

Innovation and Technology for Impact

Innovation is a clear driving force of economies and global markets. It has become a key factor in the development of new ideas and technologies, discovering new opportunities to build better products, services, and business channels. However, the role of innovation and technology in creating positive impact and tackling global challenges has gained minimal exposure so far.

This paper intends to briefly examine the barriers and opportunities to apply innovative solutions to impact-oriented challenges. The paper has been organized as follows:

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Overview

We live in an unprecedented era in which 'innovation' is a paramount factor in unlocking major opportunities to affect local and global economies, promote national interests, stimulate the workforce, and produce emerging technologies to disrupt and change our lives for the better. Innovative technology and advanced scientific research enable us in a clear-cut way to identify problems, test them in controlled experiments, and scale solutions at a pace never seen before. The for-profit sector has already understood the potential of innovation, and now national bodies are paying attention to its potential as the global race for innovation intensifies. The top 2,500 R&D companies are responsible for more than 90% of the R&D funded by businesses globally, and most European countries are setting up special funds to support companies in the technology forefront in order to speed up innovation and bring to the market new solutions today and for the near future.

Despite the high numbers of investments in innovation, we witness across the globe many innovative projects using methods that have been in place for decades, yet with futile results to achieve a sustainable positive impact on people and the planet. The UN Sustainable Development Goals ([SDGs](#)) clearly portray the world's challenges and avenues for solving them. Even with an explicit roadmap, only 81% of global SDG compact affiliated companies are taking action, resulting in an estimated annual finance gap of \$2.5 trillion to achieve all goals including ending poverty, protecting the planet, ensuring peace, and national and economic prosperity. Global discourse about impact is gaining exposure and impact investment continuously grows due to the challenges on a global scale; climate change and its effects are upon us, a global health crisis has reshaped our planet, and this is in addition to local challenges each country and its people face. Technology has the potential to act as a savior, and therefore market business opportunities are enormous. The Business and Sustainable Development Commission ([BSDC](#)), estimates that achieving the SDGs could open up US \$12 trillion of market opportunities and create 380 million new jobs, and that action on climate change would result in savings of about US \$26 trillion by 2030.

We believe that by enhancing the applications of innovation and technology at solving pressing social and environmental challenges globally, we can progress to a more sustainable and equitable impact economy that is socially and environmentally reasoned and measured.

The Israeli Forum for Impact Economy ([IFIE](#)), which acts as the National Advisory Board (NAB), and the Global Steering Group for Impact Investment ([GSG](#)), hope that all stakeholders reading this paper will gain new perspectives and understanding of the needs and opportunities of impact innovation and the impact economy for the benefit of all people and the planet.

1// What Is 'Impact Innovation' and Where Do We Find It?

Innovation can come in many ways and creates value, playing a vital role in growth, societal, environmental, and economical aspects. We see innovation in its many forms around us, in models, in creating working environments but more importantly in our context, in the convergence with technology. Technology drives disruption in worldwide markets such as the fourth industrial revolution, deep tech, biotech, IoT, and more, that are revolutionizing how we work, operate, and consume. Assuming intentionality can join forces with technology, which can provide an enormous global value to address needs from the smallest to the largest disasters, then impact-tech innovation brings a whole new way and perspective for startups, companies, and entrepreneurs to operate.

The market itself keeps changing and evolving as more models enter to address the need for more innovative channels to solve global challenges - Green Economy, Green Growth, Circular Economy, Impact Economy, Doughnut Economy, Sustainable Goals - all are ways to transition to sustainable economies which offer not only solutions but also huge economic opportunities and operational ways of measurement.

In order to harness the powers of these sustainable innovation paradigms, we need strong leadership, commitment, and action, since innovation is not created by itself, just as technology is not generated nor applied in a vacuum. Innovation is a multi-dimensional and broad concept, all the more reason to refine the desires and potential impact-tech innovation can provide for each sector. Innovative impact-tech is more than just the novel technology itself. When combined with an entire spectrum of models, from business, social, environmental, processes, technical standards to finance, and more, it opens a vast range of opportunities, from the demand for capital and opportunities for the supply of capital markets.

Most players have seen the potential of innovation and invested accordingly. In 2019, a record high of US \$57 billion in Corporate Venture-Capital (C-VC) investments in innovative products and solutions, that not only brings competition and advanced capabilities but also ideas that address society and the environment - consequently pushing forward impact-tech innovation. Governments worldwide invest taxpayer money, promoting their national innovative hi-tech ecosystem, fostering knowledge creation and diffusion, building the future workforce, and supporting the R&D efforts of firms. In 2020, Israel Innovation Authority ([IIA](#)) invested US \$620 million in startups; Horizon 2020 the [European Commission](#)'s biggest R&I framework budgeted Euro €77 billion over seven years (2014-2020); US President Biden unveiled a massive US \$325 billion for research, innovation, and pandemic preparedness plan that, if signed into law, would see the country's biggest increase in its federal non-defense R&D spending.

