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Aims and Scope

The European Journal of Social Impact and Circular Economy (EJSICE) is an online open-access journal published by the University of Turin. The Journal publishes quarterly (every four months) articles that contribute to the development of both theory and practice of research methods used throughout the field of social impact and circular economy. The readers of this Journal are mainly researchers, academics, PhD students and other practitioners.

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Steps from Zero Carbon Supply Chains and Demand of Circular Economy to Circular Business Cases

Piontek, Felix[1], Herrmann, Constantin[1] and Saraev, Alexandra[1]

[1] Sphera Solutions GmbH, Hauptstraße 111-113, 70771 Leinfelden-Echterdingen, Germany

E-mail: fpiontek@sphera.com

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Abstract

The European Green Deal requires a zero carbon Europe until 2050. Consequently, all processes conducted, and actions taken need to ensure zero carbon emissions. Beside the areas of energy systems, logistics and living, it certainly also includes industry sectors, industrial processes, and their entire supply chains. Zero carbon supply chains mean net zero carbon emission from scope 1, 2 and 3. The key question for future business is therefore how to reduce the carbon emissions of all procured components down to zero, beside all procured and consumed energies (scope 1 and 2). A promising approach is a circular economy if primary produced materials will not be provided carbon neutral or will increase in price.
However, today the development of circular business models often is a chicken and egg problem. It needs a clear business case to invest into changes, adaptions, substitutions, or life cycle system adjustments of linear products (take, make, dispose) to turn them into circular products or product systems (avoid, re-use, recycle, recover).
The paper presents approaches and companies seeking carbon neutral products in a carbon neutral Europe via identifying business cases for circular products. An evaluation matrix is presented allowing the identification of circularity status depending on the selected products or sector perspective. The matrix contains evaluation criteria based on the circularity building blocks by the Ellen MacArthur Foundation. Based on the results, hot spots and weak points are identified and allow entering a six-step-approach for business-case identification. The steps refer to life cycle thinking, quantitative environmental assessment, simulation, creativity methods and end up identifying profitable business cases for circularity. The goal is to avoid trade-offs and to consider economic and environmental factors side by side. The presented approach combines life cycle assessment, circular economy and the development of business models and is partly developed and applied during the European H2020 project AVANGARD.

Keywords: net zero, circular economy, zero carbon approach, business case, zero carbon supply chain, life cycle thinking

1. Introduction

In recent years, incentives as well as outside pressure are rising for companies to lower their carbon footprint. The Paris agreement adopted by the United Nations in 2015 aims to limit the temperature increase to 1.5 °C above pre-industrial levels. This means that the emission of greenhouse gases (GHG) has to be reduced significantly. In December 2019 the European Union (EU) announced that it wants to be climate-neutral by 2050 (European Commission, 2019). Already before that more and more companies like Volkswagen, BP, Microsoft, Apple and others committed to produce carbon neutral products or want to become carbon neutral or even carbon negative as an organisation as a whole. At the beginning of 2021, the Science Based Targets (SBTi) initiative reports over 1200 companies acting, over 600 companies having science-based targets and over 400 companies which explicitly commit to a maximum increase of the global average temperature below 1,5 °C (SBTi,2021).

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The Paris Agreement states that finance flows as well should be consistent with a pathway towards low GHG emissions and investing companies like BlackRock publish statements that sustainability should be a new standard for investing. By including social and environmental aspects of sustainability into his Letter to the CEOs in 2018, the chairman and CEO of BlackRock Larry Fink takes part in a shift from soft and sometimes greenwashed approach towards sustainability to a hard and essential factor of business (Fink, 2018).

All these actions, announcements and developments cause that over the last few years, sustainability efforts are changing from purely voluntarily published and often superficial sustainability reports to an important part of risk mitigation and a transparent positioning towards costumers and investors. At the beginning of 2021, the investment bank Goldman Sachs joined BlackRock by publishing its own sustainability efforts including climate-related considerations towards investing (Solomon, 2021). Driven by the governmental initiatives mentioned above and a rising pressure by customers, other businesses as well as end consumers, net zero carbon emissions and other aspects of environmental and social aspects of sustainability as well as publishing transparent information become an important part of conducting business.

Due to the demand of various stakeholders, companies are searching for business models which offer reduced environmental impacts as well as profitability. It must be assured that the way a company conducts business is aligned with global goals to address climate change while earning money. Additionally, a company should be able to communicate the implemented measures in a comprehensible way and to disclose emissions and reduction targets. This paper presents a way to address these needs answering the question “How can profitable circular business models be developed ensuring lower environmental impacts aiming for net zero emissions?”

1.1 Net zero

What does net zero really mean? For businesses, net zero includes the elimination of GHG emissions throughout the entire value chain (Schulz, 2020). According to the Greenhouse Gas Protocol published by the World Resource Institute (WRI) together with the World Business Council for Sustainable Development (WBCSD) the GHG emissions of a company can be categorized into three scopes: Scope 1 includes the direct emissions from the facilities and vehicles of the reporting company. Scope 2 represents the emissions linked to electricity, heating and cooling and steam purchased for own use. Those are often already assessed and reported by companies. However, the analysis of scope 3 is not yet widespread, although it often can include the largest part of emissions related to operations depending on the sector (SBTi, 2018). Figure 1 presents the three scopes graphically. Scope 3 includes 15 sub-categories upstream and downstream, e.g., purchased goods and services, capital goods, business travel and employee commuting (Greenhouse Gas Protocol, 2011). To be a truly carbon neutral company, an assessment of the hotspots of scope 3 emissions must be conducted and according to an ambitious target setting the emissions must be reduced to net zero carbon emissions.

Especially the sub-categories 1 (Purchased goods and services) and 11 (Use of sold products) of scope 3 might be orders of magnitude larger than scope 1 and 2. If a company sources most of the components of its products from its supply chain, as for example many OEMs e.g., in the automotive or consumer electronics sectors do, category 1 is related to more emissions than the assembly of the final products. If a product sold consumes fuels or electricity, the related emissions belong to category 11 and might, for example in the case of cars, planes, and many electronic goods, exceed scope 1 and 2.

The reduction of emissions linked to these categories can be addressed by ecodesign of products and services considering material usage and emissions during use phase. Typical approaches and measures consider efficiency, not only during use, but also during production and over the entire supply chain. This is often referred to as resource efficiency. But actually, the avoidance of resource use should be the goal rather than only lowering depletion and GHG emissions. This applies to the avoidance of wasted energy as well as wasted materials and avoidance of scrap production. It includes the shift to power production from green or renewable sources and bio-based fuels. An approach to maximize efficiency and use intensity and to avoid resource use might include a shift to more service-related circular business models, changes in material composition of products and optimizing emissions during use as well as options to prolong the lifetime of products. The longer a product is used the later the production of a new product which substitutes the old one is necessary. For this statement to be true, a product must fulfill the intended demand over its entire lifecycle so that the actual lifetime matches the duration of the technologically possible service life.

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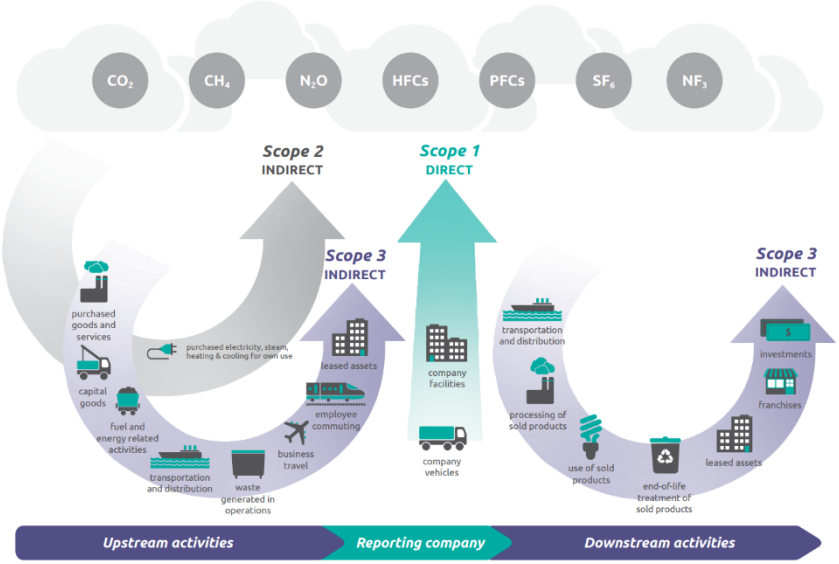
Figure 1. Graphical representation of scope 1, 2 and 3



Source: Greenhouse Gas Protocol. (2011). Corporate Value Chain (Scope 3) Accounting and Reporting Standard, S. 7.

The complexity of the various options and measures for a reduction and the avoidance of unnecessary use of resources and GHG emissions, which can be summarized as ecodesign, needs to cover all effect over the entire life cycle. This can only be achieved by a bottom-up approach looking at the details of each individual product and how costumers are using them. This might allow for a more feasible way to identify how to reduce emissions compared to a pure top-down approach often focused on calculations of scope 1, 2 and 3 of an entire company.

While scopes 1 and 2 and some sub-categories of scope 3 could be brought down to zero or nearly zero by technological development like electricity solely from renewable sources or carbon neutral fuels, materials to manufacture products or build facilities are still linked to emissions. Therefore, an inclusion of all 3 scopes and all related aspects is necessary to achieve net zero emissions.

1.2 Circular economy

One way to reduce or negate the emissions linked to materials and consumption is the implementation of a circular economy (CE). CE can be defined as "…an economic system that is based on business models which replace the 'end-of-life' concept with reducing, alternatively reusing, recycling and recovering materials in production/distribution and consumption processes […] with the aim to accomplish sustainable development…" on different levels. (Kirchherr et al., 2017) To establish a CE and for companies to be a part of it, business models which lower emissions and use less or no primary materials, but also generate profit are needed. As business models must be economically sustainable to ensure future success, keeping materials in the loop must be more attractive than simply continuing business as before and paying for carbon offsets. Additionally, organisations like the SBTi initiative (SBTi, 2020) or CDP (former Carbon Disclosure Project) (CDP, 2021) and even companies which provide carbon offsetting opportunities (Southpole, n.d.) state that avoidance of emissions should be the goal rather than offsetting. Additionally, the price for offsetting carbon is and will most likely keep rising. This can be illustrated by the example of emissions related to fossil fuels in Germany: From 25 Euros per released ton of CO2 equivalents in 2021 an increase to 55 Euros in 2025 will be followed by an auction system. The German Environment Agency even suggested 180 Euro per ton (Matthey & Bünger, 2019) as a fair and compensating price for damages indirectly caused by the effects of rising temperatures. Avoiding the release of GHG in operations as well as over the value chain might offer business cases beyond energy efficiency and a shift to renewable energy.

The EU Circular Economy Action plan as part of the European Green Deal includes measures to make sustainable products the norm in the EU and to make circularity work for people, regions and cities (European Commission, 2020). In its first iteration it already focuses on various sectors including electronics and ICT, batteries and vehicles, packaging, plastics, textiles,

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construction and buildings, food as well as water and nutrients. Beside the political agenda, the Ellen MacArthur foundation, a leading organization in the field of CE, defines four essential building blocks for a CE. The four blocks are: Circular design, new business models, reverse logistics and cycles as well as enablers and favourable system conditions (Ellen MacArthur Foundation, n.d.).

After a short overview of the applied methodology, Chapter 3 presents an approach to analyse the current status of business models and processes within a company towards their readiness for CE in the format of an evaluation matrix for approaching CE. Chapter 4 explains a six steps approach to identify weak points and hotspots as well as deriving possibilities to address business cases including an evaluation of the environmental impacts of the circular solution. The goal is to support companies to transform their business in accordance with the challenges of a more circular and sustainable future and to create a safer, more sustainable and productive world.

2. Methodology

The approaches in this paper have been develop based on theoretical analysis and on the practical experience of the authors. While no single qualitative or quantitative study is the basis of this text, it summarizes the findings of several case studies and takes projects conducted together with various companies and partners into account. As it is the goal to allow for fact-based decision making, quantitative methods to evaluate the businesses models and to assess environmental impacts are include in the presented approaches.

3. Evaluation matrix

Before a company can develop circular business models, it should assess the current way of its operations to identify hotspots and opportunities. Figure 2 shows a schematic matrix to support the assessment. The matrix was developed by Sphera and is refined over the course of the AVANGARD Project (www.avangard-project.eu). The four main categories are derived from the four building blocks for CE by the Ellen MacArthur Foundation as mentioned above. The sub-categories and indicators should be adapted to the company and its respective industry or market sector. The evaluation can be carried out internally but might be supported by external experts. It is helpful to bring together employees from different departments to get a comprehensive overview. When analysing the status quo and filling out the matrix, the entire life cycle of the product or product group must be considered. This is equivalent as considering scope 1, 2 and 3 as explained in section 1.1 of this paper.

To further develop the matrix shown in Figure 2, multiple case studies have to be conducted. By doing this, general and industry specific indicators can be developed. Different scales (e.g., five- or seven-point Likert scales) could be tested and can be colour-coded to allow for a concise and self-reflective evaluation of the status quo of products and business models within a company and their potential for circularity. Hotspots like totally linear operations or chances to further develop existing offerings (e.g., refurbishment, the use of recycled spare-parts or changeable components like batteries) into fully circular business models can be identified. While filling out the matrix, it is important to consider the full life cycle of the products and their impacts on the environment. This might be challenging for employees and executives who are not yet familiar with life cycle thinking, but it is a pre-requisite to understand cause and effects per aspect of various stages relevant for CE (e.g., logistics, user behaviour, ability for repair, maintenance, disassembly and fractionising for optimized recyclability). As soon as it is fully developed and tested, the matrix should be accompanied by a written guide, or the process could be moderated by external environmental experts.

The presented approach serves the purpose and offers an opportunity to start a process of self-reflection. The matrix enables a comparison with competitors from the same industry or companies and business models from other industries. Of course, currently there are no reference values for different industries. Therefore, companies and consulting experts must use their own understanding of the situation and be careful not to over- or underestimate the scores of competitors and the company itself. A comparison to other, similar industry sector supports the process by highlighting gaps and opportunities.

In summary, the matrix can be used for self-reflection which can be the basis of further assessments, benchmarking against competitors or other industries and for the development and proof of concept. If the matrix itself is not enough to come up with sustainable and functioning business models, a structured process presented in the next chapter can follow.

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Figure 2. Schematic assessment matrix

Main categories	Subcategory	Indicators an sub-indicators (Examples)		Comment	Value
Design: Technical aspects & design					
	Materials				
		Material declarations available / identification of materials easily possible			
		Identification of modules easily possible			
		Hazardous / toxic substances (during handling, danger to employees)			
		Environmentally critical and hazardous substances (potentially with legal restrictions on recirculation)			
	Modularity				
		Efficient removal of modules that are not used			
		Efficient exchange and handling of individual product components (sorting, preparation, exchange)			
		Ease of disassembly (to be able to use modularity)			
			High degree of standardization of disassembly		
			High degree of automation of disassembly		
		Durability / long service life of components and modules (for further use)			
			Durability of components and modules		
			Ease of updating / compatibility with new product generations		
Technical aspects reverse logistics					
	Identification				
		Information on the whereabouts of the product / availability for return			
		Unique product assignment			
		Materials clearly identifiable (if no material declaration available)			
		Age and condition identifiable (technical / documentation)			
	Collection & Return				
		Low transport effort per product unit			
		High value in relation to collection costs			
		established / functioning collection or return system			
		Legal requirements for collection and return			
	Storage				
		Good storability			
		Plannable stock (consistent flow of in-/outgoing products)			
		Good sortability of removed modules			
		High standardization of the modules			
Business models					
		Constant and plannable return quantities			
		Constant and predictable sales quantities			
		Established and reliable take-back system with influence on the quantity of returned products and sales volume (product stewardship)			
		Structured framework (laws, regulations) of the market for old goods / goods for remanufacturing			
		Structured framework conditions (laws, regulations) of the sales market such as e.g. admission criteria			
		Market acceptance of remanufactured products			
		Competitive situation in the sales market due to new products			
		Competitive situation in the sales market due to many other remanufactured products			
System conditions and other aspects					
		Safety / default risk from remanufatured products			
		Brand risk (in case of premature failure of remanufactured products) / branding (quality perception) as remanufactured product (B2C)			
		Value perception of remanufactured products (up- / downcycling, same quality)			
		Availability of qualified staff			

Source: Based on Herrmann, Constantin. (2020, November 19), From Zero Carbon Supply Chains to Circular Electronics: Steps to More Sustainability [Conference presentation]. E-Waste World Conference & Expo, Frankfurt, Germany. http://www.avangard-project.eu/event/e-waste-world-conference-expo/

4. Six-step-approach to develop circular business models

After an assessment of the status quo, gaps and potential changes using the matrix presented in the previous chapter, companies know their status regarding to upside and improvement potentials towards a CE. Now they need a process to shift their operations towards circularity while making sure that this shift does not actually lead to more GHG emissions or more harmful environmental impacts in general. The development of circular business models might present itself as a chicken and egg problem. Often the linear business models will not reveal a circular and profitable business case and vice versa, theoretical business cases might not work using the existing linear products. Therefore, Figure 3 presents a process to develop new business models while assessing and comparing the resulting potential environmental impacts from simulated circular products and business models.

Step 1 includes a life cycle analysis, e.g., using the Life Cycle Assessment (LCA) methodology according to ISO 14040 and 14044 (ISO 2006a, 2006b). It can refer to the linear product or the business models identified for potential change using the matrix presented above. The analysis should include all impact categories relevant to the company and to the respective industry and not solely focus on GHG emissions even though this might currently be the impact category which receives the most public attention. But while less noted impact categories should not be neglected, a so-called screening LCA based on publicly available databases such as the GaBi database (Sphera Solutions GmbH, 2021) should be sufficient. This allows for the identification of environmental hotspots (step 2) of the current situation. Based on the identified hot spots and weak points to be improved,

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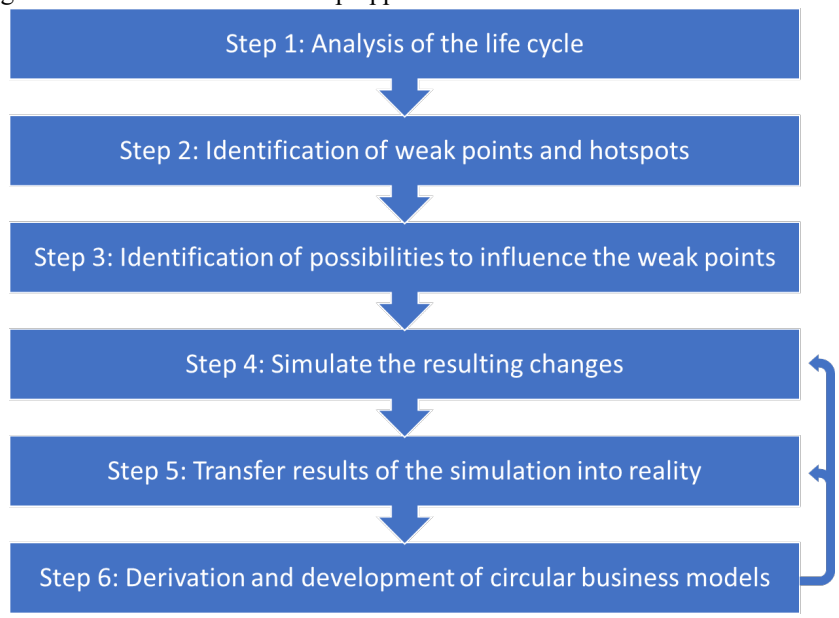
possibilities to influence should be discussed and specified (step 3). There is no need to spend the same amount of effort and time which would be needed for a comprehensive LCA including the collection of primary data from suppliers. The identified starting points for changes and measures might include a wide range of options from a change in distribution processes or market access, a change of materials (e.g., the use of secondary material or the substitution of environmentally impactful materials by others suited for the intended application) used or even the discontinuation or addition of an offer, a service or a product.

The findings and aspects from step 3 allow entering steps 4 to 6, which are highly iterative and interlinked. The concrete procedure depends on the people involved, the timeline, the identified hotspots and how vast the possibilities to influence these are as well as the willingness of the parties involved to implement changes.

Step 4 includes an assessment of the potential environmental impacts based on the findings from step 3. This allows to compare the resulting impacts with the baseline from step 1, if the identified weak points were changed. A comparative analysis like this is necessary to make sure that no trade-offs occur, meaning that benefits in one impact category are overcompensated by more harmful impacts in another, and to prevent a change which actually leads to higher harmful impacts overall.

Figure 3. Overview of the Six-step-approach.



Source: Based on Herrmann, Constantin. (2020, November 19), From Zero Carbon Supply Chains to Circular Electronics: Steps to More Sustainability [Conference presentation]. E-Waste World Conference & Expo, Frankfurt, Germany. http://www.avangard-project.eu/event/e-waste-world-conference-expo/

Step 5 can include a broad range of methods to come up with ideas and concepts but is guided by the facts and figures of the hot spot assessments and the possibilities to influence the identified weak points. These methods can refer to for example Brainstorming (Clark, 1989), the 635 method (Higgins & Wiese, 1996), Design Thinking (Sachse & Pecker, 1999), the morphological box (Higgins, 1966), the relevance tree analysis (Schmidt, 2000) or the Walt Disney Method (Dilts et al., 1991). As a broad range of creativity methods is available, companies should choose a method which suits the complexity of the process, the characteristics and the number of the people involved as well as the facts and figures developed during steps 1, 2, 3 and 4. The process should take the results of the previous analyses into account but must not be limited to the options and ideas derived from the hotspot analysis. If the process is set up in the right way, it might even be possible to assess the potential environmental impacts results or preliminary results of the business models and measures developed using the creativity methods over the course of the development. This may necessitate the setting up of a process that is iterative and takes place over several days or weeks. It could be supported by a predesigned tool which allows for parameter variation showing the

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resulting impacts from changes suggested. The inclusion of environmental experts is another possibility to analyse potential environmental impacts during the development of business models.

