



NIA IMPACT
**Aggregation, Attribution
and Contribution**

A Research Paper on Impact Measurement
Methodologies in Impact Investing

Johannesburg, South Africa

TABLE OF CONTENTS

Abstract	1
1. Introduction	1
2. Evidence Review	3
3. Aggregation	4
i. Definition of Aggregation	4
ii. Best Practices in Aggregation	4
iii. Advantages of Aggregation	6
iv. Disadvantages of Aggregation	6
4. Contribution	7
i. Definition of Contribution	7
ii. Contribution Best Practices	7
iii. Advantages of Contribution	8
iv. Disadvantages of Contribution	8
5. Attribution	9
i. Definition of Attribution	9
iii. Advantages of Attribution	9
iv. Disadvantages of Attribution	9
ii. Best Practices in Attribution	9
6. Nia’s Recommendation	12
i. Rigour 1: Basic KPI Management	12
ii. Rigour 2: Contribution with Minor Attribution	13
iii. Rigour 3: Advanced Attribution	13
7. References	15

ABSTRACT

This paper delves into methodologies within impact investing aimed at measuring, aggregating and attributing impact across diverse stakeholders. The contribution methods explored include counterfactual approaches and modelling, focusing on establishing causal links between investments and outcomes while accounting for external influences. Meanwhile, aggregation frameworks consolidate qualitative and quantitative data into standardized metrics aligned with SDGs and national statistics to facilitate comparative analysis. Challenges such as subjectivity in attribution and the complexity of aggregating diverse data sources are addressed through methodologies like Most Significant Change and outcome mapping. This paper advocates for integrated approaches that enhance transparency, inform strategic decisions, and promote sustainable development by accurately assessing the societal and environmental impacts of investments. It emphasizes the importance of understanding the specific attributions of individual interventions in multi-stakeholder projects to illuminate independent cause-and-effect relationships and ensure effective social change.

1. INTRODUCTION

Given the accelerated global developments influenced by prevailing policies, the impact investing sector has expanded significantly. While established markets in the Global North typically rely on standardised frameworks such as IRIS+ to measure impact, emerging markets are experimenting with hybrid approaches that combine quantitative indicators with participatory methodologies. Within this broader global context, Africa stands as a distinctive case, as it is a continent facing distinct social, economic, and infrastructural challenges, its participation in impact measurement is expanding but remains fragmented. Additionally, the continent is marked by persistent data gaps which limit the continent's ability to quantify progress or undertake standardised impact measurement [22]. As Ibeh and Walmsley (2021) note, many African countries lack adequate performance metrics, accessible datasets, or complete baseline information, making systematic tracking of sustainability outcomes difficult.

Many initiatives still rely heavily on qualitative narratives, reflecting persistent gaps in resources and standardisation. Nevertheless, Africa's impact investing ecosystem is growing. It encompasses a diverse range of stakeholders including governments, social purpose organizations (SPOs), investors, and philanthropists who are actively exploring solutions and opportunities for investment.

At present, impact measurement in Africa is characterized by a mix of traditional and innovative approaches [21]. Many projects rely on qualitative narratives and community feedback to assess their impact, while others are beginning to incorporate more rigorous quantitative methods, such as randomized control trials (RCTs) and quasi-experimental designs, to provide more precise and reliable data [21]. Despite these advancements, there remains a need for standardized metrics and methodologies to ensure consistent and accurate impact measurement across the continent.

Currently, there is no universally accepted definition of what constitutes impact, and no single standardized framework for evaluating impact performance [2]. Effective impact measurement is crucial as it directly

determines the outcomes achieved through these investments. Given that investments often involve varying levels of accountability, ensuring effective impact measurement becomes paramount. Directly measuring impact involves assessing what outcomes would have occurred in the absence of specific inputs and determining the extent to which actions contribute to specific outcomes. However, due to the intricate nature of many outcomes, distinguishing the exact causal linkages can be challenging [3].

Understanding the flow of investments and their impacts is crucial for accurately measuring and attributing outcomes in social change projects. The diagram below (Figure 1) illustrates the process of aggregation, contribution, and attribution, highlighting how various investors' inputs combine to create a joint impact and how these impacts are then individually attributed to each investor's inputs.

The diagram defines each scope of understanding impact while also providing example scenarios with investors supplying different inputs to different projects.

