Analytics for a Better World

The Theory of Change

Introduction

Analytics for a Better World (ABW) is a non-profit organization that collaborates with mission-driven organizations worldwide to use cutting-edge analytics and data science to maximize their impact. Founded in 2022 by the University of Amsterdam (UvA) and ORTEC, ABW harnesses academic and industry expertise to bridge a crucial gap: while analytics and AI have revolutionized business, their transformative potential for social good remains largely untapped in the non-profit sector.

We are a non-profit community of leading research and industry data science experts dedicated to bridging the gap to impact. Our vision is to unlock the potential of analytics for people who make the world a better place. Our mission is to collaborate with mission-driven organizations worldwide with the potential of data science. *By creating data driven solutions to address challenges faced by mission-driven organizations, we enable changemakers to drive greater impact on their goals* - whether they're starting their data journey or are looking to advance it- we are here to develop impact cases together and, with the right capabilities and actionable strategies, advance the mission of non-profits.

ABW's first three years have shown that applying analytics can play a crucial and accelerating role in combating these challenges, we see much potential and opportunities for positive impact. *Our 2025-2028 Strategy 'Analytics to Amplify: Unlocking the Potential of Data for Global Impact'*, represents a bold shift from isolated successes to scalable, systemic impact. Through focused initiatives, strategic partnerships, and a commitment to open knowledge and learning, we are set to unlock the potential of thousands of non-profits, accelerate progress towards the Sustainable Development Goals (SDGs), and maximize the value of analytics worldwide.

Given the complexity and urgency of the global challenges we address, our Theory of Change (ToC) provides a vital framework to ensure our efforts are purposeful, coherent, and aligned with our vision. Our ToC is our compass and a learning tool; it keeps us focused on impact while allowing us to reflect, adapt, and grow. At ABW, we believe in the transformative power of data science for social good. However, unlocking this potential requires more than just technical expertise: it requires a clear, shared understanding of how our work leads to the change we seek.

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*We use the terms mission-driven organizations, NGOs, and non-profits interchangeably to refer to organizations whose primary purpose is to create positive impact rather than generate profit. Our focus on working with these organizations stems from our commitment to using analytics and AI to drive meaningful change and contribute to the greater good.
*We define impact as the measurable change or effect that an action or initiative has on a particular group, community, or environment. It's the tangible outcome that results from an intervention, often aimed at addressing a specific need or challenge.

What Problem Do We Want to Address?

With decades of effort, only 17% of the Sustainable Development Goals (SDGs) are on track, with just five years left to achieve them. The scale of the challenge is huge: 3.16 billion people cannot reach a healthcare facility within an hour's walk, over 4.4 billion people in low-income countries lack access to safe drinking water, and climate change has inflicted $525 billion in losses on the world's most vulnerable economies in just two decades. Meanwhile, the economic cost of plastic pollution reaches up to $19 billion each year.

At the same time, the context for mission-driven organizations is tough. Funding is under increasing pressure, with major donors like USAID and the EU reducing their support. This means non-profits should do more with less, whilst the complexity and urgency of global challenges grow. Simultaneously the speed of AI developments is increasing. Still, many non-profits have yet to develop their data maturity. Or a framing that emphasizes that there are strengths that will only be scaled through (3.5M data for social impact jobs are needed), tools, and capabilities to harness these technologies. We think traditional approaches are no longer enough. We see much potential and opportunities for the non-profit sector to start utilizing analytics in response to these challenges.

Analytics and data science offer a path forward: organizations that prioritize data-driven innovation are four times more likely to achieve their goals, and every dollar invested in data systems can yield a thirtyfold return in social value (an ROI of US$32). The opportunity is clear: we cannot afford to leave the power of analytics untapped. If we fail to act now, we miss a big opportunity to help millions more people in need, and the world will miss its chance to achieve the SDGs. We believe applying analytics to accelerate our progress promises substantial potential. We should get together to accelerate change with analytics.

What do we want to achieve?

By 2028, we aim to see a growing number of non-profits independently using analytics into their core strategies and operations, enabling transformative, self-sustaining impact to drive their missions forward. We expect to catalyse a sector-wide shift where analytics are not an external add-on, but a core capability, one that significantly accelerates/increases impact and makes it more measurable, strategic, and scalable. By 2035, we envision a world in which every non-profit has the data skills, tools, and networks needed to unlock the full potential impact of their work for the communities they serve, and for the planet we all share. We envision the development of a global movement where non-profits use analytics to tackle the world's biggest challenges, accelerating progress towards the SDGs and improving the lives of hundreds of millions.

