factors listed in the survey appears predominant in achieving the scalability of the project?

The answer may change case by case, depending on the type of CC and the business model in general. In our case, we mainly use personal finances but running an international project and the mission of expanding as much as possible requires resources. We are looking for an international sustainability contest and we are approaching more and more the world of impact investing, which is growing very fast. The funds are a central factor in a scaling-up strategy. This business, which in our case is for-profit is composed of very volatile revenues and long R&D processes; another decisive factor, even if not cited in the survey is timing

Should complementary currencies remain local?

We believe that it is not necessary, although the local dimension suits the local currencies' projects. A community is not necessarily geographic, a community can be composed by people is diverse regions of the globe. As well as the dollar is an international convention for trade and finance, we too are trying to achieve a similar purpose on an environmental level (Ecoins has a side social and economic effect but is mainly an environmentally oriented complementary currency, one of the few N.d.r.) The challenge is to understand where the communities are, how to reach them and to focus on communication: mission and values and operations must be extremely clear to the consumers to be successful.

Is there a consolidated network that connects the various social entrepreneurs?

It does not exist as far as I know. We build a list of connections. We live in a world and inside an economy of mistrust: it is uncommon to share knowledge and information, although in this industry it would be of great benefit for all of the initiatives and their users.

What advice would you give to someone who wants to grow their social enterprise?

Global vision, patience into development. Coordination and negotiating with all the stakeholders are central.

*An extra question was done to Ecoins due to its unique characteristics*

Eco seems to be a unique project worldwide. How would you explain that? Are there other organizations that are following your example of expansion?

Thanks also to this research we are learning that our model is innovative, and we do not know any similar initiative in the American continent or elsewhere. In Uruguay, a Plastic Currency has just seen birth, inspired also by our business model. Eco comes from a country that has an incredibly developed environmental culture, and this is a condition that must be satisfied to involve the users in any market. As said before also timing to market has a preponderant role: we came into being in the right moment with we hope the correct business model. Proxima, our parent company is a communication agency and marketing, public relationship and communication are central in our strategy. Also, it is a dynamic environment with risk attitude.

### **Interview with Diana Finch from Bristol Pound**

Can complementary currencies scale at a national or even global level?

We need a few definitions. Bristol Pound is backed by the sterling, this means that if you want to go Global currency pegged to a real currency. We can't have this constant currency exchange which is costly and fluctuating. If it is not backed by the legal tender it can scale more easily, however, not backed by currency are based on trust which is difficult. Reputation currency and not backed can work. One of the purposes is to reduce transportation, we have enough global trade which is creating inequalities and extreme consumption.

Which of the factors listed in the survey appears predominant in achieving the scalability of the project?

I think one of the things we have, is the intention of having several iterations around the country. It stopped because of a lack of regulation. Our platform could not be regulated we need a peer-to-peer system. If the CCs were not pegged to the legal tender, probably that would have worked. Legislation around this is very antiquated. What would I do differently now? Communication: we did a campaign very tough and not funny, Bristol Pound appeared to not be a value-adding project. Value proposition and BM: The first thing you do is a lean business model settlement. What value are we adding? We chose a credit union to improve our value proposition. Always adopt business-like behavior: the shops that decide to cooperate are mostly seeking economic opportunities, more than sustainability. The team must be professional to ensure that the system that the partner is going to enter is solid and value-adding. Do not forget about Technical factors: the platform. Now we could set up with the different technical and regulatory approaches. The businesses need to know each other: fostering networking, through digital marketing is another important factor.

Should complementary currencies remain local?

It completely depends on the purpose.

Is there a consolidated network that connects the various social entrepreneurs?

Not currently. We are trying to develop it in England by connecting all the projects in what we call 'Transition towns' <https://transitionnetwork.org/>

What advice would you give to someone who wants to grow their social enterprise?

Make sure you know what problems you are solving. Make sure the different sources of stakeholders. Who pays for what? Who are the beneficiaries? It's difficult to make an ASK into the value proposition. Study the complexity and a Purpose. What is it we are trying to achieve?

## Annex C

the list of contacts of the second tranche of sending the questionnaire sent on the 30<sup>th</sup> of January.

Organization	website	contact
1 Social trade Organi- zation		<jaap.vink@socialtrade.nl>
2 Berkshares	USA <a href="https://www.berkshares.org/">https://www.berkshares.org/</a>	info@berkshares.org
3 Ecolones	Cos- tarica	karlachaves@proximacomunicacion.com
4 Brixton Pound	UK	thomas@brixtonpound.org
5 Bristol Pound	UK	info@bristolpound.org
6 Eusko		info@euskalmoneta.org
7 Exeter Pound	UK	info@ExeterPound.org.uk
8 Chiemgauer	DEU	service@chiemgauer.info
9 Ithaca Hours		hours@lightlink.com
10 Calgary Dollars	CAN	info@calgarydollars.ca
11 SoNantes cooperativa integral	FRA	website
12 catalana	SPA	info@cooperativaintegral.cat trueque@eirelink.com webmaster@trueque.hypermart.net trueque@clacso.edu.ar
13 Red Global de Trueque	AUS	primaver@clacso.edu.ar
14 LETS Australia Adelaide Urban	AUS	alex@lets.org.au
15 EcoLETS	AUS	bsheppard@ozemail.com.au
16 Armadale LETS	AUS	armadale_lets@hotmail.com
17 Brisbane LETS Diamond Valley Northern Suburbs	AUS	WebLETS@hotmail.com brislets@lets.org.au
18 LETS	AUS	jennymillar@hotmail.com
19 East Armidale LETS	AUS	paris@mpx.com.au
20 East Coast LETS East Victoria Park	AUS	ECLETS@hotmail.com
21 WA	AUS	bronson@wantree.com.au
22 Fleurieu	AUS	fLETS@granite.net.au
23 Queensland LETS	AUS	QLETS@hotmail.com
24 South Australia LETS Toowoomba	AUS	salets@olis.net.au tamara_h@optusnet.com.au
25 RangeLETS	AUS	armit@t130.aone.net.au
26 Torquay		lillyputlets@yahoo.com.au
27 Unley		salets@olis.net.au
28 Innsbruck E	AUT	Michael.Graf@uibk.ac.at
29 TALENT	CH	<a href="mailto:info@talent.ch">info @ talent.ch</a>