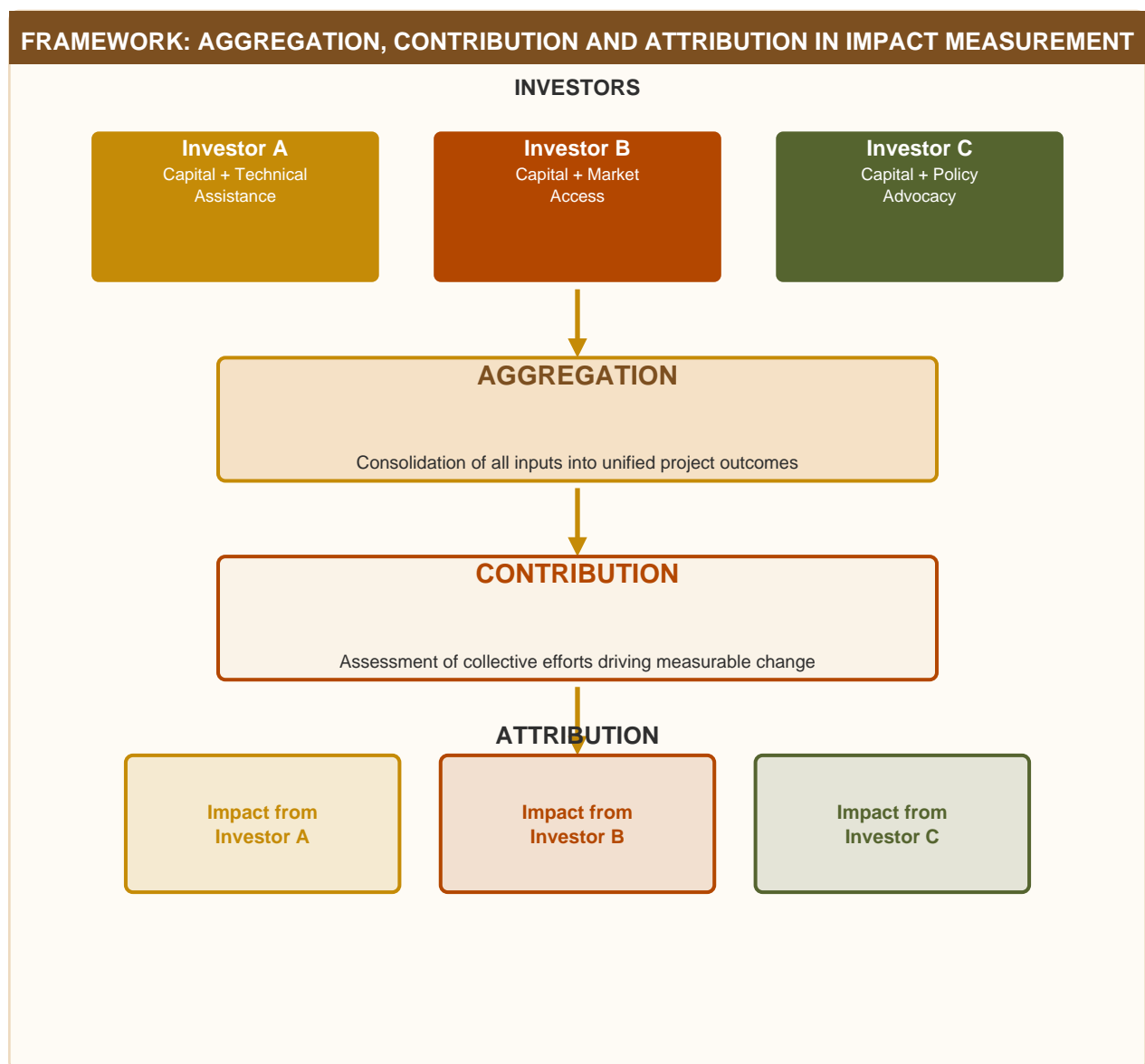


Figure 1: Framework for Understanding Aggregation, Contribution, and Attribution in Impact Measurement

Below is a diagram that provides concise definitions and comparisons of the concepts of aggregation, contribution, and attribution (Figure 2). Each term refers to a unique aspect of assessing and measuring the effects of investments and initiatives.

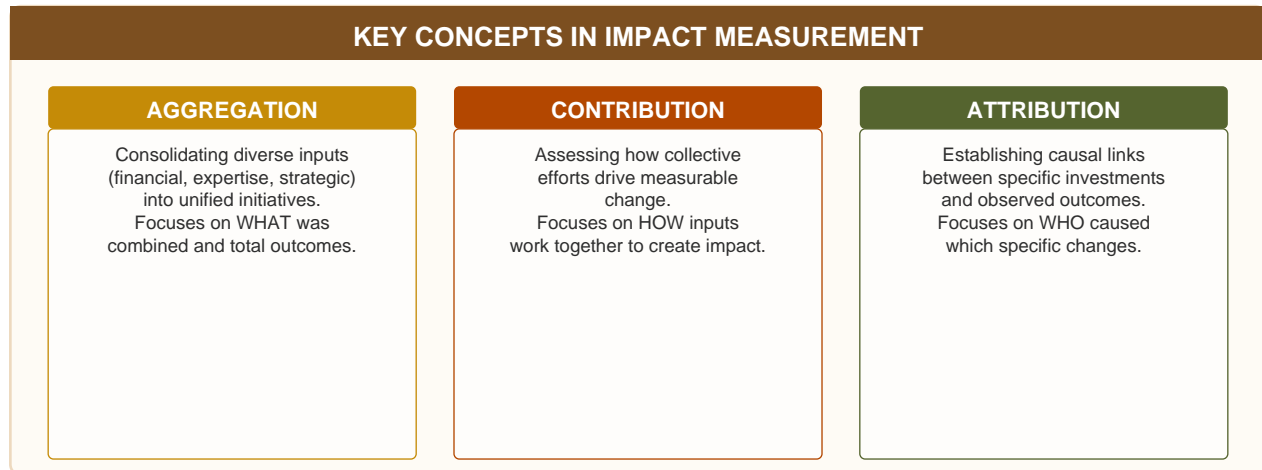


Figure 2: Key Concepts in Impact Measurement: Aggregation, Contribution, and Attribution