Entities, for-profit and not-for-profit, seek to develop new impact-innovation models. However, this change in strategy requires greater transparency and accountability to shareholders and stakeholders, partners, and investors, which might require more elaborate work than expected to better measure performance and impact.

2// Innovation, Technology, and Impact

Impact, is a wide and multi-disciplinary field and approach, encompassing many types of innovation which create positive and measurable change at scale. The different types of innovation models - innovative finance frameworks, original business models, measurements and evaluation methodologies as well as novel idea generating and technologies - are the key to fully and properly tackling societal, economic, and environmental challenges in different places. In some cases, all may be entwined when developing solutions and companies to establish a solid profit-risk-impact model.

Market demand and the business sector are increasingly moving towards tech-based solutions for local and global needs. More startups are looking into technology to bring innovation (and competition) to

future market opportunities. As such, the discourse of impact-innovation is also shifting to impact-tech innovations, harnessing the potential of technology for the benefit of people and planet - laboratory meat and dairy, alternative protein, VR for STEM, AI and computing for healthcare and well-being, smart and low-emission transportation to battle climate change, are opening new and exciting markets.

Some of the major questions that remain are whether these innovations all hold viable business opportunities? Do they stem from technological advancement or from new applications of existing technology in impact-related fields, or from the intentionality of entrepreneurs? If we were to build more profound conditions for impact-tech ideas to generate and engage with the SDGs, we will unlock newer dimensions of tech for impact.

For that, there needs to become a receptive environment with enabling conditions and alternative lenses of viewing problems, in order to reduce market fragmentation (creating a divide between 'classic technology' and 'impact technology') and boost possibilities of startups and innovation to impact at scale. This framework will prove and show multiple stakeholders that innovation and technology together with impact, can equal business opportunity, that new perspectives and approaches both in models and technology are called upon, challenges are defined by location and time to produce impact-tech solutions, that might only leap-frog in some markets. Impact innovation has the ability to generate, scale and deploy breakthrough technologies with the market and social value.

3// Market Education - Creating a Commonly Shared Framework

Terms and approaches like 'Impact investing', 'Responsible investing', and 'Double bottom line' have been gaining awareness in the mainstream business world in the last few years. Still, many decision-makers, investors, and entrepreneurs lack the knowledge and understanding of the importance of creating socially conscious businesses as well as the vast economic opportunities that await impact-intentional companies.

Having awareness, gaining new perspectives, and actually practicing them, are very different types of behaviors, which requires a holistic market education approach tackling each group and sector individually and thoroughly, targeting all ages, diverse communities privileged and underserved, in order to help impact-innovation ideas to enter the market and integrate social innovation that responds to the needs of people and society.

Fostering and enabling field professionals and the society, as all are potential stakeholders, to understand and practice 'impact' requires a systemic approach that is inclusive and collaborative, spurring appropriate frameworks to cater to the needs of many actors; startups, investors, institutions, asset classes, and places.

We, therefore, recommend the [GSG](#) and global impact ecosystems to put a strong emphasis and significant resources for long-term programs and activities, facilitating collaboration and creation of common knowledge assets - from terminology to needs and global issues, as well as perspectives and models, and even regulation as a market educational tool, tapping the unknown territory for some players - amongst national, regional and local level innovation ecosystems stakeholders.

4// Industry & Academia

Education and academic research are important catalysts of innovation and growth with a larger impact on national development. Yet, many obstacles prevent researchers and research projects from advancing, some of which may derive from IP, commercializing knowledge from research institutes to industrial corporations, and funding gaps.

During the Covid-19 crisis and recovery, we have seen firsthand the importance and fast-paced approach by private and government entities, backing research to solve a global medical challenge - this is an unprecedented innovative development that will positively impact billions of lives. Approaches that show the potential can be unlocked with the proper backing and regulation towards novel ideas and solutions. Governments around the globe are seeing the potential and already invest millions of dollars in academia and R&D; UK's Pound £200 million 'Higher Education Innovation Fund' ([HEIF](#)) for knowledge exchange with businesses; Israel Innovation Authority ([IIA](#)) 2019's NIS ₪324 million for applied R&D infrastructure and research technology transfer; Biden's 2022 [budget proposal](#) of US \$171.26 billion in federal research and development funding that would inherently promote the making of new, and improvement of existing tech-based capabilities.

