

A PERCEPTIONAL STUDY ON THE ROLE OF DEVELOPMENT AGENTS AND GLOBAL LEADERS IN LEVERAGING TECHNOLOGY FOR SUSTAINABLE DEVELOPMENT

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ABSTRACT

Over the past decades Technology shaped the modern world we live in, consequently, it became an increasingly discussed topic in the Global Agenda for Sustainable Development. On the turning point from the Millennium Development Goals to the Sustainable Development Goals, new challenges and opportunities arise, where Development Agents and Global Leaders have to determine new directions and guidelines to successfully use and deploy this tool for sustainable development on a 2015 post-agenda context. The present multidisciplinary study was conducted on the context of the World Summit on Information Society, where 16 experts' in the fields of Development and Technology were interviewed to further analyze their opinions on what the role of Development Agents and Global Leaders is in leveraging technology for sustainable development.

KEYWORDS

Sustainable Development, Technology, SDGs, Global Leaders, Development Agents, WSIS

1. INTRODUCTION

To achieve Sustainable Development societies will have to transform, in order to, on the one hand, keep the pace of human progress and on the other assure global sustainability. The United Nations (2016) believe that Technology has shaped society, economy and the environment, and only now we are truly unlocking the power of technology to help solve the 21st-century challenges. It is, therefore, a potential tool to be used in order to achieve a new sustainability paradigm. National and international action plans and roadmaps should be developed for achieving the SDGs individually and together, including the participation of the UN and its organizations, governments, private-sector, academia and civil society United Nations (2016). Based on these premises, the main goal of this study was to answer the question: what are the role of these Development Agents and Global Leaders in leveraging technology for sustainable development?

Technology is increasingly becoming a major tool to transform economies and increase the well-being of nations while creating new opportunities and challenges for humankind and its relation with the environment (Hazboun, 2014).

A Global call-to-action to gather, not only nations but also entities from every sector to collaborate and discuss the role of technology to achieve Sustainable Development, "We are at a historic crossroads, and the directions we take will determine whether we will succeed or fail on our promises" (United Nations, 2014, pp.3). Based on this shifting moment marked by the transitioning from the Millennium Development Goals to the Sustainable Development Goals, it is crucial to reflect on the next steps to be taken in a post-2015 agenda context.

The international community early on recognized the potential of technology for development and encouraged Development Agents and Global Leaders who are represented by International Organizations such as the UN and NGOs, Governments, Private-Sector, Academia and Civil Society to define strategies and roles as an integral part of national development plans to achieve the SDGs (UNCTAD, 2014).

2. STUDY METHOD

Face-to-face interviews were conducted with field experts on Development and Technology. The type of interview script created was semi-structured to meet both validation requirements and specifications which followed a storyline created based on the research undertaken: starting with a general approach to the perceived role of Technology in the context of Development, then moving into the specific question regarding the role of Global Leaders and Development Agents.

Openness to dialogue, express personal points of view and experience sharing was given making the nature and flow of the interviews neither too formal and structured nor too informal and conversational (Mann, 2016). According to Blaxter et al. (2006, as cited in: Alshenqeeti, 2014), interviews offer researchers the possibility to uncover information that would not be possible accessing using other techniques, such as questionnaires not to mention the fact that data coming from interviews can be recorded and reviewed different times helping the reporting and results to be more accurate (Alshenqeeti, 2014).

2.1 Validation

This study was validated by field experts, global leaders and development agents, all participants of the World Summit on Information Society (WSIS), a conference dedicated to the topic of Technology and Development, held in Geneva, 2018.

The conference served as the physical place to conduct a series of interviews with experts on the fields of Development and Information Systems with the goal to Understand their opinion on the role of technology to achieve the SDGs and the respective role of Development Agents and Global Leaders.

