


Global Impact Index as a Tool for Measuring Social Inclusion: A Case Study of Arcobaleno Social Cooperative

Daniel Iannaci^{1*}, Roberto Gambassi², Giovanni Iozzi³, Giovanni Porquier⁴

¹ Arcobaleno Cooperativa Sociale, Via Paolo Veronese, 202 - 10148, Turin (Italy)

d.iannaci@cooparcobaleno.net

*contact author

ORCID  <https://orcid.org/0000-0002-4890-5963>

² Microcosmos Srl – V. Madonna del Buonconsiglio, 27 - 53100, Siena (Italy)

roberto@microcosmos.si

³ Arcobaleno Cooperativa Sociale, Via Paolo Veronese, 202 - 10148, Turin (Italy)

g.iozzi@cooparcobaleno.net

⁴ Arcobaleno Cooperativa Sociale, Via Paolo Veronese, 202 - 10148, Turin (Italy)

g.porquier@cooparcobaleno.net

Received: 06/02/2025

Accepted for publication: 26/03/2025

Published: 15/04/2025

Abstract

Assessment of social impact has become a strategic priority for social cooperatives in response to the growing need for transparency and accountability. However, traditional evaluation models, often developed for for-profit companies, fail to capture the complexity and specificity of organisations that integrate social, economic, and environmental missions. This study presents the Global Impact Index (GII Italian version IGI), an evaluation model designed to meet the needs of type B social cooperatives, with a particular focus on the reality of Arcobaleno Social Cooperative.

GII is structured around three fundamental dimensions: environmental, managerial, and social. The environmental dimension uses innovative tools such as Integrated Well-being Performance (IWP Italian version PIB) and Integrated Environmental Variation (IEV – Italian version VAI) to analyse cooperative's activities' contribution to urban well-being and long-term sustainability. The managerial dimension examines operational sustainability, the relationship between productivity and social inclusion, and workforce dynamics, highlighting how cooperative's social mission affects economic efficiency. Finally, the social dimension explores well-being and satisfaction of worker-members, emphasising cooperative's impact on quality of life and social integration.

This study's results demonstrate that GII is an effective tool for measuring, monitoring, and improving the performance of social cooperatives. Integrating three dimensions provides a holistic view of impact produced, offering a basis for targeted strategic decisions and stakeholder engagement. Although model has some limitations, such as need for further testing in different contexts, it represents a replicable and scalable approach for third sector. GII makes a significant contribution to literature on impact assessment and opens new perspectives for sustainability and social inclusion.

Keywords: Social Impact Assessment, Social Cooperatives, Global Impact Index, Sustainability, Inclusion

1. Introduction

In the context of third sector and social cooperatives, social impact assessment has become increasingly relevant, responding to a growing need for transparency and accountability towards stakeholders (Iannaci, 2020).

However, many traditional impact measurement metrics were developed for for-profit companies and do not adequately address specific characteristics of social cooperatives, whose value is not exclusively tied to financial metrics.

To address this gap, Arcobaleno Social Cooperative Type B (hereinafter referred to as "Arcobaleno") has developed Global Impact Index (GII - Italian version IGI), an innovative evaluation tool designed to reflect complexity and social mission of similar legal entities.

Global Impact Index was specifically designed to measure and enhance this type of contribution, incorporating three fundamental dimensions:

1. **Environmental Dimension:** Reflects urban context in which cooperative operates, highlighting how activities impact environment and community well-being.
2. **Managerial Dimension:** Evaluates internal management and cooperative's economic sustainability, with a particular focus on the relationship between productivity and social inclusion.
3. **Social Dimension:** Represents core of generated impact, analysing well-being and satisfaction of worker-members and their sense of belonging to organisation.

This tripartite analysis allows us to move beyond traditional financial metrics, offering a holistic view of impact of a social cooperative (Biancone et al., 2018b; Borzaga & Depedri, 2002; Repubblica Italiana, 1991).

Goal of GII is not to replace existing models but to integrate ESG (Environmental, Social, Governance) metrics, SDGs (Sustainable Development Goals), and BES (Equitable and Sustainable Well-being) with a sector-specific perspective, recognising importance of parameters such as intentionality and additionality of social intervention

RQ: How can an integrated impact index, which considers specificities of work integration social cooperatives, effectively measure economic, social, and environmental value produced by these cooperatives and offer a replicable tool for third sector?

This paper explores how Global Impact Index is structured around three dimensions—urban context (environmental dimension), personnel management (managerial dimension), and members' perception (social dimension). By comparing these areas, an overall value is determined, aimed at improving interpretation of social impact and identifying opportunities to increase value generated through presentation of results of two comparative analyses conducted, first between 2019 and 2020, and second in 2023-2024 biennium.

To ensure clarity and coherence, this article is structured as follows:

- **Section 2** presents theoretical framework, discussing existing impact measurement models and their limitations.
- **Section 3** outlines methodological approach adopted in this study, including data collection and analysis methods.
- **Section 4** presents results of study, highlighting key findings related to application of GII.
- **Section 5** discusses implications of findings, linking them to existing literature and managerial applications.
- **Section 6** concludes with a summary of key insights, limitations of study, and recommendations for future research development.

By streamlining transition from general challenges to specific contribution of GII, this introduction provides a clearer and more concise foundation for study.

2. Theoretical framework

2.1 Social Impact

Social impacts are social and environmental changes created by activities and investments (Arvidson et al., 2010, 2013; Banke-Thomas et al., 2015; Epstein & Yuthas, 2014, 2017; Faraudello et al., 2020; Gazzola et al., 2024; Millar & Hall, 2013). These impacts include issues such as equality, livelihoods, health, food security, poverty, safety, and justice. Environmental impacts cover areas such as conservation, energy use, waste, environmental health, resource depletion, and climate change. Term "social impacts" refers to both social and environmental changes—positive and negative, intended and unintended—that result from investments (Biancone et al., 2019a; Calderini et al., 2018a, 2018b; Ebrahim et al., 2014, 2014; Epstein & Yuthas, 2017; Murdock, 2010).