2. EVIDENCE REVIEW

To gain a comprehensive understanding of the current landscape of impact measurement methods, our paper will systematically dissect the quantity, quality, and usage of each method. By thoroughly examining these aspects, we aim to identify the strengths and weaknesses in the current state of impact measurement in the field of impact investing. This foundational understanding will then allow us to propose detailed improvements and best practices for more effective impact measurement in the future.

Our examination will follow the rubric outlined below for assessment of the evidence available for each method. The rubric offers a structured framework for evaluating impact measurement methods by focusing on three key criteria: amount of research, quality of research, and use by impact players (Table 1). The amount of research criterion assesses the volume and availability of high-quality, peer-reviewed literature associated with each method, categorizing it into extensive, moderate, or minimal levels based on the quantity of scholarly work published. Quality of research evaluates the credibility of sources, distinguishing between high-level academic publications and peer-reviewed studies, institutional reports, and less rigorous sources such as blogs and articles. Finally, use by impact players examines the degree to which each method is adopted and integrated by stakeholders in the impact investing sector, determining whether the practices are standard, emerging, or minimally utilized.

Table 1: Assessment Rubric for Evaluating Impact Measurement Methods

Criterion	Compelling	Moderate	Minimal
Amount of Research	Substantial academic papers available	Some papers available in a developing field	Niche field with only a few papers

Quality of Research	Academic	Institutions	Blogs, Articles
Use by Impact Players	Most players use this method	Emerging use by only few players currently	Very minimal to no use at all

Here we have an outline of the literature availability, quality, and usage of each impact investing analysis method, using the evidence review method (Table 2).

Table 2: Literature Availability, Quality, and Usage Across Aggregation, Contribution, and Attribution Methods

Method	Literature, Quality and Usage Summary
Aggregation	Aggregation is a well-established field with significant scholarly attention. Numerous academic papers, institutional reports, and industry analyses explore various aggregation techniques. The quality of research on aggregation is high, with many studies published in reputable academic journals. Tools and frameworks for aggregating impact data are standard practice in the industry.
Contribution	Research on contribution methods is growing but still developing. There is a moderate amount of literature that explores how different investments contribute to social and environmental outcomes. The quality varies, with contributions from both academic institutions and industry players. Contribution analysis is gaining traction but is not yet universally adopted.
Attribution	Attribution research is a niche field with limited academic papers. The complexity of isolating the direct impact of specific investments makes this area less explored. The quality of available research is mixed. Attribution methods are not widely used by impact investors due to the difficulty in establishing clear causal links.

3. AGGREGATION

i. Definition of Aggregation

Aggregation refers to the consolidation of diverse inputs, namely financial resources, expertise, and strategic efforts into unified initiatives [6], as originally defined in the context of climate finance aggregation by the UNDP. The consolidated inputs in this step can produce outputs that collectively generate meaningful social or environmental impacts (this is contribution). For investors, comprehending the true extent of their contributions necessitates establishing a direct causal link between their investments and these outcomes. This process, known as aggregation in impact investment, underscores the importance of rigorous evaluation to measure and understand the tangible effects of financial and resource allocations on targeted societal or environmental goals.

ii. Best Practices in Aggregation

Aggregation could be implemented through several diverse methods; collaborative funds pooling capital from numerous investors, co-investment opportunities, partnering with other investors to jointly invest and syndication which is led by a syndicate manager who carries out due diligence, negotiation, and investment management for multiple syndicate members. As impact investing becomes increasingly attractive due to its potential to create positive outcomes in a world with growing societal and environmental needs, aggregation enhances the potential for combined efforts, thereby amplifying results. This collective pooling of inputs contributes to larger investment sizes, shared risks and returns spread across multiple investors and increased impact potential due to the possibility of diversified resources.

The investments originate from a diverse array of actors across various sectors, encompassing different types of financial contributions, for example debt, equity, grants, bonds, and community investments. Various inputs are made over different time horizons and often is not limited to financial support but also direct contributions of expertise and resources. This multifaceted approach ensures a robust and sustainable flow of capital, fostering a dynamic ecosystem where projects can thrive and achieve substantial impact.

Through this strategy, aggregation leverages the strengths and capabilities of a wide range of stakeholders, enhancing the overall effectiveness and reach of impact. Aggregating all outcome data is essential to derive comprehensive insights from its outputs [7].

The general aggregation process typically involves the following steps [8]:

1. Defining the parameters and scope of the project,
2. Collecting necessary data and standardizing it based on peer comparisons and predefined parameters,
3. Conducting analysis to extract insights,
4. Using these insights to derive impactful decisions from the project.