Step 6 concludes the presented methodology to develop circular business models, which are already tested for their environmental benefits and applicability on CE. Based on the results of several assessments of environmental impacts as well as the collaborative techniques, a decision in which direction the company and its operations and offerings should be developed must be made. As the process is iterative, these decisions will be monitored and solutions for identified weaknesses can be developed and implemented.

5. Benefits from a shift to circular business models

The change to more circular and overall, more sustainable ways to conduct business offers various advantages. Lowering GHG emissions, material use, and other environmental impacts related to the business on the one hand has benefits for the environment and on the other hand lowers the risk of costs directly (e.g., CO2 taxes) or indirectly (by necessary changes due to climate change) related to GHG emissions.

As it satisfies demands from various stakeholders, a shift to innovative business models can be used in communications to investors, business partners and to the public. Measures regarding sustainability will be received positively by rating agencies and other players in the financial markets. As more companies pledge to source their materials and goods from sustainable suppliers, this is an advantage when selling to other companies. Additionally, more sustainable offerings can attract end consumer groups which did not buy a company's products before or did not use its services. Circular business models align a company with the Circular Economy Action Plan of the European Commission (2020) which relates to other European strategies to benefit the economy and the environment.

An LCA study conducted before implementing the developed circular business models ensures that there are environmental benefits. Lower GHG emissions help companies to contribute to the targets set in the Paris Agreement and achieve their own goals (developed e.g., in cooperation with the SBTi).

By implementing a structured, iterative process which includes several sustainability assessments and should involve people from different departments, it is ensured that the new business models lower environmental impacts and that they can become economically sustainable as well.

6. Discussion, conclusion, and further research

The approaches developed in this paper are based on practical experience and theoretical development. They have been fully or in parts applied in projects with various companies and partners and are based on established methods like LCA and several creativity methods. Therefore, the presented approaches have been proven to be feasible and of practical relevance. However, this research does not evaluate the suggested methods based on a comprehensive literature review of other possibilities and ways to develop new business models. The approaches should be further developed by implementation of findings from related research as well as experiences from future case studies.

As sustainability becomes more important and emerges from a "nice to have" to a fundamental pillar of conducting business, the need for carbon neutral or net zero business models is rising. Circularity offers a path to minimize the emissions linked to the use of materials to produce tangible goods.

This paper presents an approach to develop circular business models using a matrix approach. If the matrix approach does not lead to a successful development of business models, a six-step-approach can be used which includes LCA and creativity methods embedded in a structured process. Independent whether the creativity methods are used, a sustainability assessment should make sure that trade-offs are avoided. The presented approaches address the need for sustainable ways of conducting business and combines self-assessment and creative methods with LCA and other sustainability assessment methods (Peña et al., 2021). As the Circular Economy currently receives global attention, it empowers companies to develop and change their business models.

The six-step-approach enables a structured process to develop more sustainable business models and ensures that they de facto lead to lower potential environmental impacts. Several possibilities to adapt the process to the circumstances within a company are mentioned. As the matrix presented is still under development, more examples from case studies are needed. This would offer an opportunity to develop the scales used and will allow for a comparison to other companies and industry averages

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Social impact of human resource management of hybrid organisations. An exploratory case study

Iannaci Daniel[1]

[1] University of Turin, Department of Management
Corso Unione Sovietica 218, Bis – 10134 – Torino (Italy)

E-mail: daniel.iannaci@unito.it

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Abstract

What defines an organization's social impact is its purpose, social and profit. The current business landscape in the entrepreneurial ecosystem in accordance with the literature defines a certain category of companies that can be the main players in the impact economy are the hybrid organizations. There are several studies and research on the role of HRM and incentive systems for companies in general, but not for hybrid organizations that seek to create high intentional, measurable and additive social impact. In this paper, through the method of the case study the researcher explores the hybrid organization Abel Nutraceuticals S.r.l, part of nonprofit group Arcobaleno Cooperativa Sociale and define the key factors that hybrid mission-oriented for-profit organizations with the propensity for social impact should have to have an incentive tool to value workers and determine what factors internal stakeholders would like to know to be heard understood. The research confirms that a good tool that is inclusive and above all listens to the well-being of workers only works if it manages to put the worker first, having an auditor who verifies that the social inclusion it is implementing is done in the right way.

Keywords: HRM, hybrid organisations, social impact, impact measurement, stakeholder needs, accounting

1. Introduction

What defines an organization's social impact is its purpose, the social purpose, and profit purpose. Traditional businesses occupy one end of the spectrum, with their focus on profit and distribution of goods. Third sector associations existing today not engaged in commerce do not have profit motives and are defined solely by their social mission, on the other hand, for impact companies strike a balance by taking different approaches in balancing social purpose and profit (Borzaga, 2020; Iannaci and Aiassa, 2020; Puddu, 1980).

Thinking about the twenty-first-century Lengnick-Hall et al. (2009) prospectively projected that human resources function will be freed from administrative shackles and can focus more on developing intellectual capital, social capital, and knowledge management to improve an organization's competitive advantage, anticipating that it will experience a strong change from old experiences (Hrtel et al., 2008; Lengnick-Hall et al., 2009; Lengnick-Hall and Moritz, 2003). They add that different people have different needs, one size does not fit all by combining what company needs to know about each individual employee's needs to be successful, and worker's awareness they must have about their own needs to be successful (Lengnick-Hall et al., 2009; Lengnick-Hall and Moritz, 2003).

The business landscape currently existing in entrepreneurial ecosystem in accordance with literature defines a certain category of companies that can be main players in the impact economy are hybrid organizations (Agostino and Arnaboldi, 2017; Bicciato, 2010; Borzaga, 2015; Secinaro et al., 2019b).

Social enterprises have within their social object the characteristics that ethical finance seeks and above all, they are the best-structured enterprises of the entire third sector panorama (Zamagni, 2013) and therefore if a corporate group has as its parent a company of this type it transfers to entire corporate fabric its values indiscriminately if subsidiaries are for-profit or non-profit.

Decision support tools will become more numerous and more sophisticated, improving decision-making process of managers and employees in organizations (Abdel-Maksoud et al., 2015; Boyett, 1996), making Human Resources take on new roles in value creation process.

The response to the need for ever more advanced and effective incentives introduced at the business level is increasingly shifting toward considered hybrid organizations, business models aimed at keeping social mission along with business (Apospori et al., 2008; Arsić et al., 2017; Billis, 2010; Grossi and Thomasson, 2015). Hybrid organizations make social a strategic asset to regenerate resources of different nature: human, through the development of new knowledge and new skills; economic, through the possibility of aggregating a variety of types of sources precisely because of hybrid nature of organization; physical, that is, related to the process of transformation of spaces into places, where relationality becomes the key ingredient for success of process (Garrow and Hasenfeld, 2012; Kleynjans and Hudon, 2016; Smith and Phillips, 2016). The economic evaluation of social impact of hybrid organizations becomes, therefore, crucial in knowledge economy (Meneguzzo, 2005; Zamagni et al., 2015) and the debate focuses on impact measurement tools (Calderini et al., 2018). Hybrid organizations are located in an intermediate section at the intersection of public, for-profit, and nonprofit (Billis, 2010; Grossi and Thomasson, 2015; Secinaro et al., 2019b; Thomasson, 2009).

To define the field of innovation and identify social value that is returned to the ecosystem of the area, it is important and useful to define the business model as a tool that can facilitate the diffusion of innovation into the system. The value inherent in innovation remains latent until it is put on the market or otherwise made explicit, and this can only occur through the use of a business model (Chesbrough and Rosenbloom, 2002).

Certainly, accounting system is an important point within a company that can bring out information about good governance. Governance involves a set of relationships among stakeholders and the distribution of rights and responsibilities among these different stakeholders (Ansell and Gash, 2008; Awotundun et al., 2011; Freeman, 2010; Mair et al., 2015).

As a result of good governance, values that are transmitted to stakeholders are experience and trustworthiness, as leaders of professional organizations in ethics and compliance have a responsibility to nurture the next generation of entrepreneurs. Leadership skills increase management effectiveness and also tend to promote ethics (Adams, 2000; Alshammari, 2015; Carroll, 1996; Vining and Weimer, 2016).

Finding reveals that with best practices incentivizing human resources within a well-functioning ecosystem, it is possible to create new social projects and be attractive within one's territory and internationally. Having accountability as an element of connection with your workers gives you credibility you need to create social impact through new projects. The reflection of this policy will increasingly turn to perceptions of all other stakeholders connected to the area in which the impact activity takes place (Adams, 2000; Alshammari, 2015; Carroll, 1996; Iannaci, 2020a; Kirk et al., 1986; Lehner and Nicholls, 2014; Vining and Weimer, 2016).

There are several studies and research on the role of Human Resource Management (HRM) and incentive systems for companies in general but not for hybrid organizations seeking to create high intentional, measurable, and additive social impact. However, the gap that has emerged from the literature is that the principles of transparency and accountability are defined, but the determination of a key element that can bring order and best meet need of internal stakeholders is lacking. Therefore, the research aims to define and highlight one or more key factors and answer the research question "to define the key factors that a hybrid organization should have in order to achieve an incentive tool geared towards increasing accountability, transparency, and personal well-being thus generating social impact and to determine what factors internal stakeholders would like to know in order to be heard and included".

The paper is structured as follows: second section outlines the literature review, third section the research methodology, fourth section the context of case study, fifth section provides the presentation of findings, and finally sixth section concludes.

2. Literature Review

Koprowski, (1981) in his studies wrote that managerial philosophy refers to the culturally embedded assumptions of managers in relation to human nature and human behavior that inform their managerial thinking and practice, defining that through

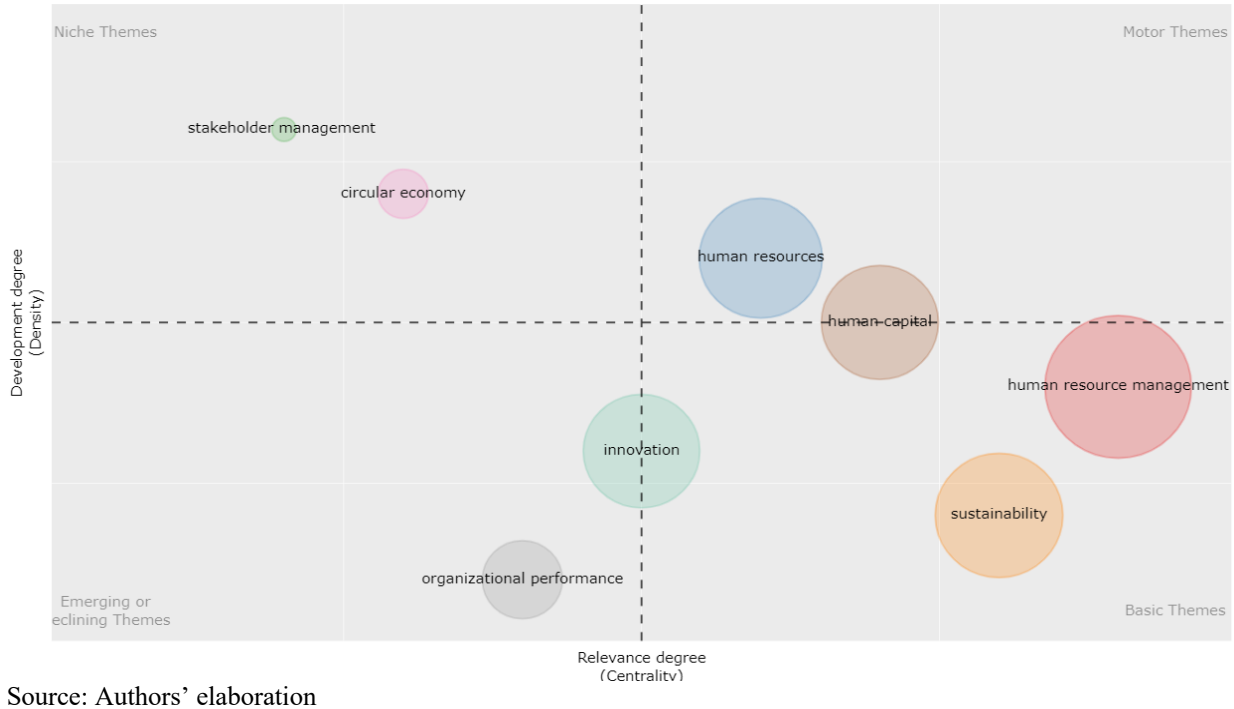
socializing and sharing their perceptions and behaviors they bring out these assumptions as inherent characteristics in individuals. In addition, it should be noted that it should be kept in mind that both workers and managers are influenced in their internal relationships among superiors, colleagues, and subordinates (Campbell and Tawadey, 2016; Peck, 1994; Singh, 2005).

Literature suggests that research on management philosophy should include three aspects: temporal, theory or doctrine of philosophy, and human behavior (Abbas, 2020; Chaudhary, 2020; Hughes, 2017; Kenny and Meaton, 2007).

The dissemination of management philosophy is one of the key functions of management (Chaudhary, 2020; Komarov et al., 2016; Lee and Clerkin, 2017); however, it is rarely addressed in academic research. Many academics prefer management theory and motivation theory, or planning and organizational topics (Aalbers et al., 2013; Ahmed et al., 2010; Aka, 1993; Al-Htaybat and von Alberti-Alhtaybat, 2013; Andrews, 2016; Chopra, 2019). Academics and managers are very interested and concerned with visions, strategies, and plans (Bahemia et al., 2018; Cooke, 1989; Du et al., 2014). However, most of these visions, strategies, and plans fail or are not successfully implemented. A key reason for these failures is that implementation of management philosophy and resulting impact on HR practices undertaken by managers is often overlooked (Greenberg and Bugden, 2019; Peck, 1994).

Figure 1 explains the composition of academic field at the conclusion of the study. The topic map shows each keyword in the two-dimensional space explained by axes (Noyons, 2001). The scale of points is proportional to the cumulative input of each keyword. By applying a clustering algorithm to a network of keywords, it is possible to highlight the various themes of a given domain. Each cluster can be represented on a special graph known as a strategy or theme map. For example, centrality can be read as the importance of theme in the entire field of science, and density can be read as a measure of the growth of the theme. Thus, considering the figure, in this research stream as highly developed and isolated themes, authors found Stakeholder management and Circular economy theme of social impact of HRM policies. As necessary and cross-cutting themes, the authors also found that sustainability on the studied theme was a highly repetitive theme associated you have key focuses of human resources, human capital, and human resource management. Finally, as a declining theme, the sole focus of performance was reported.

Figure 1 - Thematic map in HR strategy on profit performance.



Source: Authors' elaboration

2.1. *Human Resource Management (HRM)*

A relevant positive correlation between HRM and organizational performance is found in literature (Anselmsson et al., 2016; Crook et al., 2013; Gray et al., 1995), this indicates that the project outcome requires a good quality of performance management but especially team impact management.

Performance management is recommended as human resource management function through which team motivation and performance can be effectively addressed. By focusing on the key constituents of high-performance work systems (HPWS) and monitoring their effects on organizational performance, through structural equation model techniques, top-performing companies have invested in more sophisticated HRM practices that primarily include employee performance appraisals, which have further improved organizational performance. The concept that is reinforced relates to the interpretation that HR performance and social impact management is a significant function of organizational success (Cheng-Hua et al., 2009; Shih et al., 2006).

Seven main HR policies categorized as work-for-life policies are to be considered including recruitment, training, performance-related bonus system, teamwork, organizational culture, and pensions. Important communication links between HR managers and management accountants are budgets, strategic plans, performance-related bonus system, and decision-making. Selected functions have a significant impact on organizational performance reinforcing the perception that HR performance management influences organizational performance (Kouhy et al., 2009).

Literature confirms that HR performance monitoring is the dimension of performance management that, along with all other necessary HRM functions, helps organizations increase their performance. This indicates that performance and social impact management for projects requires consistent performance monitoring throughout project life cycle.

Monitoring is a process that assesses the quality of internal control performance of resources involved in any task or project over time. Monitoring is the most feasible mechanism for ensuring effective performance by HR resources or machines. A control system must be monitored to ensure that it continues to function effectively as intended. Without continuous and effective monitoring, a control process can fall into a state of despair or not be executed at all (Naqvi et al., 2011).

The focus that the study give through this paper is on single aspect of performance and social impact management, namely HR monitoring and enhancement as it covers desired HR practices and functions. Well-planned, frequent, and regular progress monitoring of project work and resources (Fang and Marle, 2012; Wiersema et al., 2018).

An effective way to control a project is to continually measure progress of its work and teams working on it; comparing that progress to the plan and then adjusting the development criteria to correct any deviation from project plan.

Project success can be achieved by declaring project management a strategic, yet complex activity. Traditionally, a project is perceived as successful when it meets the objectives of time, budget, performance, quality, and impact (Dvir et al., 2003; Shenhar et al., 2002, 2001). Several studies have used a combination of qualitative and quantitative methods having as results the identification of four main distinct success dimensions for operationalizing the project outcome: project efficiency, customer impact, direct business, and organizational success, and preparation for the future.

Customer impact could be interpreted through feedback on products or services the project provided. Direct business and organizational success could be measured in terms of the profit and customer relationships any organization earns after completing a project. Preparedness for future could be measured thorough documentation of project and lessons learned by team, and worker "happiness" through questionnaires reporting their mood and whether it made a change in their lifestyle.

2.2. *Hybrid organisations - For-profit Social Enterprise*

Organizations have historically been categorized within a single sector: most commonly, public, private, or non-profit. Sectoral categories help to define shared understandings of beliefs, values, organizational identity, and assumptions that aid in aligning internal organizational goals and actions and establishing a basis by which to evaluate similar organizations (Hsu and Hannan, 2005).

Battilana and Dorado (2010) have done extensive studies on hybrid organizations highlighting what will be the theoretical challenge of future. These organizations are the result of a combination of key elements from the profit and non-profit sectors.

In another study Battilana, et al. (2015) identify numerous challenges that hybrid organizations must face and among these arises the legal nature as they must choose a legal form, because, having to decide to be a profit or non-profit organization and therefore entrepreneurs can only claim one of the forms of value they create.

With the studies done previously by Hoffman et al. (2012) and later by Holt and Littlewood (2015) it is possible to describe hybrid organizations by identifying two main characteristics. Their studies frame the hybridization first of all of business models between profit and non-profit and then of the mission driven as social mission is given priority without ever neglecting performance.

The challenge that this research poses in accordance with the assertion of Holt and Littlewood (2015), is the recognition that these types of organizations pursue the impact and this mixed identification that distinguishes them leads to major challenges in seizing, assessing and communicating this impact.

Haigh and Hoffman (2012) and later Hockerts (2015) specify very well that when impact occurs it should not be linked only to social impact as hybrid organizations are primarily concerned with social missions but must be oriented towards achieving commercial revenue to support operations.

Rawhouser et al. (2015) in fact had already argued that latter the number of these organizations that integrate the two objectives described above has increased and therefore leads even more to the combination of features and tools by combining the features to encourage innovation, studies also carried out by Reiser (2011) but from a legislative point of view.

It is therefore important to be able to identify what are hybrid organisations. For example, Reiser (2012) specifies that in the U.S. the following are considered: Benefit Corporations, Low-Profit Limited Liability Companies (L3Cs), Social Purpose Corporations (SPCs), and Flexible Purpose Corporations (FPCs). These are identified as these legal forms draw their property from both profit-oriented legal forms (e.g. limited companies and partnerships) and non-profit legal forms (e.g. charitable and philanthropic organisations).

About this assertion, Ebrahim et al. (2014) consider that this cataloguing does not solve the identifying tension of hybrid subjects but is undoubtedly a good start to start inserting them into the system.

Leimsider (2014) explains that the term "hybrid organization" has recently established itself internationally as a broader term than "social enterprise", reflecting the heterogeneity of legal forms, missions and different contexts in which these different business models operate generating debate at scientific level.

In addition to strengthening the concept, Fowler (2000) that hybrid organizations that are considered must recognize within it the element of limited distribution of profits, always leaving in first place the social and/or environmental mission with non-profit mode.

Returning to the characteristics that must be identified and therefore monitored without doubt, it is necessary to identify the distinguishing marks of a hybrid organization (Holt and Littlewood, 2015):

- centrality of a social and/or environmental mission, with its primacy over the creation of economic value;
- generation of income through trade, whether linked to the mission;
- participatory governance structures with the active involvement of stakeholders, and relations with stakeholders based on mutual benefit and sustainability results;
- Limited distribution of profits with profits or surpluses reinvested for social purposes;
- innovative solutions linked to the creation of a business model.

It is essential to identify and regulate these organizations because, as demonstrated by Rawhouser et al. (2015), the identification of hybrid organizations can be considered a threat to non-profit organizations because the status of no mutualistic purpose for a company that comes from profit can be difficult to prove and therefore the inclusion of hybrid social organization can be considered a threat to non-profit organizations.

In line with the demand for research, it is essential to investigate what are the values that distinguish a hybrid organization because only later it will be possible to monitor, measure and finally communicate it to stakeholders.

Rawhouser et al. (2015) has shown that including elements within the business model such as alternative energy, recycling and pollution reduction captures the attention and influence of stakeholders like employees, consumers and entrepreneurs themselves. The "green" workforce category is coined to demonstrate in the case study by Rawhouser et al. (2015) that increase in this use of internal resources also increases attention of legislation (Scherer and Palazzo, 2011), market and attracts work. A current which, if operated in current way, leads to success.

2.3. Social impact measurement

In order to focus on HR impact assessment, it is necessary to fully understand the topic without considering it more generally and then go into the specifics of this corporate function; to do so, the researcher rely on literature that emerged in Iannaci's paper (2020a).

When, in this research, reference is made to the social, the reference is to live within the community, the ecosystem. The scientific disciplines that study the subject are sociology, economics, and anthropology (Calderini et al., 2018; Marradi, 1992; Rousseau, 2015; Zamagni et al., 2015).

As it will often be used, the concept of social goes hand in hand with tendency to improve living conditions of less well-off citizens in order to achieve greater equalization between the various components of a society.

Hybrid organizations are promoters of social innovation, generating widespread well-being and sustainable improvements in the living conditions of community. It is precisely the community, thanks to increasingly accessible communication technologies, that becomes not only the recipient of social innovation but also the co-generator of innovative processes (Corvo and Pastore, 2018).