This includes organisations whose social impact is exogenous through production of goods and services and those whose impact is endogenous through organisational structures and processes (Biancone et al., 2019a; Bonilla-Alicea & Fu, 2019; Faraudello et al., 2020; Nyssens, 2007).

2.2 Social Impact Measurement

Currently, there is no standard unit for social impact, nor any agreed-upon methodology or accounting regulation to acquire and report it (Alijani & Karyotis, 2019; Nicholls, 2009; Nicholls et al., 2015; Rawhouser et al., 2019; Secinaro et al., 2021). This is widely seen as a barrier to future development of social finance market as it makes comparative analysis of various value propositions and investments impossible. However, there have been some advances towards creating a set of agreed-upon impact accounting systems for social finance. Initiatives include integrated ESG accounting; Global Reporting Initiative (GRI); Sustainable Accounting Standards Board (SASB); Impact Reporting and Investment Standards (IRIS) of Global Impact Investing Network, and European Union's Social Impact standard.

In UK, Cabinet Office has supported launch of "Inspiring Impact," a decade-long project aimed at building a coordinated and consistent approach to impact measurement. This included commitment to explore broader use of SROI (Social Return on Investment) methodology, which represents closest thing to an industry standard currently for reporting social impact at project or organisational level.

Global Impact Investing Ratings System (GIIRS) - developed by B Lab, U.S. organisation behind B-Corp certification, represents a leading example of an approach to creating standardised ratings and reporting social impact. GIIRS rating system uses IRIS metrics combined with additional criteria to achieve an overall assessment of company or fund, as well as targeted subcategories in governance, workers, community, environment, and socially and environmentally focused activities models. As of 2014, there were over 500 companies rated by GIIRS in 39 countries, each assessed up to a maximum of 200 points based on criteria ranging from commitment to a social mission and land use to how they treat their workers and communities in which they operate (Nicholls et al., 2015).

A common issue is defining success in terms of what organisation produces rather than impacts that result. It is essential to focus on impacts for following reasons: actions do not always have intended outcomes, instincts are not always correct, and without understanding impacts, it is difficult to improve them (Epstein & Yuthas, 2017).

Social impact is a primary goal of social cooperatives' activities; however, these organisations and individuals often are unclear on how to measure and thus improve their impact. While designing and measuring financial outcomes is common, most organisations find measuring social impact much more

challenging. But demands for more thorough and comprehensive analysis of impacts are rapidly increasing (Epstein & Yuthas, 2017).

2.3 Integrated Well-being Performance (IWP)

Reconstruction of Integrated Well-being Performance (IWP - Italian version PIB) (Gambassi & Microcosmos, 2012; Polci & Gambassi, 2000, 2018) stems from definition of Sustainable Development contained in Brundtland Report by World Commission on Environment and Development (1987). Since then, numerous research methodologies have been dedicated to measuring well-being of individuals and societies.

First signs of a significant inability of income to describe variability of real well-being already emerged during 1968 U.S. presidential campaign when Robert Kennedy delivered a speech at University of Kansas in which he pronounced "de profundis" of GDP, stating that it measures "everything except that which makes life worthwhile." In that vision, happiness, awareness, lifestyle, dignity, and elements related to social and environmental "costs" gained prominence. Air pollution, deterioration of people's health and emergence of new diseases, destruction of planet's resources, rush to purchase unnecessary products, and new forms of social distrust and inequality are just some aspects that GDP does not monetise among items of "wealth," ignoring their value.

Since 1968, many methodological approaches to measuring well-being have been developed. Human Development Index (HDI) is first and most cited, while Ecological Footprint has been pivotal for environmental shift it proposes, positioning it as a central element in planning development actions and policies. European Commission has also committed to "Beyond GDP, Measuring Progress, True Wealth, and Well-being of Nations" work plan to promote use and development of indicators that, alongside GDP, are more inclusive of environmental and social aspects of progress, with the aim of fostering sharing of information on latest initiatives and ongoing work.

In Italy, cultural debate has led to BES (Equitable and Sustainable Well-being) by ISTAT-CNEL, which in 2012 began to raise awareness among Italians of need to go "beyond GDP," starting from adoption of commitments and objectives of good governance.

2.4 Limitations of approaches and attempt of their overcoming

These approaches acknowledge difficulties in attributing value to intangible elements that cannot be ascribed to measurable quantities, such as natural resources. When challenge of measurement is combined with their essential role in describing concrete dynamics of territorial development, it becomes clear why concepts of quality of life, well-being, and human development have evolved in multifaceted ways.

Indeed, all approaches have encountered or demonstrated difficulties along way. However, it is not an overstatement to categorise these challenges into three main areas of analysis:

1. A tendency to focus on specific areas (recently on environmental aspects, previously on quality of life) rather than integrating these areas holistically.
2. A limited ability to synthesise indicators, leading to more complex interpretations when comparing different territories and across time.
3. enduring dilemma of balancing subjective and objective indicators and preference for working with qualitative data among latter.

All approaches agree that well-being is a concept more complex than a linear index: three components of sustainability—environmental, social, and economic—are not elements to be mathematically summed but rather aspects of same reality. For optimal territorial conditions, these must be perfectly balanced, with limited variability and equilibrium among them.

This equilibrium thus represents a new frontier for objectives of development models. It conceives goal not as a growing function, linear model, or equation but as a system of causal links among variables, aspects, and axes—a system of correlations aiming to synthesise and adapt the most general elements of quality of life to concept of integrated well-being.

Model discussed here is a system that evaluates effectiveness of variables, enables comparisons among them, verifies extent to which indicators from one axis are connected to those from another, determines factors explaining balance itself, identifies deviations from optimal situation (which is not uniform across all systems), and provides the most efficient guidelines for pursuing improvements.

The objective of this methodological proposal is to identify and understand interconnections among many factors that influence well-being, as these are fundamental when analysing policy options. It is global approach, more than specific indices, that identifies sectors where actions can most effectively improve well-being of territories under review.