Despite these significant investments, businesses and investors are wary of investing in academia, most are due to the lengthy duration, expense, and high risk involved in research. In reality, academic research and higher education can drive advancements in technology and the development of knowledge more profoundly, bringing impact innovation to the next level; Educated and highly skilled workers breed future generation innovators, who build mature and solid (investable) companies with a proven track record based on science, applied and well-researched R&D which in turn boosts the R&D industry.

We believe and call for existing and new players to bridge the mindset gap. The value of academic research goes far beyond a few years of investments but has long-term effects to build a sustainable economy, create efficient innovation ecosystems, and workforce reskilling.

5// Incentivizing Corporations

Israel, hailed as the "Start-Up Nation", is home to over 530 R&D centers of large Multinational Corporations (MNCs). Given the fact that Israel is a very small market to those MNCs, it is clear that they were attracted to its vibrant innovative ecosystem, large talent pool, and the "get it done" culture. However, these MNCs have also been receiving significant government-sponsored incentives over the last 30 years, targeted to encourage corporations to conduct in Israel all types of activities that support the broader government aims such as advanced R&D and/or manufacturing and generating workplaces in towns that are far from Tel-Aviv. The importance of government incentive schemes, at least in the early years of an industry's growth, has been demonstrated in countless research and policy papers as well as in other countries.

We, therefore, recommend looking at the impact innovation industry through a similar lens. As societies and their governments aspire to enhance the impact of the economy, the role of corporations - both national and global - must be discussed. Government incentives can encourage MNCs and local large companies to invest in developing measurement metrics, focus R&D on solving problems, such as sustainability, and even allow companies to continue their product development process when economic activity slows down. In parallel, a 'stick and carrot' approach can be considered in some sectors to achieve specific aims through innovation, for example, reduction of industrial pollution. Such 'sticks' can include taxes and other measures.

We, by no means, call on governments to spend taxpayers' money on loss-making adventures. Our main point is that strengthening the impact-innovation industry is at the core of public interest and can be enhanced by creating appropriate incentives to large companies who, in turn, take patents to maturity, grow talent, and nourish smaller companies in their sectors. However, we believe that such measures would be better implemented within a context of a thorough public discussion about the role of multinational corporations in the modern impact economy.

6// Governmental Policies and Regulation

Given that impact is a relatively new concept and one that is constantly changing and perceived as riskier, governments should play a substantial role in encouraging impact innovation, mainly by adjusting its climate and social policies and frameworks but also through promoting new sustainable financial tools and removing regulatory barriers. Such measures will prompt a re-assessment of the value of every financial asset, resulting in more firms aligning their business model with those new norms.

The dynamic nature of the impact economy raises another question: should there be governmental oversight of this field? In our assessment, the answer in most cases is no. Transitioning into an impact mindset will ultimately encompass every aspect of life and therefore, in the long run, it would be more efficient and practical to integrate impact-oriented thinking into existing governmental agencies rather than engage in a lengthy and complex process of setting up a new, coordinating agency.

On the international level, we can clearly identify the problems arising from the lack of globally accepted taxonomy. Such a taxonomy would enable us to compare the level of impact achieved by different innovative technologies and would encourage market makers to launch impact-innovation-related products and investors to invest in them.

Other models for global “regime” can be examined: from relatively binding and formal ones that resemble the trade rules governed by the World Trade Organization ([WTO](#)), to a widely acknowledged yet completely voluntary framework, similar to [ISO standard](#). Such models can have the SDG as its agreed compass. We recommend that the GSG will lead this important discussion and thoroughly look into the effectiveness and feasibility of each framework.

7// Finance Impact Innovation

Funding tools can help tackle risk barriers relating to some of the investments in impact solutions. Mitigating investors' perception and real risk, are crucial to creating high-quality pipelines of innovative solutions to impact challenges. The risk tolerance of investors and board members greatly influences a company's strategy towards impact and innovation, especially in emerging markets where risks might include political instability, economic instability, corruption, natural disasters, and local or regional conflicts.

'Blended Finance' models that combine funding from commercial, public, and philanthropic sources could contribute to financing sustainable and more inclusive projects and solutions. Such tools may help set in motion high-risk projects, projects in untested markets, projects implemented by companies that lack a proven track record of operating in a market; or innovative schemes without commercial proof of concept. This has the potential to help increase investments that benefit society by attracting investors who would not have otherwise financed them.

Government-funded incentives such as those described above for corporations can also help move the needle and together with targeted educational reach-out activities, help change the risk perception among investors.

In addition, more robust ESG-related regulation (both imposed by central governments and self-imposed by investors) is expected to result in significantly less investment into industries and projects that do not comply with ESG standards. This will, in turn, increase the available supply of capital. We, therefore, recommend the [GSG](#) and affiliates to help impact-innovation initiatives to be prepared with solid business models and sound proposals to leverage this change in investment priorities.