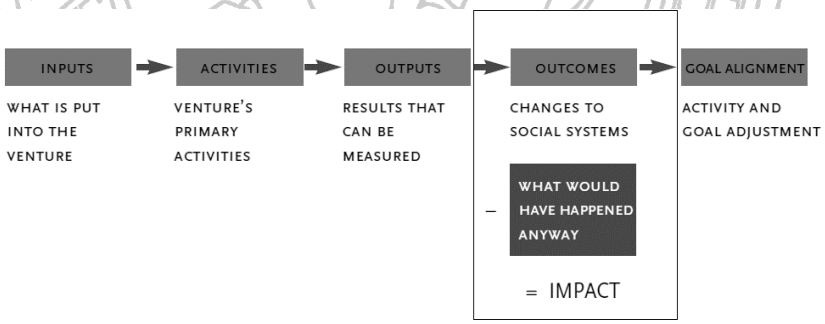
When social enterprises and resource providers are involved in symmetrical relationships, the purpose of measuring social impact seems to help social enterprises improve their performance so that the parties can achieve the common goal of creating social impact for those in need anthropology (Zamagni et al., 2015).

A key element of evaluation process is attention to the effects generated by action, including positive and negative, direct and indirect, expected and unanticipated (Bezzi, 2001).

Evaluation should not be confused with monitoring, for which there are similarities and points of contact. In the first case, what has been achieved is analyzed, verifying the validity of results achieved; in the second case, it is a matter of verifying the progression with respect to the planning of intervention, to identify any deviations (Montesi et al., 2017).

Through the explanation of the chain of value creation, Clark et al. (2004), as can be seen in Figure 2, deepen the concept of "social" outcome, as a value purified of what would have happened regardless of social impact intervention.

Figure 2. Impact Value Chain



Source: (Clark and Rosenzweig, 2004)

Impact assessment is based on counterfactual analysis, i.e., it asks about the occurrence of change not only with respect to "before versus after," but also with respect to "versus without" some involvement (Clark and Rosenzweig, 2004)

There are projects where the "before versus after" is sufficient to determine the impact generated, for example when no other factor is likely to have caused observable effects on the change generated: the reduction in water withdrawal time from the installation of water pumps. In other cases, however, the cause-and-effect link is not as obvious and linear, thus requiring an analysis that compares the "versus without" intervention (Clark and Rosenzweig, 2004).

There may be a variety of reasons to measure impact, for example (i) demonstrating transparency, accountability, and legitimacy to investors for accessing resources, because without impact, evidence, and reporting, funders do not see the value created for communities; and (ii) knowing and improving organizational performance to determine if they should continue or change their current strategy to achieve their missions (Nguyen et al., 2015).

As illustrated by Nguyen et al. (2015), when social enterprises and resource providers are involved in symmetrical relationships, the purpose of measuring social impact seems to help social enterprises improve performance so that parties can achieve their common goal: creating social impact for people in need.

2.4. The Research Model

In social impact assessment, as noted by Clark et al. (2004), it is necessary to define the impact value chain to better understand the drivers of value creation.

An intrinsic factor that has emerged in the literature reviewed on HRM, hybrid organizations and social impact measurement is that in order to create stakeholder participation, it is important that upstream there is a company with good governance, leadership, aimed at survival in the marketplace through performance and social impact orientation. This information is not important if it is not conveyed in the right way through correct staff enhancement tool to increase perception and consequently involvement (Al-Khasawneh and Futa, 2012; Biancone et al., 2016; Freeman, 2010).

A good HR policy with high social impact must put the need of internal stakeholders first and through the principles of transparency and accountability communicate its corporate story to have the expected results that ecosystem needs and try to promote ethics (Al-Khasawneh and Futa, 2012; Beer et al., 2015; Biancone et al., 2016; Freeman, 2010; Secinaro et al., 2019a).

The finding reveals that with employee empowerment best practices for high social impact for-profit companies, it is a matter of shaping the level of information about various types of stakeholders, professional and non-professional so that supply and demand for information meet (Biancone et al., 2019, 2018a, 2016; Secinaro et al., 2019a).

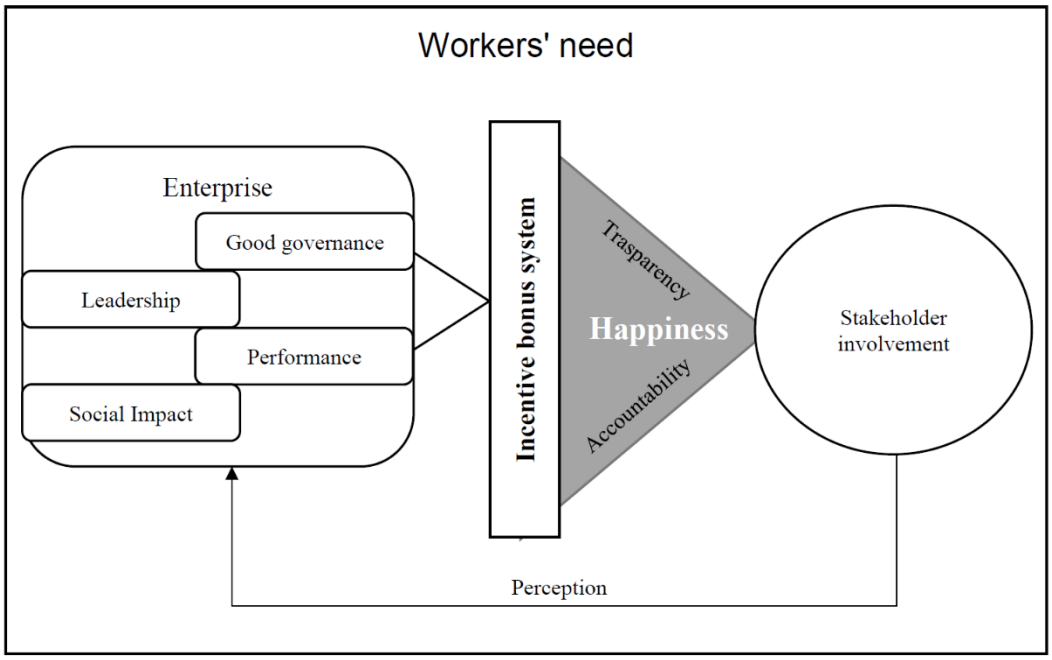
With the goal of answering the research question "to define the key factors that a hybrid organization should have in order to achieve an incentive tool geared toward increasing accountability, transparency, and personal well-being thereby generating social impact and to determine what factors internal stakeholders would like to know in order to be heard and included."

The researcher believes that a good, understandable incentive tool that succeeds in creating engagement will create accountability, transparency, and well-being only if the policy is oriented to the needs of worker.

After a thorough analysis of the literature review, the study proposes that putting workers' needs first by generating accountability, transparency, and happiness in the sense of personal well-being would increase stakeholder engagement. Stakeholders would be able to better perceive the strong values of good governance, leadership, performance, and social impact that the company possesses. Performance is seen as the focus that is pursued by monitoring the values of productivity, profitability, quality, efficiency, and innovation.

Figure 3 constructs the reference model proposed by the authors. To adopt an incentive tool and meet stakeholder needs, a hybrid organization must have the four key factors listed above. Through this assurance and the most effective incentive tool possible, they can have stakeholder engagement and increase the objective perception of them to create collaboration in new activities aimed at improving ecosystem.

Figure 3. Model to satisfy Workers' needs



Source: Author's elaboration

3. Research Methodology

This research employs a case study approach for exploration (Eisenhardt, 1989; Yin, 2014). The case study approach is suitable for investigating why or how phenomena occurred and relationships between these phenomena (Yin, 2014). Through case study, one can better understand a new phenomenon and concept (Eisenhardt, 1989). In line with the purpose of this article, the methodology was adopted by preparing a longitudinal and explanatory case study (Yin, 1994).

The case study highlights some relevant aspects and possible approaches to the model elements. The methods of information collection use qualitative techniques and include interviews with managers and employees, analysis of internal documentation, observation of reality, and truthfulness of the stated data with a reworking of some data to ensure the validity and reliability of information. Within the company the author has a management control function, this allows him to have all the monitoring information of the mentioned key factors.

The primary data were collected directly by the authors who has been conducting research within the enterprise for years, the secondary data were provided through a semi-structured interview with managers and employees. Validity is ensured by triangulating several resources with evidence of the key information collected. The evidence collected is ensured by double-checking the information through differentiated sources. Research allows a phenomenon to be recorded in a real-world setting, where the boundaries between context and phenomenon tend to be blurred (Stake, 1996).

Literature allows for the confirmation and combination of information gathered (Yin, 1994). The transparency, approach, and repeatability of the analysis and method allow for its reliability (Leonard-Barton, 1990).

Therefore, the researchers believe that case study defined by Yin (2014) is the best way to answer the research question of "defining the key factors that a hybrid organization should have in order to achieve an incentive tool geared toward increasing accountability, transparency, and personal well-being thereby generating social impact and determining what factors internal stakeholders would want to know in order to be heard and included".

The research reflected its theoretical framework presented in Figure 3, which consists of eight elements: good governance, leadership, social impact, and performance; focusing on the last element as the focus that is pursued through monitoring the values of productivity, profitability, quality, efficiency, and innovation (Campbell, 1986).

Stakeholders would be able to better perceive the strong values of good governance, leadership, performance, and social impact that company possesses. Performance is seen as the focus that is pursued through monitoring the values of productivity, profitability, quality, efficiency, and innovation.

The names and location of company and respondents were kept anonymous for privacy reasons, then transcribed and coded independently (Curtis et al., 2010; Secinaro et al., 2021).

3.1. Interviews outline

With the purpose of answering the research questions, the research was organized to cover the topics necessary to have the elements to proceed with the study. Additional exploratory questions were considered to deepen the understanding of the answer, rather than closing a discussion and moving on to the next question.

It was considered important to organize the questions by addressing the necessary topics from all angles, from the most specific to the most general.

The topic of reporting was addressed by trying to understand what information was considered understandable and what was not. Also, to understand if social issues were considered important and if the information was more transparent if this would increase participation.

It was necessary to have information on the reaction of members by trying to understand if the group believed in the social enterprise and if they fully understood the identity in which they worked if this increased the sense of belonging. Since the tool would also be consulted by service users, it was important to understand if a better form of communication had changed patterns of behavior. Through a more discursive approach, another theme that created interest was to understand if there were any obstacles to achieving the goal by trying to understand how it affected the company.

3.2. Case Study – Context

The hybrid organization in question is called Abel Nutraceuticals S.r.l, part of non-profit group Arcobaleno Cooperativa Sociale. The head of the group puts in the first place the creation of employment for its members, who fall among the types of people defined in social context as "fragile" through the collection of waste. The company has historically focused on activities with characteristics aimed at the simplification of work in order to encourage skilled labor, to allow workers to keep up with the market, monitoring results, solid prerequisites to ensure economic independence of people, always putting at the center of its choices the employment and social impact of the territory of intervention.

The primary specialization of Abel Nutraceuticals S.r.l. is the design of extractive processes and the production of extracts for food supplement sector.

Information was collected through interviews with managers, staff, through company's website. In addition, financial report of the last five years was analyzed to support accountability. About the accountability supported by financial statement data, it was possible to understand that the company is financially sound and stable (Iannaci, 2020a).

4. Presentation of Results

This section summarizes the results of the case, showing the interviewees' outputs and the connections that emerged between the strengths of the company.

The company showed that the government is solid and most importantly, it is flexible to any unexpected in the market, as due to their expertise they are able to adapt and shape the business with the market, confirming the concepts of Al-Khasawneh and Futa (2012) and Alshammari et al. (2015).

The concept of good governance treated by Fernández-Fernández (1999) and Norman (2014) is confirmed by saying that the governance structure is solid and has a good internal management of responsibilities. The members of the company are aware of this because, in addition to seeing it from the numbers, they perceive the internal and external organizational strength.

Therefore, it was possible to link to the literature that the pursuit of daily innovation is a key factor within the organization studied.

The social mission and putting the worker first to achieve wellness is something that stakeholders would like to see results of once the tool is applied. The hope is that in the long run the application of this type of flow will create the effect stated by Freeman (2010).

This type of perception prevailed over financial, non-financial, and especially social impact data. The system of incentives that the company will introduce to measure the performance and well-being of its workers to grow within human resources a better perception sometimes clouded by biases, as mentioned before, which did not even lead to deepening confirming what Adams (2000) and Biancone et al. (2018c) said about participation as the context usually associate with good reporting practices.

Empowering workers would succeed in sensitizing them in the future on the issue of social impact, making them feel part of the actions that the company puts in place for the ecosystem by increasing the propensity to collaborate to participate in the improvement through their own contribution by informing themselves on how to approach the concepts of Adams (2000) and Alshammari et al. (2015) on the cornerstones of ethical finance. Through the interviews conducted, within the company analyzed, the social impact mentioned is perceived as an indirect effect of processes.

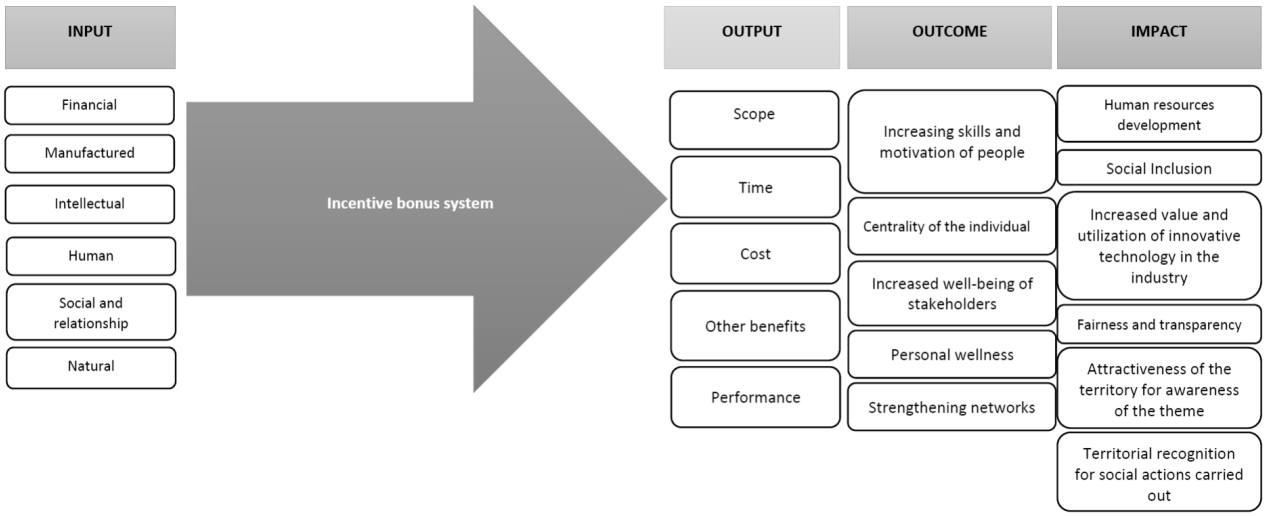
The case showed that holding firmly to the goals of productivity, profitability, quality, efficiency and innovation defines a point in favor of establishing a good corporate policy to give the perception of being accountable and transparent. Governance is aware that everyone has the right and desire to know more about the company, both internally and externally, as confirmed by the studies of Freeman (2010), Carroll (1996), and Biancone et al.(2018b).

Undoubtedly, using internal language that is accessible even to those unfamiliar with HRM issues becomes an effective communication tool in line with the POP principles of good reporting practices (Biancone et al., 2019; Biancone and Secinaro, 2015).

The territory is having a propensity for social orientation and social impact and therefore a good incentive tool oriented not only to accountability, transparency but also to the happiness of workers can help increase the propensity for social innovation in the ecosystem.

The study, made possible thanks to the company Abel Nutraceuticals Srl, has shown that it is possible to focus attention on human resource management through a value chain (Figure 4) ad hoc for this function, capable of generating the best possible result and impact. The simplification of the results shows that, in addition to the reportable results, it is easy to see that an activity of this type would increase the skills of the people as well as their well-being, creating, in the long term, social inclusion and attractiveness in the territory. Figure 4 summarizes the concepts of this section.

Figure 4. simplification of results



Source: Author's elaboration

The proposed model tries to give a message: if a company has a structure focused on the key factors described and is oriented to the participation of internal and external stakeholders, through this model has a good chance to achieve sustainable results. It would be a good starting point for future research to analyze what results the adoption of this model has given.

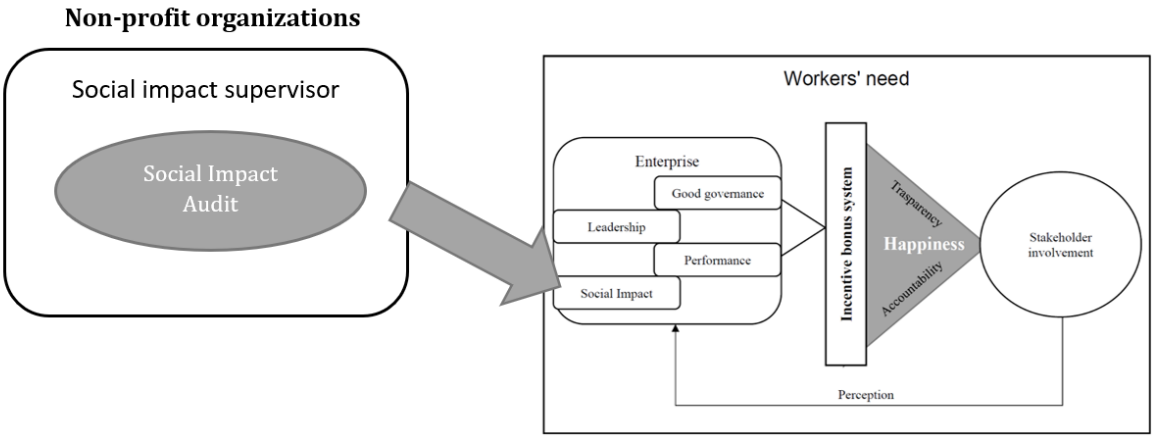
An added value that is given to the literature is the narration of an example of a for-profit company that is oriented to generate social impact. The entire company despite being legally set up as cited follows the rules of profit management as a nonprofit. This was possible because of the contamination it underwent from the parent company that has been socially oriented for almost 30 years. The literature has shown us that the trend at the international level is towards hybrid organizations, but as Zamagni says at the conference La Grande Sfida del Nonprofit, Dan Pallotta vs Stefano Zamagni (2021) the Italian situation cannot be compared to those in America or outside Europe. A company like the one analyzed can be defined as hybrid, but its social impact is generated because it has been contaminated by those who have made social impact their mission. It would be different if a for-profit company divided its profit among its members and the rest was donated for the purpose of marketing. Therefore, a further result emerges from this discussion, a for-profit company can be defined as hybrid if it has as a guarantor one of the core corporate values, social impact, of a company with a social vocation as in this case is Arcobaleno Cooperativa Sociale for Abel Nutraceuticals Srl.

Consequently, this research contributes to the literature on business with specific reference to the factors that it must monitor entirely in order to orient itself with its sustainable model to innovation, namely social impact.

For companies with a social vocation, the impact is inherent in their DNA, while for all the others, a synergy must be created in order to have the companies in the first group guaranteeing through an impact audit activity as is the case for other company phases, just think of ISO certification and accounting.

The management within the company, Abel Nutraceuticals Srl, is made up of members of the non-profit company with a social vocation, Arcobaleno Cooperativa Sociale. Ensuring that function of guarantor mentioned that will be represented in the next figure. Figure 5 summarizes the concepts of this section.

Figure 5. Simplification of results



Source: Author's elaboration

5. Discussion and conclusion

5.1. Contributions to the literature

To develop a high social impact and innovation-driven approach, hybrid organizations must continue to learn from experience and adapt during their internationalization and connect all stakeholders with innovative incentive tools and especially through stronger and stronger synergies with societies that have always had a social focus (Figure 5). As presented above, this process is the focus of this study.

In this paper, we define the key factors that hybrid mission-oriented for-profit organizations with the propensity for social impact should have to value workers and determine what factors the company's internal stakeholders would like to know in order to be heard included.

In doing so, it addresses the need for transparency, accountability, and personal well-being (Hartmann, 2019; Presenza et al., 2014) and how they inform subsequent internationalization practices (Biancone et al., 2018b; Owen et al., 2000).

The findings contextualize and extend the conceptual work by suggesting that hybrid organizations rely on their dynamic ability to learn from their experiences and adapt their practices in the process of solidifying good governance and leadership to generate performance and social impact and make the model replicable and scalable.

It turns out that this type of structure is able to sense and manage the need of workers and efforts would be in vain if they could not be connected to the enterprise. Good incentive and inclusion as presented in the literature can drive the right theory of change (Castello and Lévêque, 2016; Kail and Lumley, 2012). Through responding to needs and communicating in the right way, the company can generate transparency and accountability in its internal stakeholders by triggering a proactive form of the latter who, through their participation, are able to improve the structure of the company which in turn manages the whole process described (Figure 3). Therefore, having such key factors, however difficult to achieve, provides an initial basis for subsequent adaptation to the process. In this sense, the findings add nuance to the view that structured HRM carries with it positive strategic effects for the company using it and for all stakeholders by generating an evolution of all (Beer et al., 2015; Chaudhary, 2020; Kouhy et al., 2009; Zamagni et al., 2015).

In conclusion, the transition from one phase of key factor development to the next does not occur by default. On the contrary, the company must take an active role in monitoring the management process aimed at selecting the appropriate human capital, engaging in continuous reflection, critical evaluation, adaptation of criteria to its needs, and adaptation of best practices. In addition, the firm must ensure that all of the key factors mentioned are monitored properly, and must also engage external auditors to audit the process.

5.2. Implications for managers

One of the problems that our era is experiencing is generational turnover and we cannot think of doing innovation without young people, therefore an innovative incentive policy generates interest in new young people and stimulates other companies to use this tool prospectively.