Transforming an aspect that requires careful attention—such as compliance with well-validated national and international procedures—into added value has been true core of this approach. This opportunity has been facilitated by non-arbitrary selection of indicators, their treatment to outline a common direction among homogeneous groups, independence of these groups from one another, and their basis in aspects related to resource endowments, attitude measurements, people's sensitivities, adoption of good practices, pollution production rates, and distinct visions for quality and quantity of well-being.

2.5 Social Cooperatives type B in Integral Sustainability: A Qualitative ESG-Oriented Analysis

Promotion of integral sustainability represents a central element in mission of social cooperatives. Through a retrospective analysis based on ESG metrics (Environmental, Social, Governance), it can be confirmed that this research has always stood out for its transparency, including in area of sustainability. However, it is recognised that applicability of these new frameworks may encounter some limitations in different contexts. For this reason, focus has been on fundamental concept underlying ESG evaluation (Clément et al., 2023; Edmans, 2023; Lanzalonga et al., 2024; Li et al., 2021; Secinaro et al., 2023; Tsang et al., 2023), making it replicable rather than limiting it to predefined indicators from literature.

Three ESG pillars represent shared language of sustainability. These pillars allow for measurement of an organisation's environmental, social, and governance performance using standardised and widely accepted parameters. In context of social cooperatives, these dimensions are translated as follows:

- Environmental Dimension [E]: This pillar includes all information related to environmental impact of activities and measures adopted to reduce it.
- Social Dimension [S]: focus here is on members' perceptions of cooperative's contribution to improving their living conditions and overall quality of work environment.
- Governance Dimension [G]: This pillar concerns internal governance and decision-making processes, ensuring that activities are managed effectively, efficiently, and in compliance with ethical and regulatory principles.

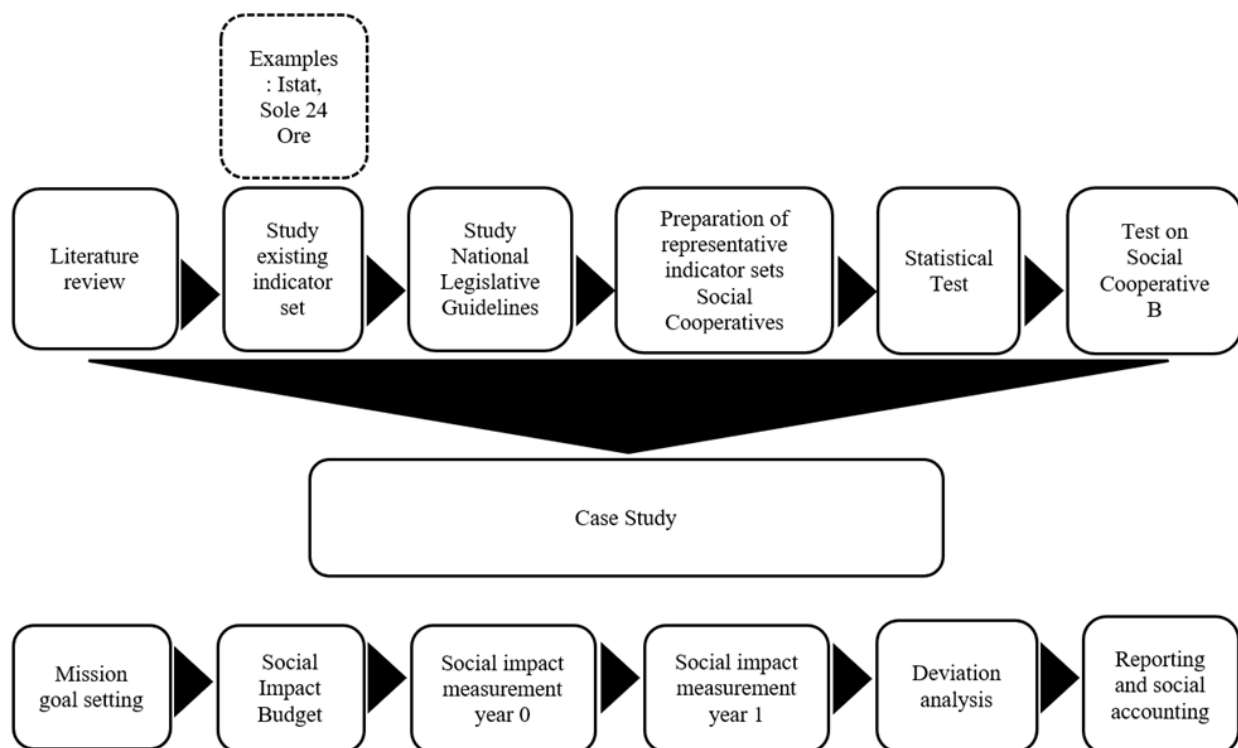
This shared language is particularly important in financial contexts and national, European, and international regulatory dynamics. Therefore, an approach has been specifically developed to be replicable by all cooperatives, rather than relying solely on a predetermined model.

Goal has been to overcome difficulty of quantitatively measuring well-being in a way that objectively and collectively represents phenomenon through synthetic indicators, appropriately weighing its multiple aspects. Specifically, contribution of this methodological proposal aims to measure phenomenon by distinguishing it into specific aspects, peculiar characteristics, and identifying groups that allow for rigorous statistical representation. This representation serves to synthesise entire phenomenon through a one-dimensional index derived from quantification of various aspects, potentially interpreted through causal analysis.

Aware of importance of "agreement on most important dimensions," the most critical phase of entire process has been identification and selection of indicators useful for defining well-being in our country and in major Italian cities under review.

Two main difficulties were encountered during this process: first, inability to work with subjective variables from sample surveys; second, fact that primary focus of our application is Italian cities—municipalities—rather than entire national territory. This detail limits availability of some indicators, not because they are not measured at local level, but due to real practical constraints.