Aggregation can be applied across investment and impact strategies while reflecting both proportionality and timing, the following equation can be used to translate investee-level results to the investment level [7]:

$$\text{Annualized investee-level impact results} \times (\text{Investment amount outstanding} / \text{Enterprise Value})$$

Where, in each reporting period:

- **Investee-level impact results:** include metric-specific outcomes achieved by a company, project, or real asset during that reporting period, such as greenhouse gas emissions reductions.
- **Investment amount outstanding:** is the remaining balance of a debt investment (original loan amount minus principal repaid) or the estimated valuation of an equity investment in that investee during the reporting period.
- **Enterprise value:** reflects the market value of equity plus the market value of debt for that investee entity in the reporting period.

By using this method, investors can accurately assess their contribution to the overall impact of a project. This approach ensures that the assessment is both proportional to the investment amount and aligned with the timing of the investment, providing a clearer picture of the actual impact generated.

Companies engaged in impact investing effectively consolidate and compare their diverse activities to assess their outcomes. Aggregation requires evaluating overall impact and allocating various resources efficiently [1]. To facilitate this, a predefined set of indicators is essential. Aggregation consolidates the multiple inputs into predetermined metrics designed to comprehensively monitor the performance of specific activities.

Impact measurement integrates different types of data, including qualitative aspects such as social narratives and opinions, and quantitative outcomes such as carbon emissions and financial results [5]. Achieving a holistic view of impacts through aggregation requires sector-specific indicators, often aligned with industry standards such as SDG targets, national employment statistics, and global gender parity standards such as the 2X challenge [19].

iii. Advantages of Aggregation

However, a challenge arises in determining the relative importance of different impact factors, as impacts can vary significantly across contexts, posing a dilemma in prioritization [1]. Currently, the lack of a robust methodology for aggregating, contextualizing, and comparing impact data across investments undermines transparency and impedes informed decision-making by investors [7].

iv. Disadvantages of Aggregation

Aggregation disregards the individual accountability inherent in collective interventions leading to significant issues. The lack of individual accountability results in diminished transparency, as it becomes challenging to attribute specific investors actions to outcomes. Therefore, making it harder to hold specific investors accountable for their commitments and actions. This obscurity can mislead future interventions, as it is difficult to identify which strategies were effective and which were not. The loss of detailed accountability and transparency can also hinder learning and improvement within the impact investing community.

Furthermore, aggregation overlooks investments deriving from diverse sources. Investments are deployed with varying levels of engagement and support for the stakeholders [7]. Different types of investments lead to different contributions; this will also depend on the stage of project life cycle at which the investment is made. Venture capital and private debt often involve active engagement from investors to support growth and ensure financial health [7]. In contrast, private equity investments can involve both active engagement and providing flexible capital, depending on the investor's strategy and the stage of the investee company. Each type of capital plays a distinct role in fostering impact generation [7]. Aggregation does not outline the level of engagement or quantify the amount effort or duration of activity input to achieve impact. These variations can significantly influence the outcomes and should be considered to ensure a comprehensive evaluation of impact.

The process merely states that something has been done, but in the context of the sector, it is crucial to assess whether the impact has been achieved in the most efficient and effective way possible on an individual investor level. It is essential to consider whether the outcome could have been channelled more effectively to facilitate greater stakeholder access. Aggregation identifies various factors from each investor's input, including the number of investments, the volume of resources committed, the types of organizations involved, and the individual monetary input from each investor [20].

4. CONTRIBUTION

i. Definition of Contribution

Contribution encompasses a comprehensive assessment of impact outcomes, reflecting collective efforts from multiple stakeholders that drive measurable change [10].

According to the Civil Society Organization (CSO), contribution is broadly defined and extends to include instances where [14]:

- Previous initiatives lay the groundwork to facilitate subsequent impact.
- External factors such as political, social, economic, and environmental influences contribute to observed changes.
- Actions of individuals not directly engaged in the intervention also play a role in shaping outcomes.

ii. Contribution Best Practices

To effectively measure contribution in impact investing, various methodologies are employed to ensure that investments lead to meaningful and attributable outcomes. The GIIN focuses on evaluating non-financial support, follow-on capital, and market conditions, while UNICEF employs rigorous counterfactual approaches, hypothetical scenarios, modelling, and consistency checks to establish causality. Howard White and Daniel Phillips offer qualitative methods like Most Significant Change and Outcome Mapping, which emphasize capturing significant stories and setting intentional goals to track progress. These methodologies provide a robust framework for assessing and validating the contributions of impact investments, ensuring that investors can accurately gauge their impact and drive meaningful change.

The Global Impact Investing Network (GIIN) conducted research aimed at understanding the true impact generated by investments, particularly in relation to economic and social issues [7]. This research is crucial as impact investors seek clarity on how their specific investments contribute to creating meaningful change. Such efforts enhance transparency and accountability, ensuring that the impact achieved goes beyond what would have naturally occurred and is directly attributable to the investment in question [7]. This direct linkage demonstrates how capital deployed by grouped investors instigates transformative outcomes.