The results show that the benefits of a good corporate structure linked to an excellent incentive tool are not necessarily automatic and may require dedicated efforts and procedures. Based on the preliminary evidence of the study and if supported by further research, corporate decision-makers can improve the effects of their actions internally and externally, even when reflection on best practices is not perceived as urgent. The findings suggest that these micro-processes can be supported by an entrepreneurial attitude that allows business managers to regularly take stock and be ready to act quickly by being aware of their company's financial and non-financial data, especially in a language that is certainly accessible. Too often, smaller companies going to market don't have time or resources to do these actions, and this can lead to inefficiencies that last longer than necessary, resulting in wasted resources and poor returns, as well as reducing opportunities for learning and adapting practices.

The manager must select the human capital to carry out these activities, otherwise, they will have to provide external professionals for implementation.

Managers through an effective tool will be provided with valuable information focused on risk assessments. These decision-support tools will also provide "predictive" algorithms that help managers anticipate and predict potential problems, such as turnover, recruitment, compensation, and labor relations. Sensitivity analyses (or "what if" analyses) will allow managers to test different alternatives and evaluate the potential consequences of their decisions. Decision support tools will also provide employees with step-by-step information on HR issues.

Effective hybrid organizations like these share some common characteristics. They tend to inherently choose a big problem. Social impact enterprises don't think small. They start with something big like the environment, health care, equity, or underserved populations, and figure out how they can make a big difference. A social impact company that aims for something really big might not make it, but there's plenty of room to do good without a lofty goal.

This type of company measures success based on business/financial and social metrics. Most nonprofits do good while losing money, worrying only about impact; conversely, many other companies make money without doing good. Each of these identities cares about impact or profits. In contrast, a social impact company sets goals for its impact priorities in the same way it does for sales and marketing by keeping track of everything The best share their experiences in framing and tracking goals so that others can learn from their successes and failures. Large or small companies with a hybrid connotation focus on building a successful for-profit company by changing the world for the better and the companies that truly change the world are the companies that last.

For this reason, this research has come to the conclusion of suggesting to the managers of the future to find a guarantor who can make sure that the key factor of social impact is taken care of as Arcobaleno Cooperativa Sociale does with Abel Nutraceuticals Srl.

5.3. Limitations and future research

The scenario demonstrated has strong illustrative and exploratory potential, and the steps that the study identifies can be adapted to other contexts (Acquah et al., 2020; Agyabeng-Mensah et al., 2020; Welch, 2012). The same is true for transferring context-specific notions of good governance, leadership, performance, and especially social impact into the development of good HRM policies. There may also be other companies that have similar characteristics to our context but have different business models and industry regulations, so these findings should be transferred to these contexts with caution.

The purpose of our exploratory study is to provide insights that other scholars can draw upon and explore further in the process of theory development. Therefore, this study invites scholars to investigate the transferability of our insights and provides several promising avenues for future research. First, whether the proposed model years later leads to the anticipated results and further, the researcher wonders if the starting point from stakeholder needs and through a good incentive tool can generate transparency and accountability in them can be applied to all for-profit but also nonprofit contexts, as the current literature provides us with further distinctions in this category: for impact and without impact (Calderini et al., 2018; Clark and Rosenzweig, 2004; Meneguzzo, 2005).

Second, the results strongly suggest that the effectiveness of the tool described above increases the speed of stakeholder engagement with the company, but further analysis that can report the results after two years would be needed to verify that all is confirmed.

Third, to reach a more general conclusion, the 2030 goals toward which the world is racing seem to be set by large institutions and public bodies. Social enterprises, which are the drivers of social impact, can certainly contribute to this, and trying to provide a dashboard of the SDGs business format can help generate global development from the local and oversee the social impact of hybrid organizations that are not born with a social vocation like the former. In addition this case study will need to be replicated with the results of this policy in a few years. It will be interesting to see if this leads to the results mentioned and also it may be of interest to see if this approach can work for other companies. At the moment, this variant is not included in this study.

The researcher would appreciate further empirical studies investigating the impact of good incentive tools on the global goals that humanity must now aim for (Iannaci, 2020b; Secinaro et al., 2019a).

In conclusion, with the aim of answering the question "to define the key factors that a hybrid organization should have in order to achieve an incentive tool oriented to increase accountability, transparency and personal well-being thus generating social impact and to determine what factors internal stakeholders would like to know in order to be heard and included", the research confirms that a good tool that is inclusive and above all listens to the well-being of workers only works if it manages to put the worker first, having an auditor who verifies that the social inclusion it is implementing is done in the right way. This condition increases accountability, transparency, and stakeholder engagement. Stakeholders would be able to better understand the strong values of good governance, leadership, performance and social impact that the company possesses.

In order to define the field of innovation and identify the social value of company, which is returned to the ecosystem of the area, it is important and useful to define the business model as a tool that can facilitate (or not) the diffusion of innovation in the system. The value inherent in innovation remains latent until it is put on the market or otherwise made explicit and this can only happen through the use of a business model (Chesbrough and Rosenbloom, 2002). Through the research project conducted so far, it has been possible to demonstrate that in hybrid organizations to have an effective incentive of human resources it is necessary to use all possible tools to know and describe the company and the ecosystem that surrounds it and this is possible through corporate knowledge and mapping that goes from the measurement of impact always starting from the construction of value chain, only in this way it will be possible to know the full potential of company under study returning clear information for all. Stakeholders, therefore, will need increasingly advanced tools because the economic evaluation of social impact becomes fundamental in the knowledge economy.

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Opportunities and Challenges of Sustainable Development and Digital Revolution: the Italian case of Toolery

Gloria Fiorani[1], Federica Bosco[1] and Alessandro Biagetti[2]

[1] Department of Management and Law, Faculty of Economics, Tor Vergata University of Rome, Rome, Italy
[2] COO Toolery, Via Dedalo 27, 00133 Rome, Italy

E-mail: federica.bosco@uniroma2.it

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Abstract

This article explores how Digital Transformation can provide support for achieving the Sustainable Development Goals (SDGs) of the UN's 2030 Agenda. The article aims to provide a case study of the use of technology in a low-tech sector, the construction industry, in order to make the costs of reducing the positive impacts on the environment and people sustainable from an economic point of view as well. The article produces practical implications by describing strengths, weaknesses opportunities and major challenges of digital technologies for designing sustainable business models..

Keywords: digital transformation, 2030 Agenda, Sustainable Development Goals (SDGs), Start-up, Case study analysis, e-commerce

1. Introduction

The growing attention to the themes of Sustainable Development and the strong push towards digitalization are affecting all sectors of our society, deeply changing its dynamics. The nexus amid both domains foreshows outstanding, yet untapped, opportunities to foster a transformation towards sustainable development (Osburg e Lohrmann, 2017). In fact, it is possible to consider the synergy between Digital Transformation (DT) and Sustainable Development a winning combination (Atos, 2018) but still not potentially exploited (Del Rìo Castro et al., 2020). Digital Transformation, understood as the set of changes that digital technology causes or influences in all aspects of human life; (Stolterman & Fors 2004) it is reshaping work, leisure, relationships, education and governance. At the same time, this revolution allows the transformation of entire sectors of society, directing business towards more efficient, productive and sustainable models. Nowadays, digitalization is heralded to be one of the most promising transformations for sustainability (Gouvea et al., 2018). In order to understand the possible positive implications of digitization for Sustainable Development, the above-mentioned work aims, therefore, to answer the following Research Questions (RQs): in order to accelerate the change process in a sustainable perspective, why governing DT is a challenge to take over? (RQ1). Why implementing more sustainable business models can represent an opportunity for Italian growth? (RQ2). The study is structured as follows: the first section introduces the topic, the RQs and the motivation of the

article; the literature review provides an overview of the Digital Transformation and a review of the main stages of Sustainable Development up to the adoption of the 2030 Agenda. The methodology illustrates the chosen case study in order to analyze the implications of DT for Sustainable Development; the fourth section outlines the results achieved resorting to an impact assessment on the Sustainable Development Goals (SDGs) from a multidimensional perspective. Discussion aims to fill the gap between Digital Transformation and Sustainable Development answering the first Research Question. In conclusion, the second Research Question is answered by providing a S.W.O.C analysis of the case at hand, specifically linking the opportunities of the study with the national strategy.

2. Literature review

2.1 Digital Transformation

Nowadays, when we talk of Digital Transformation we mean restructuring an organization to use any and all information and network-based technologies that increase its competitiveness, in a way that, over a period of time, excludes and out-competes untransformed organizations (Baker, 2014). Digital technologies are disrupting across the economy and society. Digital Transformation (DT) refers to "a process that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and connectivity technologies" (Vial, 2019). The process of digital transformation manifests in new institutional arrangements, bringing about novel values, practices, and structures impacting the established rules of the game and contesting contemporary logic constellations (Hinings et al., 2018). Digitalization brings novel cultural, holistic and multidimensional phenomena (Boyd and Crawford, 2012). Digitalization is not a single entity or technology; rather, it is a highly interconnected system in itself. It represents the convergence and interplay of many fields, such as computer science, engineering, informatics, mathematics, biotechnology, nanotechnology, and manufacturing. (TWI2050, 2019). One thing that is agreed on is that Digital Transformation, whether within a corporation or within an industry, is the largest change sweeping businesses and organizations today (Baker, 2014). In this direction, the European Commission through the "2021 Commission work programme – from strategy to delivery", aims to make Europe healthier, fairer and more prosperous, while accelerating the transformation to a greener economy ready for the digital age. To achieve these goals, the Commission will ensure in this Digital Decade of Europe defined targets for 2030 in areas such as connectivity, skills and digital public services (European Commission, 2020). The first pillar of the package announced by the President of the European Commission, Ursula Von Der Leyen, is that of a digital economy deeply centered on people. The Commission plans to invest heavily in digital skills development and training for all Europeans, including a Digital Education Plan for digital literacy and skills development. In addition, the strategy aims to accelerate investment in the ability to deliver high-speed data connectivity through an update of the European Action Plan on 5G and 6G. The actions proposed within the strategy have as a second pillar to foster a healthy and competitive transition of Europe to the digital economy. This is ensured, among other things, through the establishment of an EU action plan for the industry facilitates the transition to digital for European companies and strengthen the rules of the single market. But where does Italy stand in relation to this wave of global innovation? We are clearly answered by the Commission's Digital economy and society index (DESI), which in 2019 placed us 25th in Europe after Croatia, Slovakia, Cyprus and Hungary. An indicator of European digital performance, the DESI analyzes the evolution of member states on the basis of five dimensions: the ability to provide a high-speed data connection (Connectivity), advances with respect to the digital skills of citizens (Human capital), the frequency of use of online services such as e-games, music, video, online shopping and online banking (Use of internet), the degree of digitization of businesses and the spread of e-commerce systems (Integration of digital technology) and finally the level of digitization of public services (Digital public services). A comparison of the five dimensions of the index shows how the infrastructure for high-speed data connection has more than doubled since 2014 with investments in mobile broadband networks; however, this growth does not seem to have influenced the other dimensions which, since 2014, have suffered from a stagnant or profoundly slow evolutionary dynamic. Finally, it emerges that the level of digitization of businesses is very low and the use of internet is still not widespread in our country. To weigh negatively on the digitalization of the industrial sector is above all e-commerce while, as far as the use of internet is concerned, online transactions are less widespread. Public policies in favor of digital transition must therefore necessarily consider these shortcomings and act in this sense to allow Italy to approach its European peers. Reconciling technological innovation with social and environmental issues in order to design better societies and economies is the real historical challenge to be faced and may represent a unique development opportunity.

2.2 Sustainable Development

The notion of Sustainable Development has its roots in the distant seventies, when awareness began to spread that the Fordist production model, characteristic of industrialized society (Sebastiani, 2014), was having serious repercussions on natural systems. In particular, it was the oil crisis of 1973 that laid the foundations for the construction of a better future for all humanity. In fact, with the war between Israel and Arab countries, the price of oil increased which resulted in a consequent increase in energy costs and inflation. As a consequence, therefore, of the energy crisis, many countries of the world were forced to adopt drastic austerity policies in order to limit energy consumption. This event, represented for the West the first real opportunity to stop and think about the use of natural resources of the planet, now limited, as they considered the use of renewable sources as an alternative to oil and fossil fuels. The industrial community therefore began to question the consequences of its actions (Petrini, 2012). We can therefore say that the idea of a model of responsible consumption began to take shape in the early 1970s, the decade in which the UN Conference on the Human Environment was held. To support this thesis, the report on the "Limits to Development" commissioned by the Club of Rome and carried out by some scholars from the Massachusetts Institute of Technology (Boudes, 2014). The document illustrated the results of a computer simulation of the interactions between industrialization, consumption of resources, population, food production, pollution and their exponential growth over time. Although a tragic fact emerged, namely that in a short period of time all environmental and energy resources would be exhausted as a result of a careless growth in production, it also raised hopes that this catastrophe could be avoided by pursuing a type of development that would not cause the total consumption of the earth's resources (Meadows et al., 1972). In order to achieve this type of development, however, it was necessary that attention to the environment be accompanied by the principles of economic growth and long-term improvement of living conditions. In order to have a complete vision of the steps that have been taken over the years in favour of Sustainability, it is essential to retrace the most important stages of this path. The Stockholm Conference, convened by the United Nations and held in Sweden from the 5th to the 16th of June 1972, marks the beginning of the path towards Sustainable Development. Following the Conference was established UNEP "United Nation Environment Programme", a specialized agency of the UN in order to protect the environment and raise awareness of the community to responsible behavior (Lafratta, 2004). In 1980, the collaboration between UNEP, IUCN and WWF resulted in the first document integrating conservation with the sustainable use of natural resources, "The World Conservation Strategy: Living Resource Conservation for Sustainable Development" (IUCN et al., 1980). Nowadays, in order to define the concept of Sustainable Development, we refer to its most widespread and shared definition, elaborated in 1987 by the World Commission on Environment and Development and contained in the Brundtland Report "Our Common Future", whose name derives from the then Norwegian Prime Minister Gro Harlem Brundtland who chaired that commission: "Development which meets the needs of current generations without compromising the ability of future generations to meet their own needs" (Brundtland, 1987). In 1991, the three organizations IUCN, UNEP and WWF published "Caring for the Earth: A Strategy for Sustainable Living". With this document it is stressed how important it is to improve the quality of life of human beings, respecting the regenerative capacity of natural resources (IUCN et al., 1991). In 1992, in Rio de Janeiro, Brazil, was held the largest conference in history organized by UNCED: the "Earth Summit". It was attended by heads of government from around the world, representatives of 172 states and many spokesmen of non-governmental organizations, all gathered to discuss the future of humanity and the environment. (UNCED, 1992). In the same year, in Brussels, the European Union approved the Fifth Environmental Action Plan "Towards Sustainability" (EU, 1992). In 1994, the "Aalborg Charter" was approved during the "European Conference on Sustainable Cities and Towns". Through this document, European cities committed themselves to applying "Agenda 21" and to promoting long-term sustainable action programs at the local level (Lafratta, 2004). In 2000, the United Nations Millennium Summit was held where the eight Millennium Development Goals (MDGs) were defined, which all 193-member states of the UN committed to achieving by 2015 (UNDP, 2015). Eight goals were identified: reduce hunger and poverty, improve education, equal opportunities and empower women, improve the health of children and their mothers, combat diseases, ensure sustainable development and promote economic development (Lafratta, 2004). 2002 was the year of the "World Summit on Sustainable Development", held in Johannesburg. The document "Plan of Implementation of World Summit on Sustainable Development" was drafted through which the importance of the Millennium Goals defined in the "Millennium Declaration" was reaffirmed; the commitment to promoting the principles for sustainability elaborated during the "Earth Summit" in Rio was renewed and the implementation of "Agenda 21" was continued (UN, 2002). 2010 was the year of the "Europe 2020" Strategy: an action plan to ensure sustainable, smart and inclusive growth of the European economy for the decade 2010-2020 (EU, 2010). In 2012 the "United Nations Conference on Sustainable Development" (UNCSD) took place,

also known as “Rio+20”, because it took place twenty years after the “Rio de Janeiro Earth Summit”. From the Conference emerged the document “The Future We Want” which addressed issues of fundamental importance for the future of the Earth. The meeting was an opportunity for the governments of the countries of the world to take stock of the results obtained so far during the path undertaken a few years earlier and to establish new common goals to be achieved (UN, 2012). On the occasion of the Summit on Sustainable Development that took place, from 25 to 27 September 2015, in New York, the 2030 Agenda was presented: an ambitious and innovative strategic framework of the United Nations for the world, signed by the governments of the 193-member countries (UN, 2015a). In fact, it represents a real program of action aimed at the planet, at people and for prosperity. The 2030 Agenda is the result of a long and complex process, which started with the World Conference on Sustainable Development “Rio+20”; on that occasion, the UN member governments took on the task of enriching the interventions in favor of sustainable development. Among these, that of defining new development goals to take the place of the previous ones: the “Millennium Development Goals”. Thus, 17 new goals were born: “SDGs - Sustainable Development Goals” to be framed in the Post-2015 Agenda. The new goals start from the results achieved by the MDGs and complete what the MDGs failed to achieve, with 169 targets and more than 240 indicators. They are universal, i.e. they are addressed to both developed and developing countries; they are interconnected and at the same time they are indivisible and common: in this long journey all must advance in the same direction, without exclusions and distinctions With the signing of the 2030 Agenda and the launch in 2016 of the Sustainable Development Goals, the UN countries have made themselves responsible for the future of the world for the next fifteen years. UN Secretary-General Ban Ki-moon says: "The new agenda is a promise by leaders to all people everywhere. It is an agenda for people, to end poverty in all its forms - an agenda for the planet, our common home". All countries must therefore commit themselves to ensuring that these goals can be achieved at all levels of society.

3. Methodology

The case study focuses on the work carried out by the innovative startup Toolery which aims to digitise the entire site procurement process for construction companies by offering the possibility to put leftover site materials back on the market in a circular economy perspective. The construction industry has been particularly affected by the crisis of the last few years and for this reason it needs more and more innovation. Toolery's contribution aims precisely at underlining not only the infinite potential for building companies capable of bringing innovation to the market, but also a good response of the latter to an increasingly flexible and digitized vision of the building sector. Toolery is a platform that allows companies to buy building materials online and have them delivered directly to the construction site, avoiding unnecessary waiting at building material retailers. Toolery not only simplifies internal processes, but also provides an opportunity for construction retailers to bring their products online and tap into new customers and opportunities. In addition, the platform provides an opportunity for construction companies to re-circulate supply chain waste. According to Ekanayake and Ofori (2004), construction waste is defined as a material, other than the material of the earth, that is transported to another place on the project site or used on the project site and does not conform to the specifications of the project because it is damaged, excess and unused/unusable or a production of the construction process that is not according to plan. In construction, waste can be a delay of time, lack of security, reworking, excessive costs, unnecessary travel or transfer, long shipping distances, imprecision in the selection of operation methods or bad management tools and capacity-building measures. The aim is to revolutionise the construction industry by innovating purchasing processes through ecommerce and delivery. In this sense, this one is a start-up that can say they got a major boost from the pandemic. In the undeniable tragedy of the current situation, companies and citizens have found themselves necessarily having to exploit the means and potential of digital technology, which has propelled the country forward by five years in just under a year. For Toolery, operating in the construction sector, the coronavirus has been a moment of reflection, strongly increasing building retailers' awareness of the importance of multi-channel sales and therefore the importance of digitalisation. With this in mind, the start-up strongly believes that the idea behind the project has taken on even greater value, which is why it is offering its customers the opportunity to access the service at a heavily discounted price to accelerate digitisation and increase the competitiveness of the sector.

3.1 Context

There are 11,241 building material dealers in Italy, specifically 4,548 wholesale building material dealers and 6,693 building material dealers. 45% of construction warehouses are located in the south of Italy, although almost 60% of the sector's revenues are generated by companies in northern Italy. The total turnover of the sector is around 18 billion. Construction companies lose between 50 and 80 minutes in a row at the retailer's and, in the event of an unforeseen shortage of material on the construction site, they have to wait until the next day to replenish the necessary material, generating a further loss of time. In Europe, there is as yet no specialised "last mile" service for building materials. Large distribution centres such as Leroy Merlin, OBI or Bricoman only deliver within 5 to 7 working days. companies support the Toolery service mainly in two ways: by going directly to the supplier in the morning, before starting the working day; or the day before, in the evening, by buying everything needed for the next day. With the Toolery service, the time savings for companies are considerable, considering that an average company on arrival at the dealer has to queue to create or collect the order sheet, queue in the warehouse and queue again in the sales office to collect the transport document.

4. Results

A corporation's ultimate success can and should be measured not just by the traditional financial bottom line, but also by its social and ethical and environmental performance, according to a Triple Bottom Line approach (Norman &MacDonald, 2004). Many organizations have the desire to be more sustainable, but according to the organizations themselves, they lack the structures needed to proceed (Vandenbrande 2019). A platform such as Toolery, which digitizes the entire delivery process in the construction industry through the provision of a digital service, produces several positive impacts on the ground for the environment, people, and the economy. In this paragraph we highlight, therefore, some initiatives and interventions implemented by the start-up that, if shared and maintained in the long term, can represent a push for change in the Italian construction sector in favor of Sustainable Development. In order to illustrate the effectiveness of the role of Digital Innovation in support of the aforementioned smart building platform in achieving the Sustainable Development Goals, we have resorted to a multidimensional impact assessment (environmental, economic and social), both in the short and medium-long term, of the direct and indirect effects generated on the Goals of the 2030 Agenda, the Action Plan through which the UN member countries have made themselves responsible for the future of the world for the next fifteen years after its signing (UN 2015a). Much has been accomplished since its adoption, but it is also well known that more action is needed to make the world's actors truly sustainable (Laszlo et al., 2005). Table 1 shows, therefore, the characteristics and areas of intervention adopted by the start-up in line with the Sustainable Development Goals of the 2030 Agenda. Considering the characteristic of digital platform, using IoT technologies allows to generate several benefits in terms of efficiency of resources, saving time and money and increasing the loyalty of customers and suppliers who want to protect the planet.