Figure 1. Mapping study



Source: authors' elaboration

Nevertheless, we believe we have arrived at an excellent solution, represented by eight categories, many of which are fully aligned with BES guidelines and other national-scale research approaches, all well-aligned with Sarkozy Commission's recommendations from choice of indicators onward. These eight categories have proven reliable in accurately describing magnitudes they are meant to measure. In addition to scientific validity of selected indicators and adherence to classification of categories used by other approaches, they have been subjected to appropriate homogeneity and reliability tests (Cronbach's alpha).

Possibility of assigning "independent" weights to various indicators, free from subjective biases, and of comparing system quantitatively opens interesting prospects for construction of alternative measurements to GDP. This could facilitate territorial policy strategies aimed at improving well-being levels and optimising targeted actions on specific, clearly identifiable socio-economic and environmental aspects.

Case study analysed is a social cooperative operating in environmental sector, specifically in waste recycling, in Turin area, Italy.

3. Methodology

This study employs a systematic approach (Corvo et al., 2021) to assess impact of social cooperatives, integrating both qualitative and quantitative methods. Methodology was structured to ensure validity, replicability, and transparency, addressing limitations of traditional impact assessment models (Eisenhardt, 1989; Lincoln & Denzin, 2000).

3.1 Research Design and Approach

A longitudinal and explanatory case study (Yin, 2017) was adopted to evaluate application of Global Impact Index (GII) in Arcobaleno, a Type B Social Cooperative based in Turin (Porquier et al., 2010). Case study method was chosen to provide in-depth insights into practical implementation of GII, allowing for an extensive evaluation of its effectiveness in measuring social, environmental, and managerial impact. To ensure methodological rigor, study applied data triangulation by combining: primary data (interviews, surveys, direct observations); secondary data (financial reports, official records, and publicly available environmental data); comparative analysis with similar organisations to contextualise findings. By integrating multiple data sources, study enhances credibility and reliability (Leonard-Barton, 1990), minimising bias in data interpretation (Stake, 1995; Yin, 2017).

3.2 Data Collection Process

Data collection was carried out through three primary methods:

- Semi-structured interviews: Conducted with key stakeholders, cooperative members and management; aimed to gather insights into organizational governance, economic sustainability, and social mission effectiveness; interviews were recorded, transcribed, and analysed using thematic coding techniques.
- Surveys and Questionnaires: a structured questionnaire was administered to a representative sample of Arcobaleno's worker-members; key themes included quality of life, job satisfaction, and perceived impact of cooperative initiatives; responses were analysed using descriptive statistics and correlation analysis to assess relationships between social, environmental, and managerial indicators.

- Document and Financial Analysis: reviewed annual financial reports, employment records, and sustainability statements from Arcobaleno; cross-checked internal documentation with external data sources, including municipal and regional environmental reports.

The sample selection was designed to maximise representativeness, ensuring inclusion of members across different roles, seniority levels, and socio-economic backgrounds. Potential biases, such as self-selection bias in survey responses, were addressed by random sampling and ensuring anonymity.

3.3 Data Analysis Techniques

To interpret collected data, study employed a mixed-method approach, combining:

- Thematic Analysis: Applied to qualitative data from interviews to identify recurring patterns and key themes (Braun & Clarke, 2006).
- Factor Analysis: Used to identify underlying relationships within survey responses, particularly between worker satisfaction, inclusion, and productivity.
- Comparative Benchmarking: Positioning Arcobaleno's impact metrics against similar social cooperatives in Italy and Europe, providing external validation of GII model.

The validity of findings was reinforced through cross-validation across multiple data sources. Reliability was ensured by applying standardised data collection protocols and using multiple coders for qualitative analysis.

3.4 Justification of Case Selection

Arcobaleno was selected as case study due to:

- Its long-standing history as one of Italy's leading Type B Social Cooperatives.
- Its diverse workforce, which includes individuals from disadvantaged backgrounds.
- Its established focus on environmental sustainability, work integration, and governance innovation.

This selection ensures that findings can be generalised to other social cooperatives, offering practical insights for broader applications of GII.

3.5 Ethical Considerations

- All participants provided informed consent, ensuring voluntary participation.
- Confidentiality was maintained by anonymising personal data in interviews and survey responses.
- Study adhered to ethical research guidelines, following best practices in social impact research.

4. Results

With aim of addressing essential questions such as: Do we objectively perceive social cooperative? Does it achieve its mission objectives? Does social cooperative create positive or negative changes for direct stakeholders? Does social cooperative generate social value?

Founded in 1992 in Turin, Arcobaleno is one of the most important work integration social cooperatives in Italy, with nearly 300 worker-members, many of whom come from disadvantaged backgrounds. Cooperative was born from experience of Abele Group, a non-profit organisation from Turin with a long history of social commitment. Arcobaleno operates primarily in field of waste collection and

environmental services but stands out for its inclusive approach and commitment to creating social value. Cooperative's mission is to provide job opportunities to vulnerable people while contributing to environmental sustainability and social cohesion of local community.

Creation of Global Impact Index (GII) is result of an articulated methodology based on a combination of qualitative and quantitative analyses, using principles from existing frameworks (BES, SDG, ESG) adapted to context of social cooperatives. Development process of GII has been characterised by a model based on three key dimensions—environmental, managerial, and social—each representing critical aspects for work integration social cooperatives like Arcobaleno.

4.1 Structure of Global Impact Index

Global Impact Index is structured as follows:

a. Environmental Dimension

Environmental dimension of GII focuses on interaction between cooperative and urban context, using two main indicators to provide an accurate assessment: Integrated Well-being Performance (IWP) and Integrated Environmental Variation (IEV- Italian version VAI). While IWP offers a benchmark for Turin in context of Italy's ten largest cities in terms of quality of life and well-being, IEV identifies long-term environmental actions with the greatest impact.

- Integrated Well-being Performance (IWP): This indicator analyses eight dimensions—demography, wealth, health, tourism, economy, innovation and quality production, productive specialisation, and environment. IWP provides a snapshot of the most urgent environmental and social challenges faced by city, allowing comparisons with other realities, such as population decline, demographic aging, and income concentration.