8// Impact Innovation in Developing Countries

Impact-driven companies have become well positioned and have the ability to deliver solutions for some of the most complex, cross-cutting socio-economic challenges facing developing countries. Yet, the challenges of implementing and scaling impact innovation in international development range from severe climatic events, cultural entrepreneurial and business approaches, to corruption and market adaptivity. We, therefore, point out some key policy recommendations to address the unique sets of challenges in emerging markets:

1. **Establishment of effective cross-sector partnerships** - Across sectors, there are different types of actors including governments, development agencies, local and international private companies, NGOs, foundations, and banks - all with different structures, policies, and interests. The inherent risk of using proper innovative needed solutions creates challenges for collaborating and identifying the most effective way to solve developmental challenges. We, therefore, recommend encouraging, and if possible, incentivize cross-sector conversation in which multiple and diverse voices are heard.
2. **Legal and regulatory challenges** - In many developing countries that suffer from weak institutions, cultural bias, and high market risk, innovators might face uncertainties pertaining to property rights, the enforceability of contracts, restrictions on capital movement, and foreign currency movement or an incoherent legal system. These cases may occur in global markets but in this case, might often result in hesitation among innovators to roll out their solutions in developing countries. At the same time, impact innovators should be encouraged and thoroughly trained to conduct a professional analysis of the markets, the legal climate in their target market and adapt their offering accordingly, while finding key partners on the ground.
3. **Application of appropriate impact matrix** - Measuring impact is particularly difficult in emerging markets due to lack of accurate and reliable data, cost of collecting data, evaluating it, and more. It is important to acknowledge this challenge and address it as early as at the product design phase and construct an appropriate measurement matrix, or use ones that were specifically designed for impact measurement in developing countries such as [IFC's Anticipated Impact Measurement and Monitoring \(AIMM\)](#) - which evaluates each project along two dimensions: (a) Project Outcomes - project's direct effects on stakeholders; the direct, indirect, and induced effects on the economy and society overall; and the effects on the environment. (b) Market Outcomes - project's potential for generating systemic, sector-wide changes that enhance market competitiveness, resilience, integration, inclusiveness, and sustainability.

Conclusion

As the world continues to change rapidly amid the global crisis, 'innovation' is becoming increasingly important. Embracing new ideas, business models, ways of working, creativity, technology, and financial resources - are necessary to produce sustainable agile solutions that will address the SDGs by 2030. Innovation has also allowed companies to better adapt their businesses and workforces in the face of uncertainty, making them more resilient and innovative in the competitive landscape.

In order to achieve the SDGs by 2030 - having socio-economic and gender gaps minimized, provide clean water and food resources, promote the health and wellbeing of every person alive, and many more - we need to foster an ecosystem and yet another road map, which will cater to the needs of all stakeholders as well as put knowledge and education for impact and technology at the forefront. Additionally, foster multi-stakeholder collaboration to produce new innovative approaches, enabling diverse ideas and technologies to engage and disrupt while mobilizing investments and incentives in support, ensuring a long-term sustainable innovation ecosystem will flourish.

We call upon all stakeholders including Governments, International Institutions, NGOs, Corporations, Businesses, Entrepreneurs, Change Agents, and the Public, from different sectors to be part of the global discussion and take measurable actions in order to create the conditions to allow impact-tech innovation to boom and make significant and notable changes in people's lives and for the planet.

This paper was written based on publications, internal assessment, and conversations with ecosystem professionals, thanks to the writers: Zafrir Assaf, Hila Hillary Katz, Adi Trigger, Noam Kost. And contributors: Vanessa Kacherginsky, Vanessa Bartram, Ofir Azury, Chen Shmilo, Daniela Kandel, Patricia Lahy-Engel, Cecile Bliious, Leehe Skuler, Omri Boral, and Nir Shimony.

The Israeli Forum for Impact Economy (IFIE) acts as the Israeli National Advisory Board (NAB) to the Global Steering Group (GSG). The IFIE is an umbrella organization that connects, convenes, and catalyzes multi-stakeholder partnerships and collaborations, bridging Israel's impact ecosystem with various national and international players from the private, public, and social sectors. Committed to raising the significance of impact economy in Israel, addressing market challenges, and fostering innovation to tackle societal and environmental problems and produces economic value and sustainable economic growth.

The Global Steering Group for Impact Investment (GSG) is an independent registered UK charity since 2017, catalyzing impact investment and entrepreneurship to benefit people and the planet. The GSG was established in 2015 as the successor to and incorporating the work of the Social Impact Investment Taskforce established under the UK's presidency of the G8. It currently has 33 member countries and the EU. Chaired by Sir Ronald Cohen, the GSG brings together leaders from finance, business, and philanthropy to solve some of the world's most pressing social and environmental challenges.

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