Table 1. “Toolery SDGs Mapping”

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Affordable e-commerce	✓							✓	✓	✓	✓					✓	✓
Digital document dispenser							✓		✓			✓	✓		✓		
Delivery efficiency algorithm									✓		✓	✓	✓		✓		

Source: Author’s elaboration

- Affordable e-commerce: the potential contribution of Toolery.eu in this direction is mainly expressed in the ability to increase the productivity of workers by enhancing and supporting the local economy, with clear benefits on economic growth and decent work for all. Digitization, in this sense, can help smaller realities, which very often are at a disadvantage because of the large-scale retail trade, to get in touch with customers. Another feature of the e-commerce platform with regard to the general positive social impacts concerns precisely networking and activating synergies by

implementing policies and mobilizing resources to support accelerated investments in actions to combat poverty. Another feature that resides in its digital nature is represented by the potential capacity to achieve several Sustainable Development Goals. In the specific case of Toolery, which refers to the construction sector, the SDGs achieved on the basis of what has been analyzed are: 1 “End poverty in all its forms everywhere”, 8 “Promote inclusive and sustainable economic growth, employment and decent work for all”, 9 “Build resilient infrastructure, promote sustainable industrialization and foster innovation”, 10 “Reduce inequality within and among countries”, 11 “Make cities inclusive, safe, resilient and sustainable”, 16 “Promote just, peaceful and inclusive societies” and 17 “Revitalize the global partnership for sustainable development”.

- Digital document dispenser: one of the most obvious benefits of digital transformation is the fact that it’s scaling back on the use of paper such as books, files, magazines, contracts in lieu of digital communication and digital file management. Cloud storage helps eliminate paper waste and the overhead costs of traditional storage and secure shredding. It also makes accessing documents from anywhere even easier (Newman, 2017). In addition, the following feature enables employees, customers and suppliers to access documents from anywhere, decreasing waste and costs related to energy consumption, commuting emissions, and so on. All these elements allow, therefore, to meet the objectives: 7 “Ensure access to affordable, reliable, sustainable and modern energy”, 9 “Build resilient infrastructure, promote sustainable industrialization and foster innovation”, 12 “Ensure sustainable consumption and production patterns”, 13 “Take urgent action to combat climate change and its impacts" and 15 "Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss”.

- Delivery efficiency algorithm: although firms have recognized the importance of supply chain innovation, they still find it difficult to innovate in isolation. Indeed, as Sumo, Valk, Weele, and Bode (2016) concluded, collaboration among partners is necessary to incorporate innovation into firms, and this involves integrating and exchanging information with others (Cao and Zhang, 2011). Supply Chain Innovation refers to an interconnected set of processes which deal with uncertainties and disruptions in the firm's internal and external environment in order to provide novel and innovative solutions to end users (Lee et al., 2011). In the long run, organizations achieve a sustainable competitive advantage by developing key competencies and, in this way, provide better services to their target customers than their competitors. Srivastava, Franklin, and Martinette (2013) explained key competencies as a set of unique competencies developed in organizations’ key areas, including factors like innovation flexibility, customer service, quality and responsiveness which help organizations to outdo their competitors. Thus, in this scenario, competitive advantage is a state where organizations possess better resources and implementation abilities in order to cut costs, get better business performance and create added value for customers in long-term competition with rival firms. The use of digital not only helps manage the supply chain but also allows for more efficient planning of shipping and transportation routes thanks to “driver correspondence” with direct benefits on decongesting mobility and reducing pollution. Therefore, the SDGs achieved are: 9 “Build resilient infrastructure, promote sustainable industrialization and foster innovation”, 12 “Ensure sustainable consumption and production patterns", 11 “Make cities inclusive, safe, resilient and sustainable”, 13 “Take urgent action to combat climate change and its impacts” and 15 “Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss”.

5. Discussion

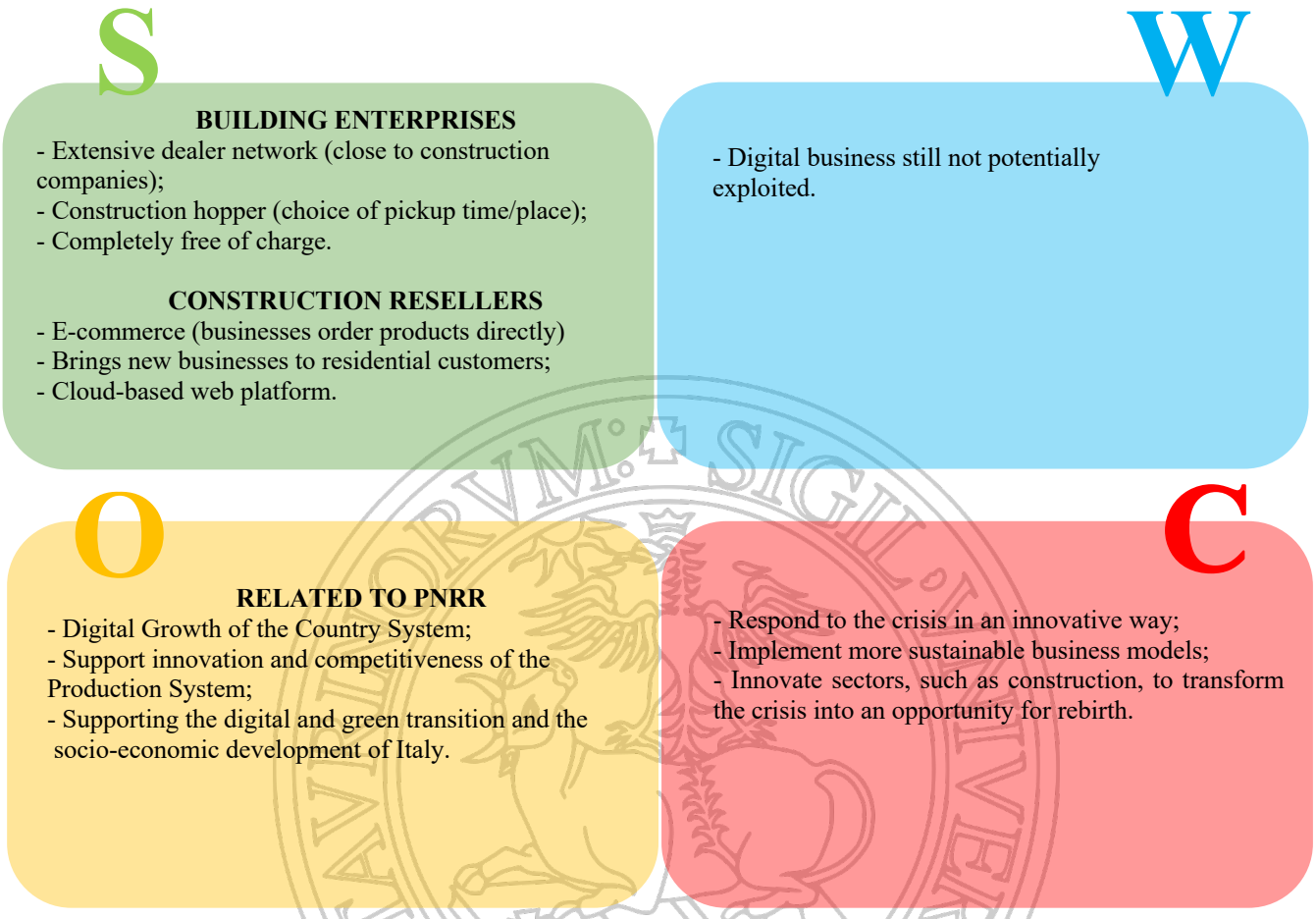
The potential contribution of Digital Transformation to the achievement of the Sustainable Development Goals (SDGs) is increasingly evident and highlighted by scholars and practitioners (Bonomi Savignon, 2020). According to Enrico Giovannini (2020), the Digital Revolution is a necessary condition for the transformation of consumption and production models (Epifani, 2020). This revolution allows, in fact, the transformation of entire sectors of society, orienting business towards more efficient, productive and sustainable models. But what are the possible implications of digitalization for Sustainable Development? Undoubtedly, the digital component will represent a fundamental vector for the achievement of the ambitious Sustainable Development Goals (SDGs) of the 2030 Agenda; in fact, digital solutions can be considered the main enablers to support a green and long-term transition on a global scale. In order to bring the world on a path of Sustainable Development, the Digital Revolution assumes, therefore, a fundamental role. The objective of this work was to analyze the implications of digitization for Sustainable Development and for the 2030 Agenda, through the description of the case study of Toolery, an Italian e-

commerce platform operating in the construction sector, with reference to the achievement of the UN Sustainable Development Goals. In this direction, to innovate means to provide a digital service to create a positive impact for the environment, people and economy: from an environmental point of view, to improve, through the digitalization of procurement and distribution processes, the entire supply process in the construction industry, minimizing waste and CO2 emissions; social, generating decent work and reducing the risk of loss related to territorial realities; economic, providing digital services for small retailers in the area that support the local economy against the large-scale retail trade. In this direction the use of online, can represent, therefore, not only a valuable ally to increase their productivity but allows you to create a culture oriented to sustainability and responsibility that surrounds the various business. The discussion, through the analysis of the case study, wanted to highlight why governing the Digital Transformation represents a challenge to be taken to accelerate the processes of change in a sustainable perspective. Digitalization could accelerate sustainable transitions, particularly ecological and social shifts in the industrial domain (Beier et al., 2017) as support human progress and reframe the business case for both investors and consumers (Holst et al., 2017) and drive resource efficiency. This means for building a successful business, Digital Transformation and Sustainability have to complement one another. For this reason, the Digital Revolution should not be viewed as being outside or separate from Sustainable Development and their convergence must be ensured to achieve solutions for the SDGs. It seems therefore right to make a consideration: the technology movement we credit with improving customer experience and changing the face of the modern business landscape (Newman, 2017) can also make a large contribution in helping organizations, cities and nations better meet their sustainability goals. The case study of the Toolery platform teaches us, therefore, that thanks to the use of technology, great results have been obtained, such as in terms of reducing pollution and waste; for this reason, sustainability must become an integral part of the companies' mission. Only through this attitude they can continue to survive in the long term, generating a benefit for their businesses and the planet.

6. Conclusion

For Italy, the path towards the UN 2030 Agenda, which already appeared to be uphill before the crisis, has become even more difficult. For this reason, it is necessary to embark as soon as possible on the path towards a "just" ecological transition, capable of generating new employment and economic and social development, using EU and national resources in a coherent manner to relaunch the country with a view to economic, social and environmental sustainability (ASviS, 2020). The advancement of the digital transition in this process of growth and improvement can help to meet this need. It seems fundamental, therefore, to perceive the use of digital as a valid support to the achievement of the SDGs. Sustainable Development and Digital Transformation represent, in fact, the strategic priorities also of the new National Recovery and Resilience Plan (NRRP) aimed at providing Italy with an answer to the main challenges it will have to face in the coming years, among which promoting, in line with the strategic objectives shared with Europe, the green and digital transition (Italian Government, 2021). Specifically, the strategy, aimed at giving concrete implementation to the NextGenerationEU Program - the tool designed to stimulate post-pandemic recovery for a greener, digital and resilient Europe (European Commission, 2020) - through the resources allocated also intends to accelerate the pursuit of the 17 SDGs in order to proceed to an impact assessment related to the implementation of the missions, at national and territorial level. According, in fact, to current estimates, the NRRP will have a positive impact on the main macroeconomic variables and indicators of inclusion, equity and Sustainable Development through increased investment that will activate directly and indirectly and technological innovations that will introduce and stimulate. Italy, especially thanks to the choices made by the European Union, is becoming aware of the need for a change in the direction of sustainable development (ASviS, 2020). For Italian companies, therefore, taking advantage of incentives will represent a strategic opportunity to innovate in a "green" perspective. Figure 1 shows the S.W.O.C. analysis carried out for the case study in question, which illustrates the strengths and weaknesses of a highly digital reality such as Toolery, considering the Italian context, the opportunities linked to the PNRR and the main challenges to be taken up with a view to long-term improvement.

Figure 1. "S.W.O.C Analysis"



Source: Author's elaboration

Nowadays, the role of start-ups in Italy is increasingly relevant on an economic level. In a world where it's difficult to keep old businesses afloat, the thought of starting new ones is distressing, but also an indication of great courage and inventiveness that is fundamental to the life of the country. For this reason, the PNRR can be an opportunity to implement more sustainable business models. How? Through favorable funding, in line with the three strategic lines proposed by the Plan: digitization and innovation, fundamental to make Italy a protagonist in the global technological competition and strictly connected to the second pillar of the Plan, that is the ecological transition. Digitization is, in fact, essential to improve the management of energy consumption and resources, in agriculture as in sustainable mobility, feeding new production and research chains and generating employment. Finally, ensuring social inclusion by reducing inequality and poverty, infrastructure and employment gaps and territorial gaps in accessibility to services and achieving gender equality, with action on the multiple dimensions of discrimination against women. Sustainable Development will be key to ensuring the structural reduction of asymmetries and inequalities, between geographic areas and between people (Italian Government, 2021). Policymakers, researchers, companies, and all civil society actors will, therefore, need to intensify their efforts to understand and explain the multiple effects of digital change in order to guide the digitization process towards sustainable (TWI2050, 2019) and forward-looking transformations.

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Population, Poverty and Environmental degradation in Nagaland: An overview Analysis

Chubakumzuk Jamir[1]

[1] Yingli College, Department of Economics
Longleng, Nagaland: India

E-mail: ckumzuk7@gmail.com

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Abstract

Nagaland is located in the Far East region of East Asia towards Northern part of Indo-Myanmar mountain ranges is well-known among conservationists and environmentalist for its unique forest ecosystems and also for its alarmingly high rates of deforestation through various forms of economic activities. High population growth and continued economic development have caused serious environmental damage in the region. To this end, the study seeks to assess the impact of population pressure on environment resources, with particular reference to the degradation of natural endowments like forest and land resources. This paper reviews existing evidence and offers a conceptual framework for the investigation of complex dynamics among population growth, poverty and environmental degradation. The evaluation suggests that higher population and fertility rates were associated with higher deforestation rate in the tropical evergreen forest of Nagaland. Poverty reduction and environmental protection are two international obligations for sustainable development. The relationship between population, poverty and environmental degradation is regionally unique or has regional uniqueness. The study is based on both primary and secondary source of data. A total of 400 household were selected using stratified random sampling technique for measurement of Multidimensional Poverty Index. This paper analyses the poverty level using below poverty line (BPL) card holder. Composite Index was used to compare the environmental degradation cause by rapid rise in poverty level. The finding shows that during 1987-88 the poverty rate was 34.43% and the forest loss was found to be -192 sq. km which further increases to 33.83% (poverty rate) and forest loss to -450 sq. km during 2016-17. The result highlights high level of poverty thereby, affecting the environment resources. The paper suggests suitable measures which can ameliorate the poverty and environmental degradation.

Keywords: Shifting cultivation, land degradation, forest resources, environmental degradation and poverty

1. Introduction

In underdeveloped and developing countries deprived population have normally taken the burden of shouldering the whole blame for the cause of serious trouble in the society, the most present day accountability directed in opposition to them is that they cause destruction of ecosystem (Boyce, 1994; Duraiappah, 1998). The Brundtland Commission record generally well-known definition of sustainable development, this definition enclose the social, financial and environmental necessities of both present and future generations and prominence the mannequin that what we do at present determine what is possible tomorrow (United Nations, 1987; Drolet, 2015). The Bruntland Commission Report 1983, which unexpectedly has been welcome as the plan for environmental preservation, it is obviously cited that income deprivation is a predominant cause of environmental troubles and enhance of poverty is a requisite and fundamental condition of any successful program to deal with environmental assignment (Kramer, 2012; Bruntland Commission, 1983).

The World Bank 1992 joined the agreement with the World Development Report, where it openly stated, low income households who have to meet short term basic needs mine the natural assets by excessive cutting of trees for firewood and failure to restore soil nutrients. However there is a mounting progress in the economic literature which disputes the conventional concept and content that more composite set of variables comes into play and that simple generalizations of this multidimensional hassle are often invalid and misses many considerable points. These studies point out population, social, political, economic and institutional determinants as central parameters in the poverty-environmental degradation connection. In the World Bank mission declaration, combating poverty with enthusiasm and professionalism for lasting results, the World Bank has expanded its focal point on poverty reduction program. Increasingly, country actions are focusing exclusively on poverty reduction outcomes, and are requiring the sectors to work collectively to achieve those outcomes. Until recently, the controlled approach for environmental activities within any particular country or place is primarily based on attaining the most environmental benefit for a unit of expenditure. Environmental benefits are notion to promote society as a whole, so our goal has flawlessly been to maximize our societal benefits. In the equal way, other sectors have pursued their very own objectives, regularly aiming for the greatest social advantage or economic development and now not particular to limit poverty (World bank, 1992).

The World Bank updated poverty line of $1.90 a day, the estimated for 2012 put in light the number of extremely poor population at about 900 million or 12.7% of global population based on 2011 purchasing power parity (Global Monitoring Report, 2015-16). In 1998 World Bank Report, "Reducing Poverty in India" focuses on the number of anti-poverty programes of the government. During the last seventy years since independence, India has accomplished many astonishing social and economic parameters in different fields like education, health care, reducing gender inequality, raising standard of living, manage over the population growth, reducing income inequality, employment generation etc. Accordingly government has carried out range of plan, projects, policies and programme for the improvement of the poor people. For India poverty level according to C. Rangarajan during 2011-12 was 29.5%. For the state of Nagaland the average MPCE (monthly per capita consumption expenditure) was 1229.83 for rural sector and Rs 1615.78 for urban sector, and the total poverty level was 14%. In recent time Government of India highlighted that Nagaland is the absolute best upward shove in poverty level with 4.1 lakhs population residing under poverty line in 2009-10, as against 1.7 lakhs in 2004-05 (Planning Commission, 2014).

Poverty in Nagaland is most rigorous in rural sectors where an estimated 71.14% of the total population lives in, obtain their livelihood from the natural resource base (Census, 2011). One of the most key attribute of agriculture zone in Nagaland is the massive existences of subsistence economy, which makes agriculture even more vital for food supply and sustainability. However, over the ultimate four decades, soil erosion and land degradation have turn out to be most necessary environmental issues and present an upsetting risk to nutrient safety and sustainability of agriculture production and productivity (Jamir, 2015; Longkumer and Jamir 2012). Broad range of efforts on poverty reduction program have failed to bring adequate progress and development despite decades of development support by the central authority by implementing number of employment and income generation programs (Jamir and Ezung, 2017a). On the other hand rapid boom of population in combination with poor initial natural resource endowments and inclined macro-economic policies towards agriculture sector have not only proven catastrophic to reduce poverty, but also led to the worsening of the natural useful resource base on which rural livelihoods depend. It is typically conventional that development hyperlink on the scope of ecological sustainability, monetary viability and social recognition. However, a range of vital dimensions in the development scenario are unfavorable, but they symbolize the essential problems associated to sustainable development. These improvement domain dimensions include agro-ecological potential, population, market access and institutional setting. Less favored areas are normally characterized by a combination of low agricultural possible and disadvantage market access; often existing in an institutional setting that is now not conducive to choice possible improvement pathways (Jamir, 2021).

2. Literature review

Malthus (1798) was concerned about the growth of population to outrun the available food supply. The negative impact on the nature due to increasing pressure caused by the population growth and natural judgment of diminishing marginal productivity of resources was highlighted in his An Essay on the Principles of Population. In Malthusian view, the population growth would undo itself through its rising pressure on natural resources like land, water, forest and thereby declining the productivity of such natural resources and rising incidence of poverty.

Ehrlich (1968) empirically indicated the pressure of a fundamental relationship between rapid population growth and environmental degradation. He argued that if the existing patterns of population growth and resource use continued, it would lead to environmental collapse. Even the renewable natural resources like forest, water can be exhausted if the population exceeds the carrying capacity and thus rate of extraction is higher than the rate of regeneration. Therefore a balance between the population growth and resource use is well warranted for the maintenance of ecological balance and sustainable growth of the economies.

Trainer (1990) stated that most of the developing nations suffer because of the rapid increase in population, that in turns cause to shrink environmental resources, raising air and water pollution, deforestation, soil erosion, overgrasing and damage to ecosystem. There is a tremendous pressure on land to produce more food for growing population.

Cropper and Griffiths (1994) argued that population growth, by increasing the demand for arable land, encourages the conversion of forests to agriculture. Since the people living in rural areas who are dependent on agriculture as a livelihood, one would expect deforestation to increase with rapid population density as well as rising demand for wood for both timber and fuel.

Leach and Mearns (1995) Poverty and environmental degradation are positively linked in a vicious circle, which forces deprived population to engage in practices that have an unfavorable impact on the environment as they are searching for primary provision to enhance their livelihood Study have established that poor household depends on environmental assets for their sustainability and also the poor people rely on the natural resources for many of their basic economic activities.

Agarwal (1997) the study traced why and how this degradation and the misuse of natural resources in rural sector of India. It was once observed that the poor households in rural region are alleged as having a short-time scope, discounting the future benefits from conservations of environment rather heavily owing to the urgency to make a sustainable livelihood and avoid hunger. Such a time horizon leads to unsustainable use of natural resources.

Rozelle et. al., (1997) Major work was undertaken to learn about the correlation amongst population growth, poverty and environmental degradation in China in 1997. The paper examined the affect that each had on the China's environmental resources such as land, water, air and forest resources. They determine that institutional policy have been ineffective in controlling environmental resources degradation primarily due to the fact of its limited resources. Some studies divulge that due to deforestation and agricultural growth there has been considerable destruction of forest resources causing environmental degradation.

Dreze and Sen (1989) have also identified the incidence of poverty and not the population growth as the principal reason for the degradation of resources. They also cited the example of countries like Israel, Hong Kong and Portugal where per capita food production declined during the decade of 1980s but those countries able to compensate the underproduction through imports as the countries were developed and people had the entitlement to afford to buy imported items unlike many African citizens.