The GIIN has proposed the following methods for assessing contribution in impact investing [8]:

1. Evaluate the presence of additional non-financial support and resources offered towards the project.
2. Analyse the ability to raise follow-on capital which can attract further investment from original and even additional investors.
3. Assess market conditions, particularly in underserved markets with limited competition for investment opportunities.

These methods provide structured frameworks for investors to measure and assess their impact contributions in impact investing initiatives. Nonetheless, the GIIN acknowledges that effectively evaluating contribution remains a complex challenge in the field of impact investing.

UNICEF has delineated several methodologies for conducting contribution assessments, to determine if the desired impact was achieved [15]:

1. **Counterfactual Approaches:** These estimate what would have happened without a specific intervention, often using a control or comparison group. They measure factors before and after the intervention [17]:
 - **Experimental Design:** Utilizes Randomized Control Trials (RCTs) where participants are randomly assigned to intervention or control groups to eliminate bias.
 - **Quasi-Experimental Design:** Uses comparison groups similar to the intervention group but lacks random assignment. Methods include matched comparisons and propensity score matching (PSM) based on the likelihood of receiving the intervention.
 - **Regression Discontinuity Design** compares individuals just above and below a threshold point.
2. **Hypothetical Counterfactual:** Construct a hypothetical scenario of what would have occurred in the absence of the program or under unchanged conditions.
3. **Modelling:** Utilizes regression models to estimate outcomes in the absence of the intervention.
4. **Consistency of Evidence with Causal Relationship:**
 - **Expert Predictions:** Predicts outcomes based on the theory of change and checks if actual outcomes align.
 - **Timing of Impacts:** Assesses if outcomes occur within the expected timeframe post-intervention.
 - **Modus Operandi:** Draws on stakeholder experiences to determine expected effects and compares them with actual outcomes.
5. **Ruling Out Alternative Explanations:**
 - **Key Informant Interviews:** Consults experts or community members to identify plausible alternative explanations.
 - **Process Tracking:** Tracks evidence across each step of the theory of change to cancel out other variables.
 - **Statistical Modelling:** Uses logistic regression to analyse and control for confounding factors.

Howard White and Daniel Phillips (2012) have outlined methodologies for assessing contribution in impact investing [16]:

1. **Most Significant Change (MSC):** This approach involves capturing and evaluating stories of significant changes observed in the field. It emphasises qualitative data collection of perspectives on how initiatives have impacted lives, based on relevant KPIs which are then shared up the hierarchy of stakeholders. This method fosters discussions on the significance of each story. MSC helps investors gauge the depth and quality of their contribution beyond basic quantitative metrics.
2. **Outcome Mapping (OM):** Setting intentional goals for project outcomes prior to intervention is central to this method. It integrates qualitative data collection; observations, gathering of stories, and informal conversations to track progress against predefined KPIs. Evaluation then compares the achieved outcomes against the initial goals. OM helps investors understand not only whether their investments have achieved intended outcomes but also how these outcomes contribute to broader social or environmental goals.

iii. Advantages of Contribution

Contribution analysis provides a structured way for investors to assess whether their investments have led to meaningful outcomes beyond what would have occurred naturally. It offers a more nuanced picture than simple aggregation by examining the processes and mechanisms through which change occurs. The range of methodologies available, from counterfactual approaches to qualitative methods like MSC and Outcome Mapping, allows investors to choose approaches suited to their context and resources.

iv. Disadvantages of Contribution

Contribution analysis can be resource-intensive and methodologically complex, particularly when employing counterfactual approaches. The subjective nature of some qualitative methods introduces potential biases, and establishing clear causal pathways in multi-stakeholder environments remains inherently challenging. Furthermore, contribution analysis does not fully isolate the impact of individual investors, which can limit accountability at the individual level.

5. ATTRIBUTION

i. Definition of Attribution

Attribution, as defined by the OECD, establishes "a causal link between observed changes and a specific intervention" [11]. The process of attribution employs rigorous measurement and evaluation methodologies to determine the causal relationship between investment activities and the achievements. This method aims to differentiate the impact directly attributable to the investment from other investors and external factors.

UNICEF underscores that causal attribution is essential not only for reporting on observed changes but also for evaluating the extent to which these changes result from the specific program or intervention under evaluation [15]. Attribution goes further by seeking to isolate the specific impacts of individual investor interventions, aiming to establish a direct cause-effect relationship between an investor's actions and the outcomes [9].