- Integrated Environmental Variation (IEV): IEV, integrated with IWP, identifies and prioritises the most effective environmental actions for long-term performance. It allows for analysis of how specific interventions, such as increasing recycling rates, reducing particulate emissions, and enhancing public transport, contribute to improving environmental quality and overall well-being. IEV analysis thus highlights which strategic levers can be used to achieve more effective environmental results.

This integration between IWP and IEV enables cooperative to better orient future strategic choices in terms of sustainability and to respond more precisely to needs of territory.

Thanks to stimulus from Law 163/2016, which introduced BES (Equitable and Sustainable Well-being) index to assess quality of life and impact of public policies on fundamental social dimensions—thus surpassing traditional GDP as a one-dimensional economic measure—this original approach seeks to integrate rather than replace existing valuable databases and reports, such as those from Il Sole 24 Ore. Goal is not to change description of what already exists but to approach results with a new method that provides greater depth and additional insights. Key Features of New Approach:

- Analysis of Explanatory Factors: It is not limited to constructing rankings or estimates but focuses on evaluating contribution of explanatory factors. It moves from designing simple models to analysing transformations of these factors, carefully evaluating causal links between indicators and their impacts.

- Innovative IWP Methodology: It examines the most effective levers for revitalising territories through this methodology, offering an integrated approach to well-being assessment.

- **Municipal-Level Data Base:** Analysis is based on municipal rather than provincial data, allowing for a more detailed and personalised view of situation. This approach makes survey potentially replicable for every Italian municipality, providing a comprehensive picture of local dynamics.

- **Variability Explored Through a Wide Range of Indicators:** Nearly 200 indicators are used, collected in a specific municipal database. These data are focused on comparing Turin among Italy's ten largest cities, allowing identification of indicators most correlated with index itself and those that positively influence dynamics of IWP and territorial well-being.

CAs observed, qualifying aspects of IWP index are primarily related to municipal scale of indicators¹ and, secondly, to ability to trace internal relationships among them and to weigh their impact on determining positioning. Through IWP, main objectives are outlined, providing a concrete and accurate framework of what it means to compete on a national level. It clarifies priorities, factors affecting competitiveness, and measures effectiveness of actions taken to improve positioning and integrated performance.

Final estimates are not just rankings and, above all, are not limited to current situation of city but also consider its development potential. In this context, it is not so much about taking a snapshot of city but rather highlighting elements that could make it competitive in facing future.

Originality of "Integrated Well-being" concept lies in systemic approach (nearly 200 indicators grouped into 8 main categories: Demography, Innovation and Quality Production, Economy, Productive Specialization, Tourism, Wealth, Health, Environment).

The choice of these indicators allows for analysis of characteristics of Turin and other cities, starting from demographic data of their inhabitants to level of services provided (social and health assistance, services for citizens and businesses, innovation) and productive dynamism (productive system and specialisation, tourism, economy, and wealth): a single concept that synthesises quality of widespread territorial services and ability to compete for development consistent with its resources and identity²

In summary, outcome is a score that aims to concretely express integrated performance of well-being—a score simplified and always brought back to a scale from 0 to 100, representing city's competitiveness and resilience, inspired by already utilised BES, Equitable and Sustainable Well-being, and Kennedy's holistic vision of beyond-income.

Not all information is available for all 8,000 municipalities in Italy. Many indicators cover provincial capitals, 105 cities where nearly a third of population lives, while others allow for analysis of major Italian cities. Common data base remains Istat, with some specific sections providing data at an appropriate territorial scale³.

b. Managerial Dimension

In this dimension, focus is on operational efficiency and personnel management. Indicators such as productivity per worker-member and ratio between full-time and part-time employees have been selected, taking into account specific factors such as inclusion of vulnerable individuals.

¹ Gli studi precedentemente riportati si riferiscono alla scala provinciale

² Se pure 200 indicatori possono sembrare fin troppi, di fatto non possono essere considerati esaustivi nella descrizione di una realtà tanto complessa; oltre a ciò, dobbiamo tenere presenti i limiti di disponibilità dei dati allorché si lavora su scala comunale.

³ demo.istat.it e dati.istat.it/; esploradati.istat.it/databrowser/#/; "A misura di comune", con una dinamica dei dati dal 2014 al 2020; "Atlante Statistico dei Comuni"; Gli "Indicatori territoriali per le politiche di sviluppo" 2014-2020 con 327 indicatori a livello territoriale

statistical analysis technique used is factor analysis through principal components. This technique ensures strong internal cohesion and allows for construction of indicators capable of functioning as comparisons between territories and indicating connections with individual conditioning variables. "Principal components" technique represents ideal method for identifying factors (i.e., combinations of interconnected indicators) capable of expressing level of quality and integrated well-being of cities—essentially, global state of art—before linear regression models attempt to verify effectiveness of interventions towards specific parameters.

This dimension can highlight significant dynamics that reflect organisation's inclusive and social mission while considering relevant economic implications.

- Variation in Production per Worker-Member

From an economic perspective, this phenomenon indicates business efficiency, characterised by changes in costs, especially related to personnel, which must be compared to revenue value, representing a managerial challenge. However, from a social perspective, this trend can be interpreted differently: it represents success of cooperative's mission, which focuses on social inclusion rather than profit maximisation. Primary focus is on creating job opportunities for disadvantaged people, even at expense of individual productivity.

- Decrease in Incidence of Disadvantaged People

Reduction or increase in indicator related to disadvantaged individuals within cooperative can be attributed to success of inclusive mission. With years of service, many workers overcome their initial disadvantaged conditions, remaining actively employed within cooperative. This is a positive result, although cooperative faces challenges related to identifying and integrating new vulnerable individuals. For example, changes in dynamics related to substance abuse—with an increasing incidence among young people of school age—require adapting mission, which in some cases may focus more on educational support rather than direct employment. Additionally, some non-certified vulnerabilities do not fall within official parameters but still represent segments of vulnerable population that cooperative is committed to supporting.