Bhagat and Hassan (1994) have shown that the changes in major environmental parameters and degradation of resources in the world during the last Century especially after 1950 was not only due to the rapid growth of population but also owing to the escalation of consumption of fossil fuel, industrial production and the growth of the economy, which have been much higher than the rate of growth of population. Therefore, the degradation of natural resources is a complex interplay of population growth, growth of consumption of resources per capita, advancement of technology and the later one is much more important than the former one

Goodstein (1999) has argued that the poorer has a tendency to have more children and spent very less on birth control for their future security. Therefore the family size and population growth is rapid in many underdeveloped and developing countries. The rising population even for sustainable activities enhance pressure on natural especially forest resourcesTherefore, due to these premises, the objectives of the study will be to examine environmental degradation caused by rapid rise in poverty level and study the effect and measure to control of shifting cultivation in the region.

3. Materials and Methods

3.1. Study areas and period of research survey

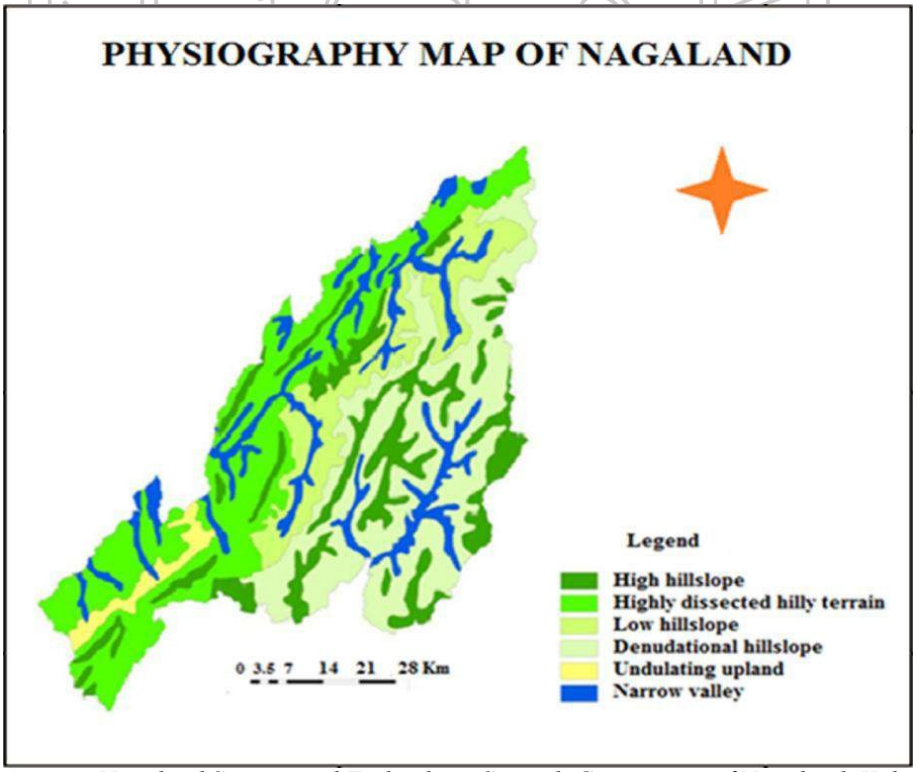
Nagaland came into existence as the sixteenth state of Indian Union on 1 December, 1963. It is situated in the Northeastern part of India between 25°6' to 27°4' North latitudes and 93°0' to 95°15'·East longitudes with an area of about 16,579 sq. km,

Assam in its North and West, Arunachal Pradesh in its North East, the state of Manipur in the South (Figure 1). The state is bound by the long International boundary of Myanmar in its Eastern side. The terrain is lush with luxuriant forest, rolling mountains, enchanting valleys and swift flowing streams and rivers making the landscape beautiful. The altitude varies from 200 meters in the plains to 3,840 meters in the hills. The inhabitants of Nagaland are tribal having distinctive dialect and culture. The State's population is predominantly rural with about 71.14% of its population living in rural sector. The State is comprised of 12 administrative districts with 74 blocks and 1428 inhabited villages (Census, 2011). Each district is inhabited with one or more tribes thereby imparting to it a distinct linguistic, cultural, traditional and socio-political characteristic. The terrain is predominantly hilly and is covered by a rich and varied floral and faunal assemblage. It forms part of one of the 35 biodiversity hot spots of the world, i.e., the Indo-Burma biodiversity hotspot zone.

The physiographic creates specific situations and sometimes limitations for rural development like vulnerability, inaccessibility, specific resource niches and areas of population concentration. These aspects of physiographic conditions directly or indirectly influence the distributive nature of natural resources and human concentration. The study of such aspects of landscape would be helpful in understanding the required processes of rural development and also helpful in identifying the areas of available resources where the developmental processes may be intensified in future for raising standard of living of the local population.

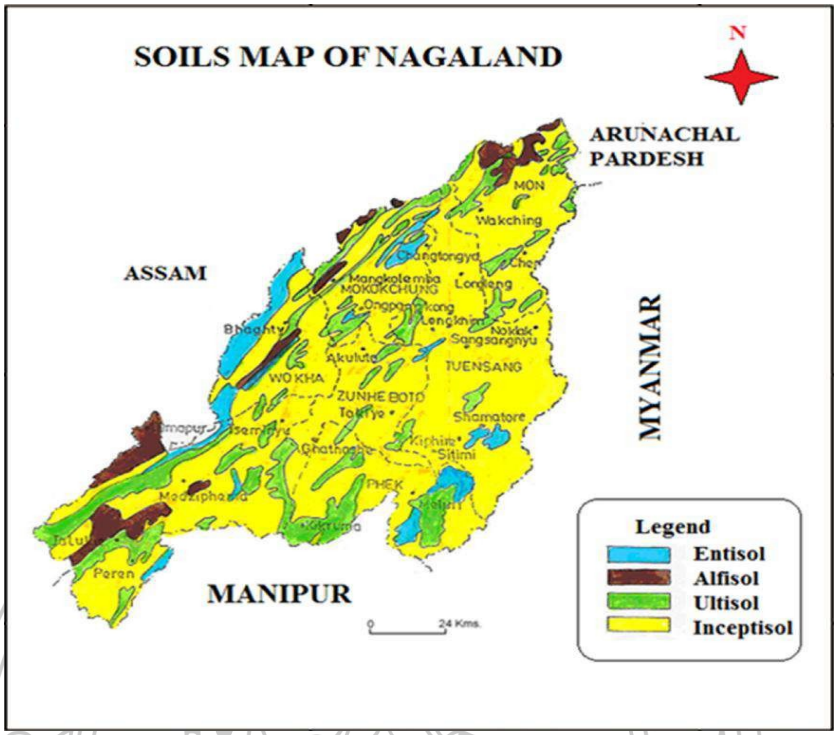
Nagaland is primarily ago based economy. People are based on agriculture and allied activities for their sustainable livelihood. Comparing to other food crops about 80% of the cropped region is under rice production. The farm production and productivity for all food crops is very low, in contrast to other states. Presently, the Jhum/shifting to terraced cultivation ratio is 4:3 (Nayak, 2013). Forestry is also an important source of income generation for rural sector (Ghosh, 2016). Nevertheless, agriculture and forestry contribute a majority of Nagaland's Gross Domestic Product (GSDP). Nagaland's GSDP grew at 9.9 percent compounded annually for a decade, thus more than doubling the per capita income (Nagaland Economy Report, 2011-12). The data collected relate to the year 2016-17.

Figure 1 – Nagaland map



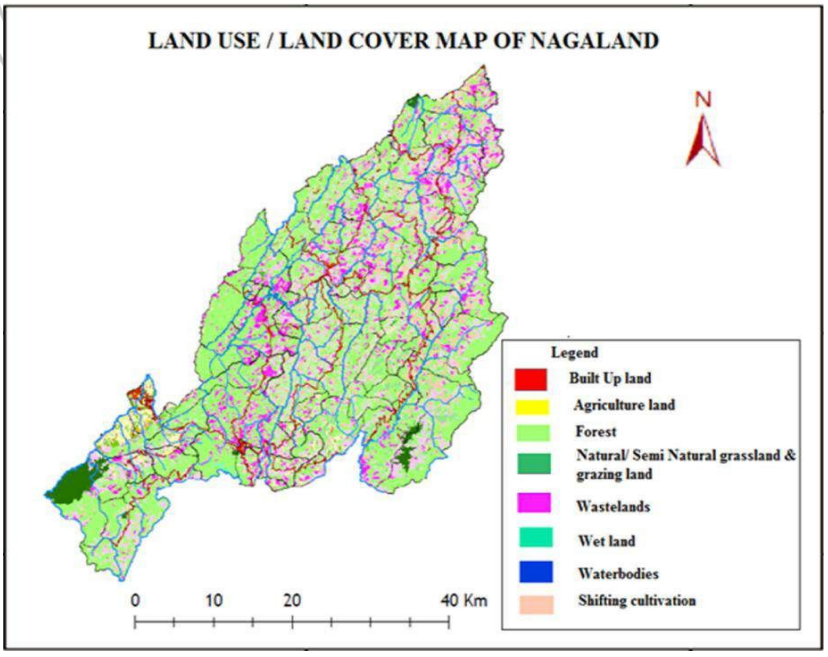
Source*: Nagaland Science and Technology Council, Government of Nagaland, Kohima*

Figure 2 – Nagaland soils map



Source: *Indian Council of Agriculture Research, Nagaland Centre*

Figure 3 – Nagaland land use



Source: Remote Sensing Application Centre, Kohima, Nagaland

3.2. Data collection

The evaluation of population, poverty and environmental degradation is based totally on both primary and secondary source of data. The subsequent step of poverty analysis is the identification of poverty line that distinguishes the poor from non-poor. The NSSO (National Sample Survey Organisation) estimated a poverty line of Rs 1229.83 for rural and Rs 1615.78 for urban Nagaland during 2011-12 (Planning Commission, 2014). The report of the expert group maintains that the domestic household consumer expenditure is more consistent than income and subsequently more appropriate for measuring poverty. A total of 400 household were interviewed from the sample villages and wards of Nagaland. Thus, MPCE was used as a proxy for the actual income while determining poverty (Ezung, 2011).

3.3. Data analysis and estimation

3.3.1.Head Count Ratio

The headcount ratio measures the percentage of the population that is poor (Watts, 1968; Sen, 1979; Foster, 1984).

Head Count Ratio (H) if then:

$$H=q/n$$

3.3.2.Multidimensional Poverty Index (MPI)

The MPI measures those experiencing multiple deprivations on year of schooling, school attendance, food, child mortality, household cooking fuel, sanitation, water supply, power, housing floor and assets. Formally, the first component is term as multidimensional headcount Ratio (H) (Alkire and Santos 2010, Atkinson, 2003).

$$H=q/n$$

Here q is the number of people who are multidimensional poor and n is the total population. The second component called the intensity (or breadth) of poverty (A) and can be expressed as:

$$A = (\sum_{i=1}^{n} 〖ci(k)〗)/q$$

Where ci (k) is the censor deprivation score of individual i and q is the number of people who are multidimensional poor.

MPI is the product of both $MPI = H \times A$.

3.3.3.Composite Index

To make a significant comparison of different districts of Nagaland in terms of indicators of poverty and forest cover the following formulae are used to arrive at the degradation index of the indicator variables as mentioned against each.

$$(\text{FINDEX}) = \frac{\text{Max}(\text{Xij}) - \text{Xij}}{\text{Max}(\text{Xij}) - \text{Min}(\text{Xij})}$$

$$(\text{PINDEX}) = \frac{\text{Max}(\text{Xij}) - \text{Xij}}{\text{Max}(\text{Xij}) - \text{Min}(\text{Xij})}$$

4. Results and discussion

Population affects on the environment principally through the use of natural assets and is related with environmental stresses like land degradation, loss of biodiversity, air and water pollution (Figure 4 and 5). The results shows population growth of Nagaland has doubled since 1971. It has increased from 516449 persons in 1971 to 1990036 persons in 2001, adding 1473587 persons in the remaining three decades. Such a remarkable expands of population led to large scale environmental degradation. Investigation of record on poverty rate in Nagaland affirm that on an average 33.05% of population (both urban and rural) have been beneath poverty line in 2015-16 (refer table 2&3). The finding show that Mon district having highest incidence of poverty (48.78%), while Kohima district show the lowest incidence of poverty, most of the districts of eastern Nagaland such as Tuensang, Mon, Kiphire and Longleng were observed to have failed in the poverty eradication programs even after two decades of policy implementation. Districts with sensible advancement in this regard were Mokokchung, Phek, Wokha and Zunheboto. Table 3 shows growing trends of aggregate poverty in Nagaland from 1987-88 to 2016-17 i.e., 34.43 to 37.92% and also multidimensional poverty index (MPI) of 30.8% during 2015-16 (NSSO, 2012; Jamir and Ezung, 2017b; Jamir, 2020).

The study found that the state has recorded forest areas of 862532 hectares in 1987-88 but decline to 862300 during 2016-17. The end result exhibits vital activities accountable for deforestation were identified with commercial agents actively involved in all five with the poor farmer taking part in two of the five activities. There was a common consent among the studies that commercial agents were the majority group pursuing logging and agricultural development activities (Somanathan, 1991; Anderson, 1989; Repetto, 1990; Goodland, 1991) as a result there was a continuous decline of forest areas in Nagaland since 1987-88 to 2016-17 as per Forest Survey of India report (refer table 2&3). The study also determine that unsustainable deforestation activities such as shifting cultivation, coal mining, quarrying, diversion of forest lands for developmental activities, large scale plantation, agriculture expansion and natural catastrophe like landslide and fire alternatively end result in environmental degradation which has affect on rainfall disruption, production and productivity and shortage of fuel wood supply. There was also agreement that market and institutional failure have been the foremost incentives driving both agents to unsustainable deforestation activities. Studies disputing that the poor do not have the possessions adopt unsustainable deforestation activities and neither do they reveal the short time preferences which would force them to undertake the unsustainable activities (Tiffen, 1993). Study found that the state is losing its forest cover at an alarming rate of 200 sq. km per year next to Mizoram in North Eastern Region as per Environment, Forest and Climate change Government of Nagaland Survey Report, 2018 (Nagaland post, 2018) (Figure 4).

Figure 4: Environmental resources

(a): Mount Saramati (Kiphire) **(b)**: Dikhu river from Chare (Tuensang)

Source: Author elaboration

(c): Dzukou valley (Kohima)

(d): Kepamodzu mountain in Pfutsero (Phek)

Source: Author elaboration

The study found that agriculture activities and forest cover should be closely linked; due to the fact clearing for agricultural use is the principal motive of deforestation. The consequences shows that 1987-88 forest loss was found to be -192 sq. km which in addition increases to -450 sq.km during 2016-17 (refer table 3). The analysis of composite index of poverty and environmental degradation exposed that the districts which were hard hit in 2011 (PEINDEX $\geq$ 0.7) were Zunheboto, Kohima, and Dimapur. The least affected districts (PEINDEX $\leq$ 0.5) were Tuensang, Kiphire, Longleng and Mon. The remaining of the districts were moderately hit (0.5 $\leq$ PEINDEX $\leq$ 0.7) were Peren, Wokha, Mokokchung and Phek (refer table 1). Higher population growth, low degree of employment and income, poverty, shifting cultivation, logging, and infrastructure improvement is the most common variables that affects environment (Barbier, 2001).

Deforestation itself is not a problem and in fact may be a requisite condition for economic development. When this takes place on a large-scale, it becomes imperative to discover the factors behind the trend. Degradation of environment resources caused either by the underprivileged or the rich has both direct and indirect impacts not only on the cost of production but also on the productivity of crops and ultimately lowering the earning of the underprivileged population. Poor get more affected than the rich and become poorer due to environmental degradation manifested through destruction of forest for fuel wood, timber, jhum cultivation; degradation of land via the use of chemical fertilizer, pesticide, etc in modern farming and pollution of air due to consumption of biomass fuel. Thus, a vicious circle is mounted between poverty and environmental degradation. Each turns into the purpose and effect of the other. The current paper in this regard is a humble strives to quantify the magnitude of each poverty and environmental degradation over time and throughout states and affirm empirically the link between them (Figures 5, 6 and 7).

Figure 5: Deforestation in different part of Nagaland for Jhum cultivation

(a): Kiphire

(b): Tuensang

(c): Mokokchung

Source: Author elaboration

Table 1: Indices of rural poverty and environmental degradation

Districts	PINDEX	FINDEX
Dimapur	0.895	1.00
Kohima	1.00	0.00
Mokokchung	0.906	0.653
Mon	0.154	0.493
Phek	0.584	0.306
Wokha	0.762	0.699
Zunheboto	0.758	0.782
Tuensang	0.191	
Kiphire	0.104	0.045
Longleng	0.00	
Peren	0.421	0.759

Source: Author elaboration

Table 2: Total population and percentage of population below poverty line

Districts	Total Population	% of Population Below Poverty Line
Dimapur	3,78,811	25.14
Kohima	2,67,988	22.37
Mokokchung	1,94,622	24.85
Mon	2,50,260	48.78
Phek	1,63,418	33.39
Wokha	1,66,343	28.66
Zunheboto	1,40,757	28.78
Tuensang	1,96,596	45.82
Kiphire	74,004	46.12
Longleng	50,484	48.89
Peren	95,219	37.71
Total	19,78,502	33.05

Source: Author elaboration

Table 3: Rural poverty and total forest area

Year	Urban/Rural poverty	Forest Area	Loss/Gain (Sq.km)
1987-88	34.43	8,62,532	-192
1993-94	37.92	8,62,000	+27
2004-05	19.00	8,62,930	-296
2011-12	14.00	8,62,929	-146
2016-17	33.83	8,62,300	-450

Source*: Statistical Handbook, Government of Nagaland, 1987, 1993, 2006 and 2012*
Forest Survey of India, 1987, 1993, 2004, 2012, 2016 and 2017

Figure 6: Village having higher level of poverty in Nagaland

(a): Buranamsang (Longleng)

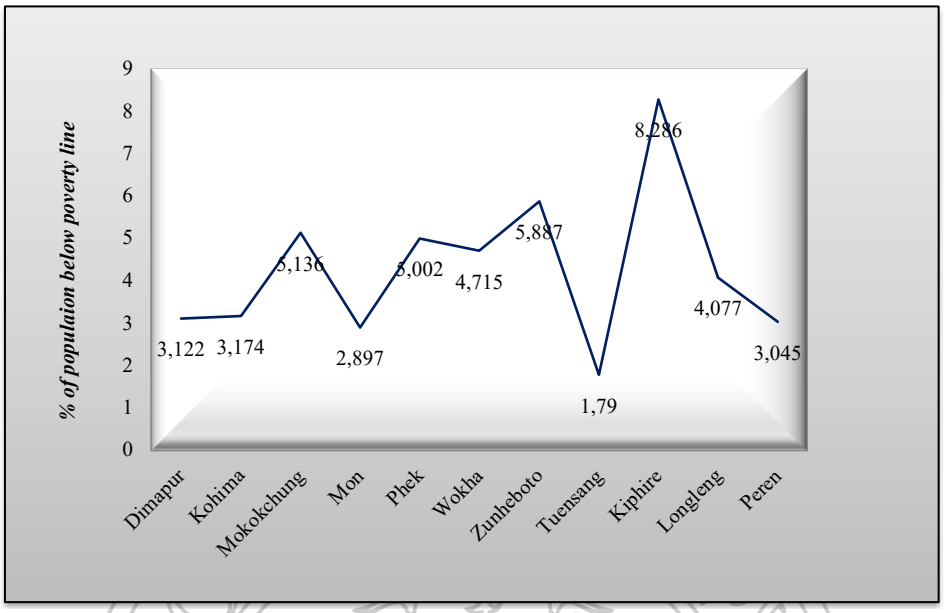
(b): New Pangsha (Noklak)

(c): Chare (Tuensang)

(d): Sakshi (Longleng)

Source: Author elaboration

Figure 7 – Percentage of population below poverty line



Source: Author elaboration

5. Shifting cultivation and its effects in Nagaland: An overview

Shifting cultivation is an age-old conventional cultivation practice and still predominant in Nagaland, where a land is selected for cultivation for one or two years and thereafter left it desolate for quite a few years (Figure 8 and 9). Shifting cultivation includes a rigorous approach of clearing massive forest area, slashing and burning massive chunk of trees. Therefore, the unsystematic cutting and burning down the forest has brought greater erosion of soil. This amounts to loss of top fertile soil and biodiversity within the area and if left unchecked leads to low productivity in the following cycle that result approximately in about 5-10 years fallow (Chatterjee, 2012; Chauhan, 2001). The penalties of deforestation can now not solely be at once felt in an area but its effects can be carried on to harm the future generations and their environment. As a result of rapid population growth, demand for food and fuel has increased and land availability for agriculture has been reduced. Shifting cultivation has been creating problems on physiographic and environmental conditions in Nagaland. Regularly shifting from one land to the other, has affected the biodiversity of these regions (Christanty, 1986). The area under natural forest has declined continuously (refer table 3) the fragmentation of environment, disappearance of species and incursion by exotic weeds and other plants are a number of the opposite ecological cost of shifting cultivation. Within predominantly jhum areas, the loss of top soil is at the highest. Apart from the loss of soil fertility and productiveness as cited above, jhumming is also accountable for massive scale deforestation in the hills, residue of reservoir, drying up of the natural stream and river and irreparable damages to flora and fauna (Das, 2006; Stocking, 2001; Mishra and Ramakrishnan, 1983).

Figure 8 – Practice of Jhum cultivation in Nagaland

(a): Mokokchung

(b): Tuensang

(c) Wokha

(d): Kiphire

Source: Author elaboration

Figure 9 – Terrace cultivation which is more eco-friendly and sustainability

(a): Kohima **(b):** Phek

Source: Author elaboration

Nagaland possessed the second highest acreage under shifting cultivation next to Manipur. Land use pattern of Nagaland revealed that almost 16% of the total geographical area is under net sown area. About 123909 ha area is under shifting cultivation, which accounts for almost 7.5% of total area, 42% of total cropped area and 47.5% of net sown area (Rukuosietuo, et. al., 2014). The practice of shifting cultivation involved 61% households in rural areas, covering about 1 million ha in the entire state. It exposes about 5.65% of the total geographical area of the state to soil erosion (Deka and Sarmah, 2010). About 20,000 hectares of forest is felled every year in the state for jhum cultivation, as per the report of the department of Land Resources. The extensive practice of Jhum results in an average loss of 30.62 tonnes of soil area per hectare annually, as per Soil and Water Conservation Department, Government of Nagaland annual document for 2017-18.