How Do We Create Change?

At ABW, we believe that when mission driven organizations are equipped with knowledge, tools, and confidence to use data, analytics and AI, they can drastically amplify their impact. The challenge for many non-profits is that they operate in a context of shrinking resources, rising complexity, and rapid technological change. Most organizations face fragmented funding streams, short project cycles, and limited exposure to technological innovation — these conditions make it difficult to use data strategically, which in turn limits their efficiency, reach, and effectiveness. As a result, the potential of data science and analytics to solve challenges remains largely untapped in the non-profit sector. Our ToC, and therefore our work, is grounded in the belief that this gap can be closed, and that doing so can unlock systemic, scalable impact across sectors and geographies.

Our demand-side assumptions focus on the needs, motivations, and capacities of mission-driven organizations. We begin with the assumption that while non-profits are deeply committed to their missions and that they often lack the internal capabilities, data infrastructure, or awareness of how analytics can be applied to their work. They may have access to data but not the necessary skills to extract actionable insights from it. We assume that non-profits see the value in data science and that they are willing to allocate resources, collaborate and contribute to data science projects and research. Therefore, we co-develop applied analytics projects alongside non-profits, ensuring that evidence-based models, tools, and solutions are integrated into their operations and decision-making processes. We tailor each project to real organizational needs; from resource allocation and program optimization to strategic planning and service delivery, so that insights are not abstract but immediately actionable.

We assume that learning is most effective when it is tied to real-world application. Therefore, our programs are designed not only to train nonprofit staff but to apply those skills directly to solve challenges that they face, directly enhancing their ability to maximize impact. For example, when a nonprofit is supported to develop a prescriptive model for healthcare facility placement, the process does more than improve access for thousands—it also builds lasting internal capacity for strategic data-driven decision making. Over time, we expect trained organizations to apply the knowledge gained and scale these solutions on their own.

We further assume that isolated and one-off tools alone are not enough—they must be accessible, open, and fit for purpose. When nonprofits can access and deploy powerful analytics tools without needing to start from scratch or rely on external consultants, they are able to solve new problems without depending on external help. That's why we develop reusable, open-source platforms and host them in a growing repository that nonprofits can draw from, adapt, and contribute to. This also enables scaling—where solutions developed for one use case can be adapted and reused by others, speeding up innovation across the sector.

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Our supply-side assumptions relate to the willingness and ability of academia and industry to contribute meaningfully to social impact when provided with clear entry points, incentives, and collaborative structures. We assume that academia and the private sector are willing and able to contribute meaningfully to advancing analytics for social good, when provided with the right opportunities and incentives. We believe that academic institutions are increasingly committed to research with societal relevance, and that companies are looking for purposeful ways to apply their talent and technology. However, these actors often lack direct pathways to engage with non-profit challenges in a structured, impactful way. Therefore, we act as a bridge—connecting real-world needs from mission-driven organizations to research agendas and industry expertise. We invite academic partners to co-develop projects, solve complex challenges, create innovative prototypes, and generate evidence that strengthens the tools and methods we use. We also collaborate on case studies, teaching materials, and student programs that embed impact in overall academic experience.

We assume that the private sector holds a wealth of untapped skills, infrastructure, and innovation capacity that can be mobilized to build non-profit capabilities. However, these contributions are often fragmented or ad hoc, with limited long-term impact. We therefore work with companies to structure engagements that go beyond traditional CSR—offering their data scientists, engineers, and product teams the opportunity to co-create scalable, open tools and solutions that directly support non-profit missions. Whether through secondments, pro bono project teams, or strategic co-investments, these collaborations enable knowledge transfer, tool development, and capacity building within non-profits, while also driving innovation and impact within companies themselves.

Our ecosystem assumptions address the conditions needed for sustained learning, adoption, and scaling across sectors. We assume that when academia and industry are meaningfully involved in solving non-profit challenges, the quality, credibility, and scalability of solutions significantly increase. That is why we intentionally cultivate a learning ecosystem where all actors—non-profits, researchers, and industry professionals—can share insights, validate approaches, and contribute to a shared repository of tools and practices. In doing so, we transform one-off projects into building blocks for systemic change, with each contribution reinforcing our broader ToC. By embedding impact into research and corporate agendas, we collectively shift the default orientation of analytics from profit-maximization to impact-maximization—amplifying our vision far beyond the non-profit sector alone.