The Civil Society Organisation (CSO) further details that attribution can be asserted under the following conditions [14]:

1. The intervention is solely attributable to a single investor.
2. Other influences are involved, but the change would not have occurred without that investor.
3. It is possible to quantify the degree or extent of outcomes or changes due to a specific intervention.

iii. Advantages of Attribution

Attribution provides the highest level of accountability by establishing direct causal links between specific investments and outcomes. When achieved robustly, it allows investors to understand precisely what their capital accomplished, which informs better decision-making and resource allocation in future investments. It also provides the strongest basis for reporting to stakeholders and demonstrates genuine impact rather than mere association with outcomes.

iv. Disadvantages of Attribution

Attribution is the most resource-intensive and methodologically demanding of the three approaches. The complexity of isolating individual causal effects in multi-stakeholder, multi-input environments makes pure attribution difficult and sometimes impractical. RCTs and quasi-experimental designs are costly and may not be feasible in many real-world impact investing contexts, particularly in emerging markets where data availability and infrastructure are limited. There is also a risk of oversimplifying complex causal chains, which can lead to misleading conclusions about individual investor impact.

ii. Best Practices in Attribution

Attribution involves establishing a direct causal link, isolating individual interventions made by each investor as the specific drivers of outcomes [10]. Various methodologies have been proposed to achieve precision in impact assessment, aiming to accurately measure and attribute outcomes in social change projects. These methodologies encompass constructing pathways of change using causal chains, dose-response patterns, and key informant interviews, as suggested by UNICEF. Additionally, theory-based methods, case-based methods, and participatory analysis involving stakeholders are recommended by Intrac. The Social Return on Investment (SROI) method utilizes cost-benefit analysis with metrics such as deadweight, displacement studies, attribution, and drop-off to quantify and evaluate project impact. By employing these diverse approaches, a comprehensive understanding of each contributor's impact can be achieved, ensuring greater transparency and accountability in impact investing.

UNICEF emphasizes the importance of constructing a pathway of change through causal chains or logic models [15][17]. The following are the approaches suggested by UNICEF:

- **Dose-Response Patterns:** Suggested by UNICEF, this method examines the relationship between the intensity and timing of the specific intervention and their observed effects, akin to biological testing.
- **Key Informant Interviews:** UNICEF also recommends interviewing key informants to understand the causal processes following investor involvement. This approach delves beyond mere impact assessment to explore the specific implementation processes perceived by beneficiaries. The interviews delve deeply up the stakeholder chain to attribute outcomes to specific investors, effectively distinguishing the impacts of different investments. However, it may lead to biased reporting, as beneficiaries might highlight interventions that are more visible rather than those that are most impactful.
- **General Elimination Methodology:** This approach involves identifying alternative explanations for observed impacts and gathering data to rule out these possibilities. However, it can lead to assumptions that overlook the contributions of other investors, potentially diminishing the perceived impact of collective efforts.
- **Counterfactual Approaches:** Can be extended to achieve attribution, more so if a specific resource is input by individual investors. This estimates what would have happened without a specific intervention, often using a control or comparison group.

The methods described below outlined by UNICEF are commonly found in the context of contribution, demonstrating how an intervention plays a part in the observed outcomes. However, they can be considered attribution if we are able to isolate the specific resource or intervention that directly causes the outcomes.

- **Experimental Design:** Utilizes Randomized Control Trials (RCTs) where participants are randomly assigned to intervention or control groups to eliminate bias. This rigorous approach can clearly attribute outcomes to the intervention by ensuring that differences in outcomes are due to the intervention itself and no other factors.
- **Quasi-Experimental Design:** Uses comparison groups similar to the intervention group but lacks random assignment. Methods include matched comparisons and propensity score matching (PSM) based on the likelihood of receiving the intervention. Although this design is less robust than RCTs, it can still provide strong evidence of causality and thus support claims of attribution.

The International NGO Training and Research Centre (Intrac) is a civil society organization, which provides research training and consultancy services to NGOs with a focus on enhancing capacity and impact. Intrac emphasizes the importance of robust, evidence-based approaches [13].

Methodological Approaches Suggested by Intrac [14]:

1. **Theory-Based Methods:** These approaches involve systematically gathering evidence at each stage of the impact pathway to construct a plausible causal explanation demonstrating the independent role of specific interventions. Process tracking is utilised to test alternative theories of change, eliminating potential alternative contributions and assessing their relative significance.
2. **Case-Based Methods:** Comparative case studies are employed to analyse instances where impacts have and have not occurred. Participants are queried using standardized questions to identify the interventions most crucial for effecting change. Qualitative comparative analysis supplements this approach, providing deeper insights into the factors distinguishing successful from unsuccessful cases.
3. **Participatory Analysis:** This method involves engaging diverse stakeholders through focus groups, discussions, observations, and interviews to ascertain their perspectives on the most influential contributors to impact. However, a caveat of participatory analysis is the potential for bias. Stakeholders may inadvertently emphasize their own contributions or those of visible actors, potentially skewing perceptions.

The Social Return on Investment (SROI) method outlined by Solorzano-Garcia et al. [18], employs cost-benefit analysis to quantify causal links attributing interventions to impacts. It acknowledges that impacts arise from a multitude of factors, necessitating the use of a filter coefficient method. Impact, defined as outcomes directly attributed to the project, is critically assessed using several key metrics:

- **Deadweight:** Evaluates whether the project genuinely influenced society, distinguishing its effect from existing conditions.
- **Displacement Studies:** Identify any unintended negative consequences. For example, a project aimed at job creation would examine if it displaced individuals from other employment opportunities.
- **Attribution:** Measures the percentage of changes not attributable to the project, deducting contributions from other organizations or individuals. However, these assessments rely on percentage estimates with inherent approximations and large margins of error in their counterfactual adjustments.
- **Drop-off:** Refers to the decline in project results over time, analogous to the depreciation of a fixed asset.