In rural Nagaland each and every household heavily depend on fuel wood for cooking and space heating (Bhatt and Sachan, 2003) which accelerates forest degradation at a rapid rate. Many studies deal with fuel wood consumption in the mountainous region (Maikhuri, 1994; Maikhuri and Gangwar, 1991). The current fuel wood harvests on fallow fields are not adequate to cover fuel wood demands due to short fallow periods and insufficient per capita fallow forest areas as a result of high population growth. In the past slash and burn agriculture and commercial timber logging has led to a severe decrease in forest cover and degradation of forest (Figure 10).

Figure 10 – Different methods of fuel wood harvest

(a): Phek

(b): Longleng

Source: Author elaboration

6. Conclusion

Developing region has been experiment a serious problem of rapidly growing population, that accelerating environmental degradation. High population growth with high poverty rate worsened environmental condition during the past four decades that seem to eroding the economic and social progress of Nagaland. The finding show that Mon district having highest incidence of poverty in Nagaland (48.78%), while Kohima district show the lowest incidence of poverty, most of the districts of eastern Nagaland such as Tuensang, Mon, Kiphire and Longleng were observed to have failed in the poverty eradication programs even after two decades of policy implementation. Accordingly, a better coverage would require in integrating various income generation schemes along with health care programme, water supply, electricity, sanitation and housing policies, which are almost absent in rural areas, funding for improving education level and labour market opportunities for younger population should seriously be considered, since lack of these determinants represent the main reason of their disadvantage (Ezung and Jamir 2018). While poorest of the poor depend their daily livelihood from natural resources like forest, river etc environmental degradation would certainly have its effects on them. Similarly increase in incidence of poverty would surely increase the anxious attack on environmental resources. This is sufficiently borne out by the case of the eastern location of Nagaland where shifting cultivation on the hill slopes has established a vicious circle of poverty of the hill community and denudation of forest leading to environmental degradation.

The analysis of composite index of poverty and environmental degradation exposed that the districts which were hard hit in 2011 (PEINDEX ≥ 0.7) were Zunheboto, Kohima, and Dimapur. The least affected districts (PEINDEX ≤ 0.5) were Tuensang, Kiphire, Longleng and Mon. The remaining of the districts were moderately hit ($0.5 \leq$ PEINDEX ≤ 0.7) were Peren, Wokha, Mokokchung and Phek. The results support that population have a deleterious impact on environment. In Nagaland shifting cultivation is not only the way to earn livelihood of rural population but also significantly contributes to the rural economy by generating employment and income. But on the different aspects it has many negative consequences on environment, biodiversity and ecological balance in the region. Under this situation, short term measures need to be undertaken to enhance productivity and additionally to take a look at soil erosion. Considering the physiographic characters of land, climate conditions,

social customs, food habits and many others alternative system of farming like diversified agro farming need to be introduced. This would require a system which includes agriculture, horticulture along with animal husbandry, fishery and rooster farming. In the same way success of this alternative farming system depends upon the gaining of confidence of (Jhummias) through persuasion, demonstration and applied fundamental research to be conducted very slowly without any haste.

Strengthening of agriculture production and productivity using present day's inputs might reduce pressure on forest by making shifting cultivation less attractive (Angelsen and Kaimowitz, 1999; 2001). To control shifting cultivation completely, it will require massive investment and robust rural livelihood schemes (Jamir, 2019). These policies are to be based on sound macro-and micro economic management, with good governance aimed at ameliorating poverty and promoting sustained economic growth have perceptible and permanent effect in lowering population growth. Population growth momentum in Nagaland is really huge hence the pressure of demand on resources are obviously large, it is only one of many alternative causes as a result of over-consumption based, unsustainable development that may have an even larger impact. Our choice of how to use those resources (i.e. our economic policies) and for what purposes (i.e. our political directions and policies) are critical issues as well on the resulting impact on the environment to meet those uses and purposes.

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Challenges of cross-sectoral collaboration of social enterprises in Baltic states

Audrone Urmanavičienė [1]; Katerina Chantzi [1]; and Beverly Tambari[1]

[1] School of Governance, Law and Society, Social entrepreneurship MA study program, Tallinn University

Corresponding author: Audronė Urmanavičienė- aurmana@tlu.ee

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Abstract

Social enterprises are a new phenomenon in the Baltic States. To create a substantial social impact in society and scale their business, social enterprises in Baltic states need to create partnerships and collaborate with different sectors. By forming partnerships with different sectors, social enterprises can provide effective solutions to social problems. The aim of this article is to identify the main factors for social enterprises to create successful collaboration and partnerships with private, and public sector organisations. The methods of research are an analysis of scientific literature, social entrepreneurs' interviews, content analysis. The study also analyzed the main obstacles for social enterprises to collaborate with different sectors. The empirical findings of the study disclosed how to improve partnerships development with private, and public sectors. Following the theoretical and empirical research, the article suggests possible means of improving and developing partnerships.

Keywords: social enterprise, cross-sector collaboration, private sector partnerships, public sector partnerships

1. Introduction

In 2011, European Commission launched the social business initiative that aims to introduce a short-term action plan to support the development of social enterprises, key stakeholders in the social economy and social innovation focusing on helping social enterprises to obtain funding, increase their visibility and make the legal environment friendlier for social enterprises. However, the different traditions, public policies, legal and institutional frameworks that each member of European Union follows for its interior affairs, do not promote the visibility of social enterprises. It is also quite common that even social enterprises do not identify themselves as so. Considering the country reports, it seems that since 2014, social enterprises gain more visibility and have grown in numbers (European Commision, 2020). Specifically, the social enterprise sector in Baltic states is very young and is still in the stage of development. There are currently about 120-180 social enterprises in Latvia (Oborenko, Rivza, Zivitere, 2018), in Estonia - about 125 (Reimann, 2019), in Lithuania it is indicated that such enterprises, which have the status by law of a social enterprise, are 186 (Pranskeviciute, Okuneviciute Nevarauskiene, 2018). These enterprises usually are small and medium-size enterprises, which lack resources (Urmanavičienė, Raišienė, 2017, Urmanaviciene, 2020). For social enterprises as young companies, cross-sectoral cooperation is particularly important as it can help to mobilize resources, gain complementary capabilities, and capture synergies in order to grow and increase the social impact they generate (Schirmer, Cameron, 2012). Collaboration with private and public sector organizations can provide access to the financial and other resources needed for sustainable growth of this young sector. Partnerships with the NGO sector give the opportunity to social enterprises to widen their network, build trust and scale their social impact that can benefit the

organisations involved and the society. As most social enterprises originate from the NGO sector in the Baltic states (Safege, 2020), the collaboration between social enterprises and NGOs as part of social enterprises' cross sectoral collaboration will not be part of the scope of the study.

Collaboration with different sector organizations also help to generate new ideas, feasibility and design thinking. However, social entrepreneurs do not sufficiently exploit opportunities for cross-sector cooperation and struggle to establish and maintain a collaboration. Scholars are seeking to understand and theorize social enterprise collaborations (Schirmer, Cameron, 2012, Sakarya, Bodur, Yildirim-Öktem, Selekler-Göksen, 2012, Fu, 2019, Weber, Haugh, Göbel & Leonardy, 2021). However, in the Baltics, the social enterprises scientific findings started arising after 2014 (European Commission, 2018). Researchers of the Baltic States in the field of social enterprises focus mostly on the concept and social business models (Urmanavičienė, 2019), which is why there is a significant lack of research of partnerships in the Baltic states. This paper aims to fill the gap in literature by answering the following research questions:

-Which main challenges do social enterprises face when establishing collaborations with the private and public sector in the Baltic States?

-What are the benefits of collaborating with the private and public sector for the social enterprise and the private and public organisation respectively from the perspective of the social entrepreneurs?

-What are the best practices for establishing and maintaining successful collaborations according to social entrepreneurs in the Baltics?

The methods of research are an analysis of scientific literature, social entrepreneurs interviews, content analysis.

This paper is organized as follows: the first section with the title "Cross sector collaboration between social enterprises and private sector" will present the literature analysis regarding the collaboration between social enterprises and private sector. The second section with title "Cross sector collaboration between social enterprises and public sector" refers to the theoretical framework of cross sector collaboration between social enterprises and public sector. The third section of this paper will describe methodology adopted by the researchers, the characteristics of the sample and the data collection methodology. Additionally, the following section will reveal the main results of study. Finally, the last section will present discussion and conclude the paper".

1.1 Cross-sectoral collaboration between social enterprises and private sector

Cross-sector collaboration assists in bringing solutions to address complex challenges as various actors with different perspectives collaborate. Barth et al. (2018) identifies the variety of cross-sector collaborations between social enterprises and different sectors (private, public, and so-called third sector) in Europe by presenting case studies. From the cases presented, social enterprises can collaborate with private sector organizations in many ways. Private sector can establish collaborations with social enterprises by offering funding, as infrastructure partners, shareholders, philanthropic investors, delivery partners and beneficiaries, investors building knowledge and providing support and help for interventions.

The collaboration between social enterprises and the private sector is oriented mainly around mutual benefit. By collaborating with the private sector, social enterprises can benefit from the scale, the expertise in manufacturing and operations, financing (Volkmann & Tokarski, 2012) as well as in scalable and sustainable development (Reporter, 2012). Also, their collaboration offers access to finance and capital for specific projects and developments. So, collaboration enables some social enterprises to maximize their chances of obtaining financial resources by combining their social purpose with a private sector partner's business skill. Working collaborations with private sector partners can be a catalyst for change, providing the means for social enterprises to grow, restructure or reshape themselves going forward as the private sector enables prompt change.

Collaboration with the private sector, strengthen the social enterprises' market position by making them more competitive in the market, build up their network, as social enterprises are searching and planning to create further partnerships to create new revenue streams and improve their scale as well as attract management commitment and advice from their commercial partners. Having improved cash flow is an advantage and for that reason social enterprises set up contracts with the private sector to provide greater flexibility to forward, plan and underpin the sustainability of their businesses. Many of these collaborations involve either fixed-term contracts, fixed-price contracts, or both. Working with commercial partners encourages greater business involvement and investment in the local community (CAN, 2005) as the capital flows are invested in the development and improvement of the local community by supporting social enterprises to have an impact in the community by solving current social problems. It brings together stakeholders, raises awareness and provides opportunities for further

involvement and participation in the community. A great example that proves the impact that a collaboration with the private sector can benefit the social enterprise, is the case of Generationsbrücke Bridging Generations (hereinafter referred to as GBD) in Germany. Their mission is to connect young children with the growing elderly population in nursing homes to promote social inclusion for the elderly while creating awareness for young children on the challenges of current and future demographic changes. By establishing a partnership with BMW Foundation and the German Caritas, GBD developed benefits in terms of increased outreach, visibility, and access to networks. Drawing on the networks of its partner institutions was the multiplier that GBD needed to grow its intervention quickly. With the initial help of the BMW Foundation, GBD started building a partnership with the German Federal Ministry for Family Affairs, which is one of their main financing partners. GBD has since then experienced significant growth and adoption throughout Germany. To date, GBD has successfully established 75 partnerships in which approximately 4,000 children and eldercare institutions are engaged. At the same time, it continued and established partnerships with many important German players (Barth et al. (2018).

Besides social enterprises, the private sector businesses gain great benefits by establishing cross-sector collaborations with social enterprises. Through collaboration with social enterprises, corporations can have access to markets and supply lines, that without the local know-how and deep understanding of customer's needs wouldn't be easy to enter. Corporations benefit as they offer their staff a greater sense of useful engagement such as contributing their skills to problems in their own community and increasing their reputation in society. Establishing collaborations with social enterprises is a great way for corporations to engage Corporate Social Responsibility initiatives as corporations are called to take action to prevent or mitigate the negative impact that may be caused by their operations (Seferian, 2019). Pepsico for example, supports e-coins in Costa Rica, a virtual e-currency that gives value to sustainability. It is granted in exchange for recoverable waste that is taken to recycle through a system of incentives that can be exchanged for discounts on products and services of participating businesses (e-coins). Even though Pepsico is listed among the top global polluters (Greenpeace Philippines, 2019), by supporting eco-sustainable projects they mitigate the negative impact that they cause by their operation and make a positive impact in the communities. Furthermore, it enables them to form a strategic alliance with a social enterprise partner who can 'speak the language' of the market or communities they are trying to reach and offers potential CSR spin-offs (CAN, 2005).

The problems that a social enterprise tackles affect the society as a whole and the environment and can benefit not only the beneficiaries but also the corporations that support these initiatives, as by tackling some of these social or environmental issues, their customer base will grow, and they will be able to lead them to their commercial mission by providing them their services or products (Seferian, 2019). For instance, PwC in Netherlands, has launched the Social Impact Lab – an annual challenge for start-ups with a social or environmental mission. 100WEEKS, a social enterprise that fights against extreme poverty in Africa by supporting women with microfinancing services, using an innovative technology and data-based business model, has won the PwC Netherlands Social Impact Lab Award in 2016 and PwC pledged to support them for 24 months by offering their expertise. PwC offered numerous hours of professional services to 100WEEKS across the service lines of core audit, accounting advice, financial consulting, deals, digital, legal and tax (PricewaterhouseCoopers, 2019).

As with every collaboration and partnership, the relationship between social enterprises and private sector involves potential risks and challenges. Social entrepreneurs should examine each collaboration with potential private sector partners by the criteria "cost and benefit" as they invest substantial time, energy, and resources into establishing relationships, which at the end do not necessarily contribute to creating social impact or to scaling a social innovation. The cost of maintaining the partnership must be analysed accurately. Furthermore, for social enterprises, the social aims are primacy and collaboration with private sector partners should be assured that it won't compromise the organisation's social purpose. The comparability of the values of the involved organizations influences the success of a collaboration as well as the communication style should be compatible and not lead to misunderstandings that can affect the outcomes of the collaboration (CAN, 2005). There is always the risk that the other organization is using the know-how for its own gain; for example, using information of beneficiaries to market additional services or products which are not part of a collaboration.

In order to achieve a successful partnership with the private sector, the social entrepreneur should be aware of cultural differences and ensure the outcomes of the collaboration by written agreements with defined deadlines and deliverables, including clear expectation management. In order to gain any business confidence, the social entrepreneur should be able to speak a business language and present a professional image (CAN, 2005). Business leaders said the social enterprises most able to pitch a clear, concise and persuasive business case were the social enterprises with whom they would most readily partner (Volkmann & Tokarski, 2012).

Cross-sector collaboration between social enterprises and private sector enterprises provides mutual benefit to the organisations involved as they work in a complementary way. In other words, social enterprises benefit from the expertise, the networking, and the finance that corporations and private sector can offer to them, to achieve their social mission easier than if they were acting individually. Similarly, the private sector benefits from the knowledge regarding customer needs, access new markets where the corporation language does not apply and needs different treatment and facilitates the corporations to give back to the society by promoting CSR policies. As in every collaboration, so that in cross-sector collaboration there are potential risks and challenges. The stakeholders have different goals and expectations from the collaboration they are establishing, and it should be clear why they are collaborating and what should be the outcomes for each side. The collaboration should be evaluated according to the balance between cost and benefit to identify if the collaboration is worth establishing and the expectations should be clear from the beginning so neither the social aim from the social enterprise's side, nor the profits and the status from the private sector's side will be harmed.

1.2 Cross-sectoral collaboration between social enterprises and public sector

Cross sector collaboration between social enterprises and the public sector aims to solve social issues. The collaboration between social enterprises and the public sector is characterized by a mutual goal to provide goods or services (public sector) and to solve a social issue within the state or municipality (social enterprise). Social enterprises' main goal is to make a social impact however, they need partnerships or collaborations to facilitate the actualization of their goals. Establishing collaboration with the public sector is a gradual process with certain prerequisites the social enterprise must follow. This chapter analyzes the forms of collaboration between social enterprises and the public sector and the tools of collaboration such as public procurements, contractual agreements and delegation agreements. And the challenges associated with establishing collaboration with the public sector and the benefits of the collaboration.

Social Enterprises contribute to economic growth and the growth of the European economy is dependent on its "ability to support the growth of enterprises" (Bovis, 2015). Collaboration between the social enterprise and the public sector can be in the form of long term contractual agreement. The social enterprise and the public sector share resources and risks proportionately (Volkmann & Tokarski, 2012). The basis for establishing contractual agreement is to provide better services for the citizens and individuals in certain social groups. The social enterprise and public sector can also collaborate even if there is no mutual interest directly related to a particular social issue the public sector would have it's goals to achieve and the social enterprise would have their goals to achieve (Volkmann & Tokarski, 2012). An example of this kind of collaboration exists with Discovering Hands and the public health insurance company (Volkmann & Tokarski, 2012). Discovering Hands is an organization located in Germany that creates social impact by providing services that contribute to the early detection of breast cancer. They collaborate with public health insurance companies by contractual agreement. The terms of the collaboration require that the public health insurance company covers the bills of the clients registered with the insurance company at a cheap rate, encouraging more women to get access to quality service at low cost. The benefit for the public health insurance company is they are able to acquire more customers to register for their service.

Social enterprises can also be owned by the public sector. When the social enterprise is owned by the government, the government recruits the services of the social enterprise for any project that will be carried out. Such social enterprise usually gets first consideration when services are required. However, the government owned social enterprise can form some partnerships with either the private sector or the third sector depending on the project or service that is needed. Government owned social enterprises are also referred to as state owned enterprises. These enterprises are under significant sector of the municipality and contribute to the economy of the state or country examples are electricity providing organisations which are responsible for train/ railway services within the municipality.

Social enterprise and the public sector initiate and establish collaboration by public procurement. Public procurement is the process of purchasing goods or services between the public sector and social enterprises. The government makes provision regarding public procurements in their national budget. In the national budgets, public procurements account for an important share of national budgets (OECD/EU, 2019). Public procurement is a means of revenue generation for social enterprises that

have a goal for making social impact and provide services in a cost-efficient manner (OECD/EU, 2019). Public procurement is regulated by state laws and policy. The laws regulate the actions of municipalities (Bovis, 2015). In Germany, public procurement is acquired by social enterprises through the process of bidding. The body in charge are referred to as contracting authorities which are required to "split contracts" to smaller sub-contracts to allow SMEs bid for a position (Bovis, 2015).

The procurement process is orientated on mutual benefit for the social enterprise and the public sector. The public sector solves a social issue, and the social enterprise generates revenue. Social enterprises have an edge over the public sector in relation to having access and full knowledge of some of the social issues individuals are facing within a society. With this knowledge they can create and render services that are innovative and efficient to solve these social issues. The public sector purchases the innovative products that are made available by the social enterprise to solve social issues through the procurement process. The financial resources acquired through the public sector purchase is used to keep the social enterprise financially sustainable and also the social enterprise can grow their market and customer base and generate more revenue.

Social enterprises establish collaboration with the public sector by bidding for government contracts for the purpose of executing specific projects. The contracts are made available by the public sector however, getting the right to execute the project attached to the contract requires the process of bidding. Bidding for a contract by a social enterprise means that several social enterprises put in an application(bid) to be picked for collaboration and project execution within a country or specific municipality. Contracts for the purpose of collaboration are done in accordance with the public procurement procedures within a state or under the requirements or directives put in place by the European union directive for contracting authorities and public institutions. Contracts are usually issued or approved by a contracting authority to social enterprises. Social enterprises seeking contracts have to go through the bidding process, the outcome could be that the contract could be given to a particular social enterprise for execution, or it can be split into several sub-contracts and divided among the bidders (Trybus & Andrecka, 2017). Contractual relationships between the public sector and social enterprises can either be vertical or horizontal (Lyon, 2009). Lyon explains that vertical form exists between the commissioners of the contract and the enterprise that delivers the goods and services, and the horizontal exists between the two parties providing the service (Lyon, 2009). Furthermore, Lyon (2009) identifies the two kinds of contractual agreements that exist between the public sector and a social enterprise. The contracts could be informal with no legally binding agreement. Or could be formal with a legally binding agreement based on the European Union procurement rules. The public sector and social enterprises contractual agreement benefit social enterprises because, when social enterprises are able to acquire long term contracts to render services to the public sector, financial revenue is constantly generated for the social enterprise. Also, long term collaboration with the public sector improves the image and validity of the social enterprise. Increased validity creates legitimacy and more opportunities for investors and funding for the social enterprise.

With any collaboration, the partnership between social enterprises and the public sector has challenges. The challenges related to obtaining public procurement for social enterprises are lack of clarity concerning a public service (OECD/EU, 2019). The challenge with clarity is due to a lack of legal framework and policies that give legitimacy to social enterprises and the service they provide (Reimann, 2019). When there is lack of recognition in a state for a new social enterprise, the public sector or potential collaborator may find it difficult to fully understand their purpose and what kind of service the social enterprises claim to provide. Additionally, the smaller the social enterprise the lower the possibility of winning a bid for a contract compared to a higher more recognized social enterprise.

Also, social enterprises face challenges with contracting authorities. Contracting authorities not recruiting the services of small and new social enterprises (OECD/EU, 2019). Contracts awarded to the small social enterprises compared to the high enterprises are relatively low. (OECD/EU, 2019), therefore this creates an imbalance as most of the contracting is directed towards larger more established social enterprises. Social enterprises also face the challenge of the possibility of contract termination from the contracting authority due to non-compliance to the clauses that are stipulated in the contract document (OECD/EU, 2019). The clause may be passed into the procurement specifications by the municipality. Social enterprises need to take into consideration the clauses when bidding for a contract or rendering services through the procurement process. When the clauses are not met the process of collaboration and rendering of service to the public sector can be terminated. The termination can result in a loss of revenue for the social enterprise.

The clauses are criteria for defining the nature of the product or service required by the public sector. An example is the specification of the individuals or groups that the product or service is directed at certain social groups (OECD/EU, 2019). When the social enterprises bidding for a contract to establish collaboration with the public sector meet the requirements and follow the guidelines for the clauses provided then they can proceed to bid. An agreement made by the social enterprises and

the public sector to collaborate is referred to as a service agreement or a delegation agreement. Service agreement means that the social enterprise has a contract to carry out a particular project or provide a particular service based on what is required by the municipality for the recipients at a particular time. The second form of agreement is the delegation agreement. A delegation agreement between the social enterprise and the public sector means that and the social enterprise has a longer-term agreement to provide long term service to a particular area or particular recipients.