These data underscore how economic and social dynamics of a work integration social cooperative are closely intertwined. While there are challenges related to economic sustainability, pursuit of social mission remains at core of activities, contributing to transforming situations of vulnerability into paths of growth and inclusion.

c. Social Dimension

This is the most significant element within GII, analysing perception of well-being and satisfaction among workers, as well as their level of integration (Cevenini et al., 2012). To this end, a questionnaire was administered to a representative sample of worker-members to measure aspects such as quality of life, sense of belonging, and emotional stability.

Questionnaire was developed after several tests to estimate its internal consistency, targeting a sample of cooperative worker-members based on gender, age, citizenship, educational qualifications, type of contract, years of seniority, membership status, role, and potential employment under Law 381 (disadvantaged individuals). The large number of sampling variables and complex yet rewarding choice of working with a proportional quota distribution between population and sample were made possible using specific sampling software.

Impact measurement primarily focuses on relationship between enterprise and society. In case of work integration social cooperatives, it becomes essential to also measure effects produced on vulnerable segment of population to which these cooperatives direct their efforts for full reintegration into civil life. While other entities in business world may also engage with this particular population segment, specificity of work integration cooperatives is that this objective forms core of their mission. Therefore, success of enterprise is not measured by its ability to generate profits but by its ability to produce "social utility," which derives directly from success of reintegration project and cooperative's capacity to maintain disadvantaged individuals within civil consortium as workers with full citizenship rights and restored dignity (Iannaci, 2021).

This specificity defines these organisations, each with targeted strategies and projects to balance goal of supporting their members while addressing challenges of market from which they cannot withdraw.

Following section highlights effects on social body and, where possible, provides an initial estimate of cooperative's impact.

Questionnaire

In addition to sections aimed at outlining a synthetic profile of members, questionnaire also requested evaluations regarding specific initiatives promoted by cooperative to achieve its social objectives. Ultimately, it focused on three specific areas of relationship:

1. Sentiment: general emotional and attitudinal perception of members towards cooperative and their work environment.
2. Cooperative's Impact on Quality of Life: Assessing how cooperative influences overall well-being and life satisfaction of each member.
3. Members' Evaluation of Cooperative: Gathering feedback on cooperative's performance, effectiveness, and perceived value from members' perspective.

At the end of structured assessment, following table summarises key findings for each of three dimensions of Global Impact Index (GII), highlighting main indicators and observed impacts.

Table 1: Summary of Global Impact Index (GII) Dimensions and Key Findings

Dimension	Key Indicators	Observed Impacts
Environmental	<ul style="list-style-type: none"> - Integrated Well-being Performance (IWP) - Integrated Environmental Variation (IEV) 	<ul style="list-style-type: none"> - Improved waste collection efficiency - Reduction in particulate emissions - Enhanced public transport use
Managerial	<ul style="list-style-type: none"> - Productivity per worker-member - Inclusion of disadvantaged individuals 	<ul style="list-style-type: none"> - Balanced economic sustainability with social inclusion - Long-term retention of previously disadvantaged workers - Identified areas for operational efficiency improvements
Social	<ul style="list-style-type: none"> - Worker sentiment survey - Impact on quality of life - Member evaluation of cooperative governance 	<ul style="list-style-type: none"> - High worker satisfaction and sense of belonging - Increased perceived well-being due to cooperative initiatives - Positive feedback on governance and decision-making processes

4.2 Data Collection

Data collection was carried out through a combination of tools, including interviews, anonymous questionnaires, and analysis of internal data from cooperative. Environmental data were obtained from public sources and cross-referenced with information provided by project's scientific partners, such as School of Management and Economics at University of Turin. Managerial dimension included an economic-financial analysis based on cooperative's annual financial statements, while social dimension focused on members' work experiences through direct surveys.

Analysis of collected data provided an accurate representation of impact generated by Arcobaleno, highlighting how environmental, managerial, and social dimensions contribute to overall index.

5. Discussion

5.1 Contributions to Literature

Authors demonstrate that conducted analysis was structured in two phases. First, existing metrics currently in use and present in landscape were scientifically analysed to establish a set. Secondly, validity of framework was tested through case study.

To date, research in this field has rarely led to shared solutions, as evidenced by plurality of models adopted for measuring and evaluating social impact, reflecting highly differentiated approaches and tools. This condition is generated by fragmentation among social impact assessment models and wide variety of approaches. Often, these models are not replicable for organisations with social impact as their core mission, such as social cooperatives. Lack of clarity affects cohesion of various evaluation models, risking absence of clear metrics for practical use (Spiess-Knafl & Scheck, 2017). For this reason, aim of this article is to provide a literature review and a case study capable of filling this gap.

Next step in this research will be to conduct an even more extensive analysis that also considers contributions of external stakeholders. Further research should focus on relationship between social impact studies and sustainability studies, as two frameworks that should partially overlap and integrate (Bonilla-Alicea & Fu, 2019).

5.2 Implications for Managers

Social impact assessment seems to be losing appeal after scientific surge of recent years; however, this article aims to demonstrate its continued relevance. Scientifically, all crucial aspects have been thoroughly explored (Biancone et al., 2018a, 2018c, 2019b; Corvo et al., 2021; Faraudello et al., 2020; Iannaci, 2020), while in practice, there is a lack of clear and truly replicable models that can unite all ecosystem actors necessary to generate social impact.

This research underscores need for impact assessment models that not only reflect realities of social enterprises but also provide a structured methodology that public administrations and policymakers can adopt. While GII primarily focuses on social cooperatives, its integration across environmental, managerial, and social dimensions suggests potential for broader applications.

Findings indicate that adopting structured impact assessment models can facilitate operational synergies between social cooperatives and public institutions, enhancing long-term effectiveness. By ensuring that

all stakeholders are engaged in evaluation process, a more comprehensive and actionable understanding of social impact can be achieved.