30	Antwerp City	BEL		lets.stad@antwerpen.be
31	Mol (Flemish)	BEL		lets-mol@vranken.org
	Economia Popular			
32	Solidaria	BRA		ecosol@unisin.br
33	LETS Connection	BRA		email-esp@notmoney.com
	CUSO Thai Commu-			
34	nity Currency Project	CAN		luc.girard@cuso.ca
35	Edmonton	CAN		lets@ecn.ab.ca
	Halifax Maritime			
36	Hours			bob.cervelli@dal.ca
37	Kingston Hours			ds21@post.quensu.ca
				barterworks@web.net E: wpirg@wa-
38	Kitchener Waterloo			tserv1.uwaterloo.ca
	Kootenay Hours Nel-			kbarter@netidea.com E: ecocent@neti-
39	son			dea.com E: lionhrt@netidea.com
	Montreal BECS Banque d'echanges communautaires de ser-			
40	vices			becstroc@hotmail.com
				tordoll@torontodollar.net E:
41	Toronto ON Dollar			103005.255@compuserve.com
42	Vancouve			lets@vcn.bc.ca
43	Santiago	CILE	<a href="http://www.iepe.org">http://www.iepe.org</a>	wautiez@entelchile.net iiep@reuna.cl
			<a href="http://ccdev.lets.net/alta-">http://ccdev.lets.net/alta-</a>	
44	Medellin	COL	<a href="http://ccdev.lets.net/alta-mir.html">mir.html</a>	trueque_medellin@hotmail.com
45	Copengahen	DAN		byttering@paradisco.dk
				k-i@vip.cybercity.dk
46	Solvognens Byttering	DAN		jorgen.krogh@vip.cybercity.dk k-
			<a href="http://ccdev.lets.net/toc-">http://ccdev.lets.net/toc-</a>	i@vip.cybercity.dk
47	Toctiuco	ECU	<a href="http://ccdev.lets.net/toc-tieng.html">tieng.html</a>	jschuldt@upacif.edu.pe
	Enterprise Exchange Net-		<a href="http://concen-">http://concen-</a>	
48	work		<a href="http://tritic.itgo.com/reteng.html">tritic.itgo.com/reteng.html</a>	fademype@navigante.com.sv
			<a href="http://asso.fran-">http://asso.fran-</a>	
49	Banque du Temps	FRA	<a href="http://cenet.fr/sel/bdt">cenet.fr/sel/bdt</a>	winston.smith@alternatif.net
50	Bastia	FRA		nadine.manzagol2@wanadoo.fr
51	Dijon	FRA		le-sellier@wanadoo.fr
52	Rennes Caribou	FRA		marieangedu@aol.com
			<a href="http://croisee.free.fr/in-">http://croisee.free.fr/in-</a>	
53	Toulouse	FRA	<a href="http://croisee.free.fr/in-dex.html">dex.html</a>	nefler@abri.org
				sel.de.paris@wanadoo.fr
54	Paris	FRA		aide.arcenciel@wanadoo.fr
			<a href="http://metropo-">http://metropo-</a>	
	Berlin, Charlotten-		<a href="http://metropo-lis.de/tauschring-charlotten-">lis.de/tauschring-charlotten-</a>	
55	burg	GER	<a href="http://metropo-lis.de/tauschring-charlotten-burg.html">burg.html</a>	tauschring_charlottenburg@yahoo.de
56	Dortmund	GER		freewohl@planet-interkom.de
	Frankfurt Bocken-		<a href="http://www.tauschring-">http://www.tauschring-</a>	
57	heim	GER	<a href="http://www.tauschring-bockenheim.de">bockenheim.de</a>	mail@tauschringbockenheim.de
58	Freiburg, ReWIR	GER		BaierNorbert@t-online.de

59	Gelnhausen	GER	<a href="http://www.geocities.com/vita_tauschboerse">http://www.geocities.com/vita_tauschboerse</a>	noxi@lycosmail.com	vita@lycosmail.com
60	Athens	GRE		grweb012@attglobal.net	
61	New Delhi (Tribal Welfare Society)	IND		mariatm@hotmail.com	
62	Haifa Arab-Jewish LETS	ISR	<a href="http://planet.nana.co.il/haifa-let">http://planet.nana.co.il/haifa-let</a>	shayneese@hotmail.com	
63	Groningen De Wissel Groningen -	NET		l_koning@hotmail.com	
64	Keerkring Rotterdam De	NET		mdgron@antenna.nl	
65	Stadshuiskamer	NET		stadshuiskamer@wxs.nl	
66	Rotterdam	NET		uurrolets@open.net	
67	Utrecht		<a href="http://www.bureauangenent.nl/lets/welkom.html">http://www.bureauangenent.nl/lets/welkom.html</a>	sterstof@strohalm.nl	
68	LETS emai list	NZE		lets_nz-owner@onelist.com	
69	Krakow Barataria Madrid	POL		test@cyf-kr.edu.pl	
70	Project	SPA	<a href="http://www.barataria.org">http://www.barataria.org</a>	3SECTOR@nodo50.org	
71	Barcelona La Troca	SPA		mickybar@redestb.es	

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