In standard SROI practice, these four factors are applied as counterfactual adjustments, each expressed as a percentage estimate that is deducted from gross outcomes to arrive at net impact. While widely adopted, these percentage-based adjustments are inherently subjective and can carry large margins of error, as they typically rely on data sourced from interviews, questionnaires, and participant reports. To address these limitations and enhance accuracy, this paper proposes replacing percentage-based adjustments with standardised scoring bands, with standardized characteristics for each category, for example weak outcomes with little impact would be banded between score 1-3.

In conclusion, this methodological approach aims to refine the SROI framework, ensuring more precise measurement and evaluation of project impacts. By incorporating robust metrics and standardized criteria, it seeks to mitigate uncertainties and provide a clearer understanding of the societal benefits derived from interventions.

6. NIA'S RECOMMENDATION TO BRIDGE METHODOLOGICAL GAPS

Considering all the information from the literature, Nia has proposed three levels of rigor to understand the impact of aggregated investment projects. By structuring the suggestions into these three levels of rigor, investors can progressively enhance their assessment methods from basic KPI management to sophisticated attribution techniques, ensuring a comprehensive understanding of their impact. This framework allows investors to tailor their impact assessment practices to their specific needs and capacities, achieving a balance between thoroughness and feasibility. Feasibility is especially crucial in Africa, where resource constraints and varying levels of data availability can challenge the implementation of rigorous impact assessments. Adopting a phased approach with varying rigours ensures that even projects with limited resources can gradually improve their evaluation methods, leading to more accurate and actionable insights.

Nia has developed a spectrum that outlines impact analysis ranging from aggregation to contribution to attribution. Each investor or organization has the prerogative to decide where they would like to position themselves on this spectrum. This decision should balance the time and resources required for detailed studies with the essential need for transparency and accountability in impact analysis. The spectrum is shown below:

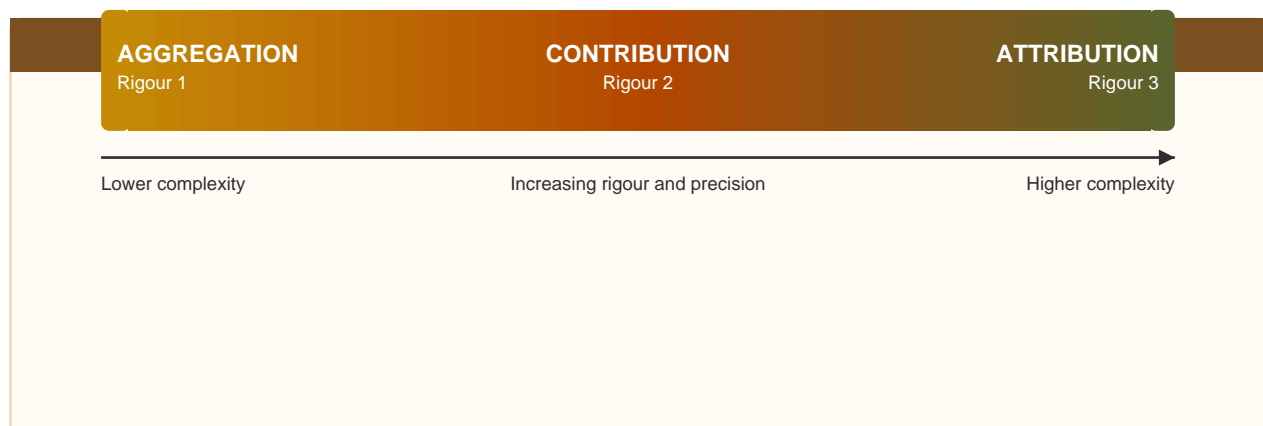


Figure 3: Nia Categories for Impact Measurement

i. Rigour 1: Basic KPI Management and Aggregation

The first rigor is a method that should be implemented by every impact investor as common practice in impact analysis to understand aggregated interventions. It aims to realize the contributions of everyone to a project and begins to shed light, albeit dimly, on the attribution of resource and monetary allocations. The following is a requisite of Rigour 1:

1. **Monetary Allocation Analysis:** Delineate the amount of money input by each investor to ensure transparency and accurate understanding of the independent role in aggregation of all the different types of capital implemented. Utilize a ratio based on initial investment and subsequent outcomes of the monetary input.
2. **Key Performance Indicators (KPIs):** Identify and track specific KPIs to measure the impact of interventions. KPIs help assess the contribution of an intervention by providing quantitative data on

progress towards predefined goals, allowing for the evaluation of the effectiveness and efficiency of investments.

3. **Time Frame Analysis:** Conduct a comprehensive analysis of project outcomes at intervals post-completion to capture long-term impacts. Map out KPIs and analyse when interventions occurred relative to others over a time scale, incorporating outcome mapping through theories of change (TOC).

ii. Rigour 2: Contribution with Minor Attribution

Moving forward, it is crucial to delve deeper into understanding the causal links between interventions and outcomes. This involves a more detailed analysis to begin identifying individual attributions of each intervention, increasing transparency and accountability in aggregated impact projects.