Key Takeaways:

- GII provides a structured and replicable framework for assessing social impact in cooperatives.
- Existing impact measurement models often lack cohesion, limiting their applicability to social enterprises.
- Public administrations could benefit from integrating GII into policy evaluation processes.
- Future research should expand on external stakeholder perspectives and explore synergies between impact assessment and sustainability frameworks.

This structured discussion strengthens study's contributions by summarising key insights and reinforcing practical implications of findings.

6. Conclusions

This study analysed role and effectiveness of Global Impact Index (GII) as an integrated evaluation tool for type B social cooperatives, focusing on case study of Arcobaleno. Results demonstrate that an evaluation model like GII can effectively meet specific needs of social cooperatives, providing a balanced and replicable measurement of economic, social, and environmental impact.

Central question of this study was: How can an integrated impact index, which considers specificities of work integration social cooperatives, effectively measure economic, social, and environmental value produced by these cooperatives and offer a replicable tool for third sector?

GII has proven to meet this need by integrating three fundamental dimensions:

1. Environmental Dimension: Tools such as Integrated Well-being Performance (IWP) and Integrated Environmental Variation (IEV) have identified the most effective actions for improving urban context, highlighting how cooperative contributes to territorial well-being and long-term sustainability.
2. Managerial Dimension: analysis of productivity per worker-member and inclusive management revealed cooperative's dual objective: ensuring economic sustainability and promoting social inclusion, balancing operational challenges with social mission.
3. Social Dimension: perception of worker-members, improvement of their quality of life, and their sense of belonging emerged as core of cooperative's impact.

Adopting a model like GII offers social cooperatives a practical and concrete tool to:

- Monitor and improve their performance across three dimensions of analysis.
- Transparently represent generated impact to stakeholders, strengthening accountability.
- Identify strategic intervention areas to maximise social and economic impact.

Moreover, integration of three pillars—environmental, managerial, and social—demonstrates that social impact cannot be analysed in isolation but requires a holistic vision that considers interdependence among areas, aiming to simplify complexity and generate "social utility."

Despite promising results, study presents some limitations: methodology was tested on a single case study, limiting generalizability of results; lack of greater integration with external stakeholder feedback may reduce ability to capture full spectrum of generated impact.

This study opens interesting perspectives for future research:

1. Model Expansion: Testing GII on a larger number of social cooperatives to verify its adaptability and robustness.
2. Stakeholder Involvement: Including a more in-depth evaluation of impact perceived by external beneficiaries, public administrations, and strategic partners.
3. Application in Public Administration: model could be used to assess effectiveness of public policies and create operational synergies between social cooperatives and institutions.

Global Impact Index emerges as an innovative and replicable tool that can not only evaluate impact produced by a social cooperative but also guide its future strategies. Arcobaleno's experience confirms that social impact is not limited to numbers or financial metrics but is rooted in ability to create tangible and intangible value for people, communities, and territories. This model represents a new frontier for third sector, demonstrating that sustainability and social inclusion are not distinct objectives but two sides of same coin.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: data is unavailable due to privacy or ethical restrictions.

Conflicts of Interest: authors declare no conflict of interest

References

- Alijani, S., & Karyotis, C. (2019). Coping with impact investing antagonistic objectives: A multistakeholder approach. *Research in International Business and Finance*, 47, 10–17.
- Arvidson, M., Lyon, F., McKay, S., & Moro, D. (2010). *The ambitions and challenges of SROI*.
- Arvidson, M., Lyon, F., McKay, S., & Moro, D. (2013). Valuing the social? The nature and controversies of measuring social return on investment (SROI). *Voluntary Sector Review*, 4(1), 3–18.
- Banke-Thomas, A. O., Madaj, B., Charles, A., & van den Broek, N. (2015). Social Return on Investment (SROI) methodology to account for value for money of public health interventions: A systematic review. *BMC Public Health*, 15(1), 582.
- Biancone, P., Secinaro, S., Brescia, V., & Iannaci, D. (2018a). Communication and data processing in local public group: Transparency and accountability. *INTERNATIONAL JOURNAL OF BUSINESS AND MANAGEMENT*, 13(10), 20–37.
- Biancone, P., Secinaro, S., Brescia, V., & Iannaci, D. (2018b). *POPULAR FINANCIAL REPORTING, A NEW INFORMATION TOOL FOR SOCIAL COOPERATIVES*. Franco Angeli. <https://iris.unito.it/handle/2318/1701273#.XUBdGugzbIU>
- Biancone, P., Secinaro, S., Brescia, V., & Iannaci, D. (2018c). *The Popular Financial Reporting as tool to measure social impact*.
- Biancone, P., Secinaro, S., Brescia, V., & Iannaci, D. (2019a). Business model innovation for sustainability and social impact. *International Journal of Management Sciences and Business Research*, 8(11), 30–40.
- Biancone, P., Secinaro, S., Brescia, V., & Iannaci, D. (2019b). *The Popular Financial Reporting between Theory and Evidence*.
- Bonilla-Alicea, R. J., & Fu, K. (2019). Systematic map of the social impact assessment field. *Sustainability*, 11(15), 4106.
- Borzaga, C., & Depedri, S. (2002). Peculiarità e modelli delle cooperative sociali. In *Comunità cooperative: Terzo rapporto sulla cooperazione sociale in Italia* (pp. 127–170). Fondazione Giovanni Agnelli. <https://iris.unitn.it/handle/11572/48390>
- Calderini, M., Chiodo, V., & Michelucci, F. V. (2018a). Growing Social Impact Finance: Implications for the Public Sector. In *Positive Impact Investing* (pp. 27–38). Springer.
- Calderini, M., Chiodo, V., & Michelucci, F. V. (2018b). The social impact investment race: Toward an interpretative framework. *European Business Review*, 30(1), 66–81.
- Cevenini, G., Fratini, I., & Gambassi, R. (2012). A new quantitative approach to measure perceived work-related stress in Italian employees. *Int J Occup Med Environ Health*.
- Clément, A., Robinot, É., & Trespeuch, L. (2023). The use of ESG scores in academic literature: A systematic literature review. *Journal of Enterprising Communities: People and Places in the Global Economy*. <https://www.emerald.com/insight/content/doi/10.1108/JEC-10-2022-0147/full/html>
- Corvo, L., Pastore, L., Manti, A., & Iannaci, D. (2021). Mapping Social Impact Assessment Models: A Literature Overview for a Future Research Agenda. *Sustainability*, 13(9), Art. 9. <https://doi.org/10.3390/su13094750>
- Ebrahim, A., Battilana, J., & Mair, J. (2014). The governance of social enterprises: Mission drift and accountability challenges in hybrid organizations. *Research in Organizational Behavior*, 34, 81–100.