However, even the most impactful solutions will not scale without a broader ecosystem of support. We assume that peer exchange, storytelling, the open sharing of tools, and lessons learned are critical to driving collective adoption, and to movement building. This is why we actively mobilize researchers, technologists, data scientists, and (non-profit) leaders who share a common commitment to using analytics for good. When changemakers and experts are connected across sectors and disciplines, innovation spreads more rapidly, and more organizations are inspired and equipped to act.

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Finally, we recognize that we cannot ask nonprofits to build long-term analytics capacity if we ourselves are not structured for sustainability. We assume that a resilient organization—with strong governance, diverse funding, and a collaborative culture—is necessary not just to support others but to model the kind of learning-driven, adaptive institution we want to see across the sector. Thus, we invest in our internal systems, talent, and partnerships.

In sum, our ToC holds that:

- If mission-driven organizations are given access to usable tools and an active learning community,
- And if they receive hands-on training, mentorship, and analytics application support from the community,
- Then they will develop the internal capacity to adopt and apply analytics effectively,
- Which will lead to efficient operations, more strategic data driven decision-making, and improved service delivery,
- And ultimately accelerate progress on the SDGs as they can advance their cause with more impact, using fewer resources reaching impact at scale.

The change is not linear, but iterative and mutually reinforcing: the knowledge built through training fuels better project outcomes; successful projects generate tools and insights that are shared more broadly; shared knowledge attracts more actors from academia and industry; and all of this is sustained by an organization that learns, adapts, and grows alongside its partners. We recognize several risks to this approach: nonprofit capacity constraints may limit engagement; academic timelines may not align with urgent nonprofit needs; industry partners may prioritize short-term visibility over long-term impact. We mitigate these through flexible project structures, hybrid academic-practitioner teams, and strategic partnership agreements that align incentives across sectors. At the heart of this approach is the creation and stewardship of a sustainable ecosystem—where academia, industry, and nonprofits co-create solutions, learn from one another, and collectively unlock the full potential of analytics for a better world.

Our ToC is designed for continuous learning. We systematically test our assumptions through partner feedback, impact evaluations, and sector analysis, adapting our approach based on evidence of what works

Catalyzing Change in Academy and Industry: A Byproduct

In addition to directly unlocking the potential of analytics for mission-driven organizations, and whilst this is not our primary objective, ABW acts as a catalyst for change among academic and industry partners, who are essential to creating a systemic shift. By engaging universities and companies in collaborative, socially driven analytics projects, we spark a transformation in how these institutions apply their expertise.

In academia, this results in a growing emphasis on research with direct societal relevance, inspiring scholars to develop new methodologies, case studies, and teaching content grounded in real-world impact. Students are trained not only in technical skills but in applying those skills for social good—helping shape a future workforce with a deep commitment to ethical and responsible AI and analytics.

In industry, our partnerships drive new norms of corporate social responsibility, where data professionals are increasingly encouraged (and incentivized) to contribute their skills to mission-aligned efforts. Exposure to non-profit challenges also sparks innovation within companies—developing tools, frameworks, and/or business models that may be adapted for broader use, reinforcing the idea that impact and commercial innovation can go hand-in-hand.

By embedding impact applications into research agendas and corporate cultures, ABW helps shift the default orientation of data science from profit-maximization to impact -maximization, reinforcing our vision far beyond the nonprofit sector alone.

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The Global Impact

- Nonprofits achieve their missions faster and with greater impact
- Accelerated SDG progress
- Millions of lives improved

The Long-Term Outcomes

- Data science & AI embedded in nonprofits ecosystem
- Academic & industry norms shift towards synergetic efforts
- Sustainable ecosystems built

The Intermediate Outcomes

- Scalable & sustainable solutions
- Resource-friendly operations
- Strategic data-driven decisions
- Community of data practitioners grows

The Immediate Outcomes

- Nonprofits adopt new tools
- Staff upgrades data & AI skills
- Reusable open-source tools widely available
- Academia & industry engaged

The activities

- Co-develop analytics solutions
- Training & mentorship
- Open-source tools
- Academic & industry collaborations
- Ecosystem building

The Approach

ABW bridges nonprofts, academia, and industry to unlock the potential of analytics for good

The Opportunity

- Global challenges off-track
- Nonprofits under-resourced
- Analytics potential untapped