1. **Cost-Benefit analysis with Rubric Scaling:** Implement a rubric to scale contributions, assigning higher scores (e.g., 10) to interventions with substantial resource inputs. Contrast these with lower scores (e.g., 1) where no other interventions occurred, then compare against achieved results. Filter bands will be implemented for deadweight and displacement studies. For example, outcomes with generational impact would be placed in the highest 8-10 score band.
2. **Monetary Contribution Analysis:** Carrying out all steps as part of rigour 1 Monetary Allocation Analysis. Further, considering the monetary value of resource allocation, including non-monetary resources for example consulting hours gauged at a standardised fee.
3. **Participatory Analysis:** Engage stakeholders through qualitative methods such as interviews, surveys and focus groups to understand trends and gather explanations for the outcomes. Analyse post-project data to determine the most and least effective methods, leveraging insights from past projects to assess current individual contributions.

iii. Rigour 3: Advanced Attribution

To fully understand the unique impact of each investor, it is necessary to employ advanced attribution methods. These approaches aim to isolate the effects of specific interventions and establish clear causal links between the actions of individual investors and the observed outcomes. This involves layering all the above methods to rigorously determine the true impact of investments, considering counterfactual scenarios to isolate the effects of specific interventions.

1. **Randomized Control Trials (Counterfactual Analysis):** RCTs represent a robust method of counterfactual analysis in market research and evaluation. In an RCT, participants are randomly assigned to either the intervention group, which receives the specific resource or intervention, or the control group, which does not. This randomization helps eliminate biases and establishes a clear causal link between the intervention and the observed outcomes. Alternative theories of change are modelled at each stage of the impact pathway.
2. **Quasi-Experimental Designs (Counterfactual Analysis):** When RCTs are not feasible, quasi-experimental designs, such as Propensity Score Matching (PSM), can be employed as an alternative form of counterfactual analysis. Quasi-experiments compare groups that are similar in characteristics but differ in their receipt of the intervention. By matching participants based on relevant characteristics, these designs aim to approximate the conditions of an RCT and provide insight into the causal effects of the intervention.
3. **Attribution factors:** Can be integrated into participatory analysis to manage biases and declare the true interests of all stakeholders. Margins of error in the filter bands, due to biases and access to resources, must be carefully considered to ensure accuracy. Additionally, drop-off rates should be assessed to understand the depreciation of impact over time. This comprehensive approach ensures that the

accountability of each investor's contribution is thoroughly examined and validated.

This paper demonstrates the necessity of moving beyond contribution methods to accurately assess the joint impacts of aggregated projects. By combining the outlined steps, we can precisely determine the attribution of impact, enabling investors to gain a comprehensive understanding of their investments and contributions, thereby enhancing the effectiveness of future impact projects.

7. REFERENCES

1. Social Value UK. (2023). Does all this measurement add up? Retrieved from <https://socialvalueuk.org/>
2. Haider, Z., & Hoque, M. R. (2020). Measuring the impact of social and environmental interventions. In *Impact Measurement: Concepts and Approaches* (pp. 85-104). Springer.
3. YouMatter. (n.d.). Impact measurement: What does it mean and how is it done?
4. Inclusive Business. (2023). Aggregation of impact: Does all measurement add up?
5. Sopact. (n.d.). Impact measurement guide.
6. United Nations Development Programme. (n.d.). What is financial aggregation?
7. Global Impact Investing Network. (2020). Evaluating impact performance: Clean energy access.
8. Global Impact Investing Network. (2020). Methodology for standardizing and comparing impact performance.
9. Impact Europe. (2021). How investors assess impact: Contribution and attribution.
10. Sopact. (n.d.). Attribution vs. contribution in impact measurement.
11. Organisation for Economic Co-operation and Development. (2022). DAC evaluation criteria: Guidance note.
12. Impact Frontiers. (n.d.). Investor contribution.
13. The Catalyst. (n.d.). Measuring attribution in impact evaluations.
14. INTRAC. (2017). Attribution and contribution in impact evaluation.
15. Impact Management Project. (2020). Overview of strategies for causal attribution.
16. 3ie. (2020). Addressing attribution: Cause and effect in small-n impact evaluations.
17. De Haan, L. J., & Koster, K. (2013). Making causal claims: Methods and approaches. ResearchGate.
18. Alrweidat, A., & Al-Omari, M. (2019). Sustainability and impact measurement. *MDPI Sustainability*, 11(2), 386.
19. CDC Group. (2020). Measuring the gender impact of investments.
20. European Venture Philanthropy Association. (2022). Accelerating impact 2022.
21. Berndt, C., & Wirth, M. (2018). Climate Change and Development: Impact Evaluation in Africa. African Development Bank Group.
22. Ibeh, C., & Walmsley, B. (2021). The role of impact assessment in achieving the sustainable development goals in Africa, pp. 1-15.