- Edmans, A. (2023). The end of ESG. *Financial Management*, 52(1), 3–17. <https://doi.org/10.1111/fima.12413>
- Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of management review*, 14(4), 532–550.
- Epstein, M. J., & Yuthas, K. (2014). Measuring and Improving Social Impacts: A Guide for Non-profits. *Companies, and Impact Investors*.
- Epstein, M. J., & Yuthas, K. (2017). *Measuring and improving social impacts: A guide for nonprofits, companies and impact investors*. Routledge.
- Faraudello, A., Barreca, M., Iannaci, D., & Lanzara, F. (2020). The impact of social enterprises. A bibliometric analysis from 2010 to 2020. *Colloquio Scientifico 2020 - Iris Network*.
- Gambassi, R., & Microcosmos. (2012). Un approccio innovativo per la misurazione della Sostenibilità dello Sviluppo” e del BES nelle province italiane. *FESSUD Finance, Environment and Sustainability*.
- Gazzola, P., Pezzetti, R. R., & Amelio, S. (2024). Sustainable fashion in the circular economy paradigm: Reduce, reuse and recycle as the new sustainable corporate strategy. *European Journal of Social Impact and Circular Economy*, 5(2), Art. 2. <https://doi.org/10.13135/2704-9906/10383>
- Iannaci, D. (2020). Reporting tools for social enterprises: Between impact measurement and stakeholder needs. *EUROPEAN JOURNAL OF SOCIAL IMPACT AND CIRCULAR ECONOMY*.
- Iannaci, D. (2021). Social impact of human resource management of hybrid organisations. An exploratory case study. *European Journal of Social Impact and Circular Economy*, 2(2), 10–28.
- Lanzalonga, F., Oppioli, M., Calandra, D., & Secinaro, S. (2024). The impact of ESG performance on intangible assets and intellectual capital in the food and beverage industry. *Management Decision*, 63(2), 423–442. <https://doi.org/10.1108/MD-09-2023-1664>
- Leonard-Barton, D. (1990). A dual methodology for case studies: Synergistic use of a longitudinal single site with replicated multiple sites. *Organization science*, 1(3), 248–266.
- Li, T.-T., Wang, K., Sueyoshi, T., & Wang, D. D. (2021). ESG: Research progress and future prospects. *Sustainability*, 13(21), 11663.
- Lincoln, Y. S., & Denzin, N. K. (2000). *The handbook of qualitative research*. Sage.
- Millar, R., & Hall, K. (2013). Social Return on Investment (SROI) and Performance Measurement: The opportunities and barriers for social enterprises in health and social care. *Public Management Review*, 15(6), 923–941. <https://doi.org/10.1080/14719037.2012.698857>
- Murdock, A. (2010). Social Enterprise. *International Encyclopedia of Civil Society*. https://link.springer.com/content/pdf/10.1007/978-0-387-93996-4_809.pdf
- Nicholls, A. (2009). 'We do good things, don't we?': 'Blended Value Accounting' in social entrepreneurship. *Accounting, Organizations and Society*, 34(6), 755–769.
- Nicholls, A., Paton, R., & Emerson, J. (2015). *Social Finance*. Oxford University Press.
- Nyssens, M. (2007). *Social Enterprise: At the Crossroads of Market, Public Policies and Civil Society*. Routledge.
- Polci, S., & Gambassi, R. (2000). L'Italia del disagio insediativo—Servizi territoriali diffusi per la competizione globale. *Legambiente/Confcommercio*.
- Polci, S., & Gambassi, R. (2018). Osservatorio Borghi Autentici d'Italia—Sperimentare una visione di comunità e comprendere i cambiamenti. *Borghi Autentici*.

- Porquier, G., Luciano, A., & DI MONACO, R. (2010). Dalla tossicodipendenza al lavoro. Intorno all'esperienza della cooperativa Arcobaleno. *ANIMAZIONE SOCIALE*, 247, 1–61.
- Rawhouser, H., Cummings, M., & Newbert, S. L. (2019). Social impact measurement: Current approaches and future directions for social entrepreneurship research. *Entrepreneurship Theory and Practice*, 43(1), 82–115.
- Repubblica Italiana. (1991). *Legge del 08/11/1991 n. 381—Disciplina delle cooperative sociali*.
- Secinaro, S., Brescia, V., Iannaci, D., & Barreca, M. (2021). Performance Evaluation in the Inter-Institutional Collaboration Context of Hybrid Smart Cities. *Journal of Intercultural Management*, 13(3), 20–46.
- Secinaro, S., Calandra, D., & Degregori, G. (2023). *New technologies in supporting ESG criteria and the implementation in the new normal: Mapping the field and proving future research paths*. <https://doi.org/10.3280/cgrds1-2023oa15788>
- Spiess-Knafl, W., & Scheck, B. (2017). *Impact Investing: Instruments, Mechanisms and Actors*. Springer.
- Tsang, A., Frost, T., & Cao, H. (2023). Environmental, social, and governance (ESG) disclosure: A literature review. *The British Accounting Review*, 55(1), 101149.
- Yin, R. K. (2017). *Case Study Research and Applications: Design and Methods*. SAGE Publications.