Cross-sector collaboration between the public sector and social enterprises provides mutual benefit to the public sector and to the social enterprise. Social enterprises gain financial benefit from the public procurement process when the public sector purchases the goods and services they render. And the public sector benefits from the collaboration by having access to innovative service and ideas that can be used to meet social issues and improve legitimacy and trust with the recipients of the service. Also, the collaborative process enables the social enterprise to achieve their goals and vision which is social impact. Cross sectoral collaboration with the public sector has potential challenges for social enterprise. Challenges such as lack legitimacy despite the services they provide. New social enterprises face the legitimacy challenge as the service they provide may not be viewed as relevant or beneficial. As a result, the challenge of being overlooked when contracts are awarded for project execution occurs. Also challenges related to loss of revenue due to contract termination. A social enterprise that has been allocated a contract to execute a project through collaboration with the public sector has to follow the regulations binding the contract. Non-compliance results in collaboration being terminated and difficulty regaining the trust of the public sector for future collaborations. The collaboration with the public sector will create opportunities for social enterprises to expand and grow while creating and offering solutions to societal issues.

2. Methodology

The aim of this research is to identify the main factors for social enterprises to create successful collaboration and partnerships with private, and public sectors by focusing on the challenges that social enterprises face in their collaboration with the private and public sector. To answer these questions, a qualitative research approach was followed. Qualitative research was considered as suitable for the research as it focuses on the exploration and the understanding of the meaning that individuals ascribe to a certain problem (Creswell, 2014). Furthermore, a qualitative research approach facilitates inductive analysis that allows to focus on the meaning that the participants give to their experience, interpret their insights, and reach general conclusions from particulars (Creswell, 2014).

For this research, semi-structured qualitative interviews have been used via videoconferencing. Qualitative interviews is a tool that elicits views and opinions from the participants (Creswell, 2014) and seeks for meaning of central themes of the subjects' lived world. In addition, it gives the possibility to the researcher to register and interpret the meaning not only of what is said, but also in the way that is said and register the reactions of the subjects.

2.1 Sampling and data collection

The paper is built on the analysis of scientific literature regarding the benefits and the challenges that cross-sectoral collaboration between social enterprises with private, public and third sector has and an empirical analysis of social entrepreneurs in Baltic States. The study was conducted by using a sample of Estonian, Latvian, and Lithuanian social enterprises as Baltic States are the focus of this research. Semi-structured interviews with social enterprises' representatives were conducted to identify the differences between the three countries and the social enterprises' cross-sectoral collaboration. The social enterprises' representatives were invited to discuss about:

- Their collaboration with private, public (the motives that led them to establish collaboration with the specific sector, the benefits that they gain by collaborating with this sector, their strategic partners, and the most important partners they have from this sector, the goal of the collaboration and the initiators of this collaboration)
- Challenges for establishing and maintaining the collaboration with private, public or third sector (what they had to invest to establish/maintain the collaboration, what were the challenges that they had to overcome to establish a collaboration, if they were any obstacles that prevented them from having a successful collaboration or partnership with the private, public or third sector.

- Best practices and recommendations for young social entrepreneurs that will help social entrepreneurs to establish successful partnerships with the private/public/third sector.

A total of 7 experts were interviewed, 4 of them with 20 to 40 minutes interviews via video conferencing and 3 of them conducted via email communication. **Table 1** gives more information about the interviewees. Most of the social enterprises interviewed have past and active projects in more than one sector. However, we have focused only in one sector to be analysed per interview. The selection of the enterprises was done with the following criteria:

- The social enterprises fulfil the prerequisites that the European Commission social enterprise definition has "Social enterprises are those type of businesses that the social or societal objective of the common good is the reason for the commercial activity, often in the form of a high level of social innovation, those whose profits are mainly reinvested to achieve this social objective and those where the method of organization or the ownership system reflects the enterprise's mission, using democratic or participatory principles or focusing on social justice".
- are part of their National Social Enterprise Network.
- have at least one cross-sectoral collaboration either with private, public or third sector.

Table 1: Description of companies that participate in the research

Company's Name	**Interviewee's Name**	**Position Held in the company**	**Country**	**Cross-sectoral collaboration**	**Founded in**
Edumus	Maria Rahamägi	CEO	Estonia	Private Sector	2018
Tagasi Kooli	Teibi Torm	CEO	Estonia	Private Sector	2012
Visas Iespējas	Gustavs Mārtiņš Upmanis	CEO	Latvia	Private Sector	2018
Miesto Laboratorija	Goda Sosnovskiene	CEO/ Manager	Lithuania	Private Sector	2015
Samaritan Association of Latvia	Andris Berzins	CEO/ Manager	Latvia	Public Sector	1992
Communicare	Norman Vester	CEO	Estonia	Public Sector	2019
Socialinis Taksi	Solveiga Ratkevičiūtė	CEO	Lithuania	Public Sector	2013

Source: Authors' elaboration.
(All the interviews were recorded with permission and subsequently transcribed for data analysis)

3. Empirical findings

The aim of the study is to find out the main challenges that social enterprises face to establish collaborations with the private and public sectors and the benefits of collaborating with them and to reveal the best practices for establishing a successful collaboration in the Baltic states. Firstly, the study presents findings about SE partnerships with the private sector. Secondly, findings about SE partnerships with the public sector. Finally, the study will provide the discussion based on the empirical findings

3.1 Cross-sectoral collaboration between social enterprises and the private sector

The collaboration between the private sector and social enterprises differs from country to country regarding the form of cooperation and the reasons that both parties come to an agreement to collaborate. In every form of collaboration, there are challenges for the social entrepreneur that can be classified in three different stages:

- challenges prior to the collaboration;
- challenges in the initial stage of the collaboration
- challenges for maintaining the collaboration.

The following **Table 2**, describes the ways in which social enterprises collaborate with the private sector per country, the establishing factors that led to this collaboration for both parties as well as the challenges that the social entrepreneur faces in the 3 stages (prior to the collaboration, during the initial stage of the collaboration and challenges that he/she faces during the collaboration for maintaining it).

Table 2: Empirical findings for the collaboration between social enterprises and private sector

Social Enterprise	**Forms of cooperation**	**Establishing factors**	**Challenges**
ESTONIA Edumus	Financial support and human resources.	Private company: -Support an initiative that will benefit the social enterprise, their organisation and the society as a whole -Increase the employees' engagement level in society. Social Enterprise: -Funds. -Human resources. -Free marketing.	Prior: -Find the right partners to establish collaboration to meet the social enterprise's needs and goals. -Ensure that the company will be financially sustainable in the near future and will not be constantly asking for financial support. Maintaining stage: -Keep them interested and encourage them to continue further with the project. -Provide reports about what has been done and what is going to happen in the future. -Keep reminding the benefits of the collaboration.

ESTONIA Tagasi Kooli	Strategic partnership based on financial support (but also marketing, communication support, legal support, usage of company's resources e.g. buildings or advertisement spots).	Private company: -Communication. -Employees involvement and engagement. -Contribution to the society. Social Enterprise: -Funds. -Human Resources. -Legal and communication support. -Marketing support. -Advertisement.	Prior: -Find partners that address the topic in their agenda and SCR policies. -Get in contact with someone from the communication or SCR department to test if the goals are matching. -Get in contact with people who are on the boards as they are decision makers. -Make a concrete, clear and interesting offer to them. -Have established prior collaboration with the public or third sector to ensure trust. Initial stage: -Devote time and effort to gain trust. Maintaining stage: -Keep them involved, interested and informed.
LATVIA Visas Iespējas	Provide services to companies, corporations and private organisations. and establish a relationship "business as usual" with them, as a service provider (social enterprise) and a client (private company).	Private company: - Socially beneficial image and marketing bonuses as they communicate the message locally and globally that they support social enterprises. Social Enterprise: - Credibility. -Legitimacy. -Marketing.	Prior: -Get as much recognition as possible from other organisations (public or third sector) so that the social enterprise can use it in its marketing communication. -Place the societal cause as a baseline for the collaboration. -Invest time to talk with different companies and establish yourself in the environment.
LITHUANIA Miesto Laboratorija	Providing expertise, skills or products without asking something in return (this mostly happens in collaborations with small companies that	Private company: - Contribution to the local society by helping a local cause. Social Enterprise:	Prior: -Make research in advance to find companies that match with the social enterprise's goals.

	the owners can easily make personal decisions compared with big companies).	-Resources that are needed.	-Make a proposal that will be interesting and beneficial for both parties. Initial stage: -Be responsive and responsible in communication to ensure trust. Maintaining stage: -Being responsible and holding a good collaboration for the future deals that may come up for other social enterprises in the future.

Source: Authors' elaboration

The key findings of the study regarding the challenges that the social entrepreneur needs to overcome can be divided in three chronicle stages: before establishing the collaboration, the initial stage of the collaboration and the continuance of the collaboration.

Before establishing the collaboration, the social entrepreneur needs to make a research and find those companies that are meeting his/her goals and create a proposal for them that would be interesting and beneficial for both sides. It is important to identify what motivates the potential partner to work with them. There are organisations that have certain corporate social responsibility agenda and focus on specific goals and would like to increase their positive impact in certain areas, organisations that focus on the social enterprises' societal goal and do not seek to gain anything additional, just only to help them in their goal and organisations that look for long term partnerships and prefer to maintain a client-customer relationship. Especially, in cases when the social entrepreneur asks for financial support, the offer needs to be very concrete and clear, time based and offer to the company something more than just communication. Social enterprises receive a variety of different benefits from the private sector according to their demands. Their benefits can be either financial support, access to expertise (lawyers, marketers, communicators) and human resources (people that volunteer from the company), products (supplies that they need for a certain goal) or even access resources of the company (offer free usage of company's space to place social enterprise's advertisements).

Apart from the importance of the proposal from the social entrepreneur's side and the type of assistance he/she asks for, it is quite crucial to communicate and approach people who have decision making power in the organisation, so they can easily communicate their goal, their proposal and their request for collaboration and get clear answers. It was underlined that prior collaboration with NGOs, public organisations can help the social entrepreneur to make a successful collaboration with the private sector as it gives recognition, validity, and credibility to the social enterprise. Also, an established collaboration between private sector and social enterprise, gives credibility and legitimacy to the social enterprise and can be beneficial for the scalability of the enterprise.

For initiating but also continuing the collaboration, the social entrepreneur needs to look and be trustworthy and maintain reliable communication and be responsible for the tasks that he/she needs to deliver to gain their trust and have a smooth collaboration. Especially in the initial stage, the social entrepreneur needs to invest time and effort to report everything to the company regarding financing, planning, and project management. As the time passes and the trust is gradually gained, it is important to keep the interest up the motivation of the company to be involved and informed about the social enterprise's progress.

Analysing the differences between the three countries and the social enterprise ecosystem, it can be concluded that each country presents some differences regarding the reasons that lead them to establish collaboration with the private sector and simultaneously the challenges that they face. Specifically, in Estonia, social enterprises seek to build collaborations with the

private sector to access capital and expertise and the main challenges that they face towards this, is how to make a clear proposal that helps them achieve their goal and be attractive for their partner and how they can maintain the collaborations. In Latvia, social enterprises seek for scalability, legitimacy and validity from the private sector and their main challenge is how to help their partners to access markets and supply lines, that without the social enterprises' know-how and deep understanding of customer's needs wouldn't be easy to enter. In Lithuania, social entrepreneurs' main challenge is how to create mutually beneficial collaborations, as mainly their collaboration with the private sector is characterized by philanthropic investments or services based on expertise or products instead of funding.

To conclude, the social entrepreneurs recommend to the upcoming and fellow social entrepreneurs to invest their time and effort to search for partners from the private sector and seek for those organisations that fits their needs and match their goals. They need to make a clear and structured proposal that is based on mutual benefit and present it to people with decision making power within the organisation. Furthermore, they need to invest time and effort to gain their trust and it is highly recommended to have prior recommendations from NGOS and public authorities that previously have worked with. Once the collaboration starts, the social entrepreneur needs to maintain the communication with the private sector company and encourage them and motivate them to stay informed about the social enterprise and its achievements. As social entrepreneurship is a quite recent sector, to gain more recognition and establish itself in the market, each social entrepreneur should act keeping in mind that he/she represents the whole social enterprise ecosystem and one bad experience from one organisation can cause a negative answer for collaboration for another social enterprise in the future.

3.2 Cross-sectoral collaboration between social enterprises and the public sector

The collaboration between the public sector and social enterprises occurs in stages. The collaboration is based on establishing factors that the public sector and social enterprise take into consideration before collaborating. The collaborative stages present some challenges for the social enterprises and the challenges can be divided into three stages. The stage prior to collaboration with the public sector, the initial stages of public sector and social enterprise collaboration, and the third stage the maintaining stage after collaboration has been established.

Table 3: Empirical findings for the collaboration between social enterprises and public sector.

Social Enterprise	**Forms of cooperation**	**Establishing factors**	**Challenges**
ESTONIA Communicare	-Providing services based on long term contract basis.	Public sector: -Providing support for a particular social group within the municipality. Social enterprise: -Funding and long term partnership through contracts.	Prior: -Making research to find key stakeholders in the public sector for the purpose of collaboration. Initial-stage: -Time spent building trust and legitimacy with the public sector. Maintaining-Stage: Maintaining trust, continuous communication to ensure

			continuous long term collaboration.
LATVIA Latvijas Samariesu apvieniba	-Providing services through delegation agreements and contracts.	Public sector -Co-operation with social enterprises to solve social problems within the municipality. Social enterprise -Social impact. Funding.	Prior stage; Competition between social enterprises to acquire contracts. Maintaining-stage; - Creating delegation agreements to continue to provide services on a long term contract basis.
LITHUANIA Social Taksi	-Selling services to the public sector.	Public sector -Solving the problem associated with a particular social group. Social enterprise -Funding. -Creating social impact through collaboration with the public sector.	Prior: -Establishing contact with the public sector. -Convincing the potential partners on the importance of the service being offered. Maintaining-stage: - Competition against local organizations. - Convincing the public sector on the relevance of continuous funding through purchasing services. - Changes in the political spectrum may affect collaboration.

Source: Authors' elaboration.

The findings of the empirical research show that each social enterprise presents differences regarding the reasons for establishing and maintaining collaboration with the public sector and the challenges that they face. In Latvia the main challenge is competition. Competition exists between social enterprises bidding for the procurement process to establish collaboration with the public sector. In Estonia, the main challenge is time invested in the process of identifying the key stakeholders in the public sector for collaboration and making a proposal on the services they provide and why the service is needed to the public sector. In Lithuania, the main challenge is proving validity. There is a lack of validation from the public sector when there is a

change in the political spectrum, due to the possibility the importance or need for the services provided by the social enterprise is deemed non-essential.

Social enterprises are an essential part of the economic growth of any country in which they exist. The older the social enterprise, the better chances of establishing collaboration. As a result, the owners are able to provide recommendations for new social enterprises that intend to establish collaboration. The CEO Latvijas samariesu apvieniba (LV) suggests that when a social enterprise is new, the one of the main goals should be not to lose focus of their social aim and social idea or place emphasis only on marketing their products and services. Social enterprise should function in a manner that shows balance. When there is a balance between achieving social impact and establishing collaboration through providing goods and services to the public sector social enterprises are more successful. Also, with the challenges that social enterprises encounter with collaboration, social enterprises must remain optimistic and work with each other under the social enterprise network. As a new social enterprise, it is important to be registered under the social enterprise network established within the state/country. Registration enables small social enterprises to acquire recognition and legitimacy from the public sector therefore increasing the opportunities to establish collaboration.

Collaboration with the public sector for social enterprises takes time to establish. The CEO/ owner Communicare (EST) suggests consistent and continuous marketing for new social enterprises. Social enterprises should make use of all forms of advertising including social media, the importance of this form of brand marketing is to increase visibility. The public sector before making a final decision to collaborate with a social enterprise that is new is conducting background checks to see what services/ project have been executed successfully. Making this information available online increases the possibility of establishing collaboration with the public sector also the managers and CEOs of new social enterprises need to grow their network with key individuals within the municipality, creating a network of significant individuals increases the possibility of being recommended to the public sector when there is a need for a particular service or product. In the Baltic states (Estonia, Latvia and Lithuania) there is an organized social enterprise body that advocates and promotes the needs and the importance of social enterprises in solving problems within the state. However, a small social enterprise needs to put in the extra effort and time to be able to establish partnership with the public sector and be taken seriously.

4. Discussion and conclusion

Cross sector collaboration for social enterprises with the private and public sector is a means for development for social enterprises as it allows them to scale their social impact and be economically sufficient. With the support of their partners, social enterprises can create effective solutions to the social problems they are addressing and contribute positively to the economic and social development of the local society. Especially in the Baltic States, that social entrepreneurship is a relatively new field, establishing cross collaboration with the private and the public sector is a driver for development, improvement, success, and business establishment for social enterprises.

It is revealed that social enterprises cross collaboration is a form of collaboration that benefits equally both parties regardless the type of organisation (public, private). Specifically, while collaborating with the private sector, social enterprises get access to financial resources, networks, expertise, gain credibility and legitimacy and it is a great way for them to market themselves and their services/products. On the other hand, as social corporate responsibility, sustainable development, and contribution to the local society become more and more popular among corporations and small and medium enterprises, the collaboration with social enterprises gives the opportunity to the private sector to contribute to the development of the local society, to increase its social image and reputation and engage its employees to take action and contribute positively to the development of the society.

Similarly, while collaborating with the public sector, social enterprises get access to funding, and it is a great opportunity for them to scale their social impact. Also, the collaboration with the public sector is characterized by long term agreements that allow the social enterprises to sustain financially and organise their activities and resources without being insecure about having insufficient funds to operate, the financial security allows them to focus on their main activities and scaling their social impact. Despite social enterprises, the public institutions benefit from their collaboration with social enterprises as they can provide to their citizens quality services and products and solve the problems that occur in their local community.

Despite the differences that the private and public sector may have in their organisational structure and operational functions, social enterprises seem to face similar challenges to establish and to maintain collaborations with any of the two sectors. The evidence from this study suggests that there are 3 different types of challenges that the social enterprises face to establish and maintain their collaboration with the private and public sector according to time criterion: prior to collaboration, initial stage of collaboration, and during the collaboration (maintaining stage). The study found that in the prior stage, social entrepreneurs face difficulties to identify the key contacts within the organisations (private or public) to start the collaboration. The competition is quite high, as there are many other providers and stronger competitors, so that social enterprises need to offer something that the others do not offer and to know the organisations' needs, values and their social aims and interests. When the collaboration has officially started, the social entrepreneur faces different types of challenges regulated with spending time and efforts to ensure and gain the collaborator's trust through frequent communication and detailed and analytical reports. Despite the value that trust has at first place, it needs to be maintained and developed throughout the collaboration so that it can be further extended once their type of collaboration officially ends. The social entrepreneur needs to keep the collaborators involved and informed so that they will not lose interest, they can maintain their professional relationship and extend it if required regardless of the existing competition.

From empirical research, interviewees gave their insights and suggestions of best practices for social entrepreneurs that can apply in these 3 stages so that they can enhance their results and establish successful and meaningful collaborations with the private and public sector. Following again the scheme of the three stages, social entrepreneurs need prior to collaboration to find key persons within the organisations that have decision making power, and make to them a clear, interesting, and mutually beneficial proposal considering the organisations' needs and goals without compromising their societal goal. One key aspect regarding this stage is to pitch the proposal to the organisations' decision makers.

Interestingly, prior collaboration with the public sector (or third sector) gives trustworthiness and credibility to the social enterprise to establish collaboration with the private sector, as well as prior collaboration with the private sector gives a competitive advantage for a successful collaboration with the public sector, as it gives credibility and legitimacy regarding their operations. Prior collaborations show professionalism, trustworthiness, network, and credibility to the social enterprise, increasing the possibilities of a successful deal. This practice confirms the importance that cross sector collaboration has for social enterprises and how the correlation between the two sectors can be beneficial for the success of the social enterprise's upcoming collaborations. Furthermore, in the initial stage of the collaboration, by devoting time and effort to communicate, be responsible and responsible while communicating, engage and involve their collaborators and keep reminding them the benefits of their collaboration and build a trustworthy relationship that can allow them to maintain and extend their collaboration further (third stage). As the Director of Miesto Laboratorija, Goda Sosnovskiene, mentioned in her interview, "*I am not just responsible for my enterprise but for the future deals for them (partners) as well. It is very important for social enterprises to understand that if you will do the deal fine, then other social enterprises will approach this company that it is more likely that they will have a positive answer and potential collaboration. You are doing a deal and you are responsible not only for yourself but also for the future*". That is a fundamental aspect that social entrepreneurs should take into consideration while searching for potential partners that they need to act responsibly and that with every collaboration and contact they represent the whole social enterprise ecosystem and by making successful deals, they facilitate the growth of social entrepreneurship and strengthen the cross-sector collaboration which is crucial for the development of this field.

The evidence from the study suggests that there are no significant differences on the challenges that social enterprises face to establish collaboration with the private sector or public in Baltic countries. However, it is important to highlight that in Estonia and Lithuania, social enterprises are more dependent on the changes that happen in the political spectrum, as they need to re-submit their offers and start the collaboration from the beginning if there are changes in the government.

This study has gone some way towards enhancing understanding of the challenges that social enterprises face to establish and to maintain cross sector collaboration with the private and public sector and to reveal some practices that can help social entrepreneurs have adopted to overcome them. The study findings might be useful for any social enterprise that aims to overcome the obstacles they face and enhance their current and future collaborations. The methodological choices were constrained by limited sample size, but empirical research results are promising and should be validated by a larger sample size and even beyond the regional limits. It is beyond the scope of this research to analyse the challenges that social enterprises face to establish and to maintain cross sector collaboration with the third sector, but it can be considered as a very important aspect of cross sector collaboration for future research to have a better understanding of how social enterprises operate with each sector and provide social entrepreneurs with a toolkit of best practices that will allow them to increase their social impact.

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