A total of 16 interviewees (11 males and 5 females) from 11 different countries, backgrounds, and sectors gave their contribution to the present study:

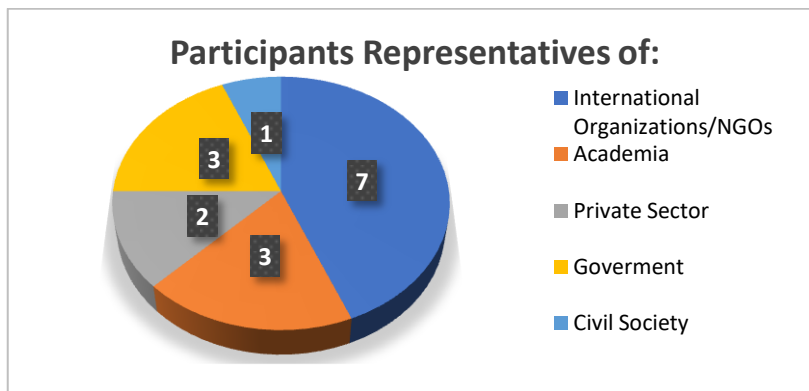


Figure 1. Interviewees Representing: International Organizations, Academia, Private Sector, Government and Civil Society

Before and during the WSIS 2018, the sixteen interviewees were invited to participate in the series of interviews undertaken with the aim to help address the study main questions. All the interviewees attended the WSIS, and their invitation to participate in the study was based on their demonstrated academic and professional background relevancy for the research context, either in Development and Technology fields and within a position of leadership. Consent for publishing the results was given by the study participants.

The Interview Script was created with the intent to explore the interviewee's perception on the role of technology to achieve the SDGs and what the role of Development Agents might be in leveraging technology for sustainable development, and the questions asked were:

1. Do you consider sustainable human development dependent or independent upon technology?
2. What other variables do you believe to be crucial?
3. According to your experience and opinion, what might be the main role of Technology to achieve the Sustainable Development Goals?

4. What is in your opinion the role of development agents and global leaders (governments, NGOs, private-sector and civil society) in leveraging technologies for sustainable development?

The Duration of the interviews varied approximately from 15 minutes up to 1 hour. From the 16-total number of interviews, 14 were conducted face-to-face at the WSIS, while the remaining 2 were conducted via Skype. From the 16 interviews, only one was not allowed to be recorded. The qualitative analysis of the interviews was conducted by the researcher and the following process based on the work of Blair (2015) was adopted:

1. Audio Transcription;
2. Underlining answers sections according to relevancy, scope, and extent;
3. Revise the audio interviews to complement and add any missing relevant content;
4. Creating general and specific categories within given answers;
5. Correlating and interpretation of the answers' categories with researched literature.

3. RESULTS

The first part of the study focused on the broader topic of Technology for Development followed by the experts' opinion on the role of Development Agents and Global Leaders.

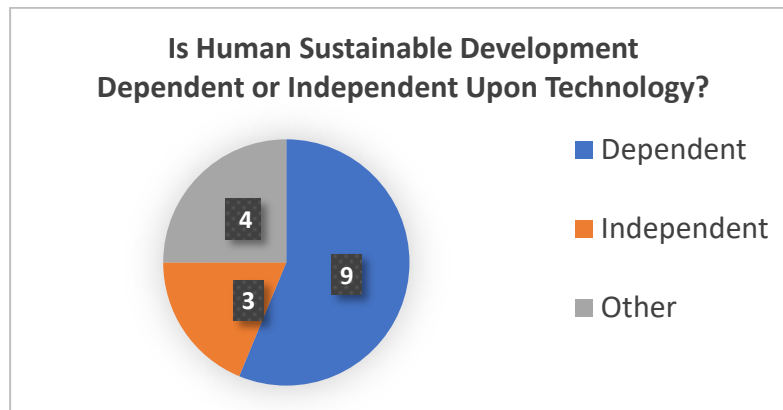


Figure 2. Results: Experts opinions on Human Sustainable Development dependency on Technology

Nine experts believe that Human Sustainable Development is dependent upon technology. Three participants believe its achievement is not dependent on technology, while the remaining four offered a more nuanced point of view and approach in answering the question: the two main arguments given were that (1) development can be enabled by technology without being fully dependent on it and (2) in the form of a criticism to the viability of the SDGs programme, which will be further addressed in the discussion section of this study.

According to the experts, the following variables are crucial to the successful achievement of Human Sustainable Development:

- ❖ Diverting resources and national budgets for sustainable development purposes;
- ❖ Reducing inequalities;
- ❖ Collaborating and partnering with stakeholders;
- ❖ Personal behavior and the ability to learn from past experiences;
- ❖ National ownership and agenda alignment between International Organizations and National Governments;
- ❖ Governance and access to education;
- ❖ Understanding the needs at the local level;
- ❖ Having a sustainable development approach in businesses;
- ❖ Technology and education for all;

- ❖ Capacity for critical thinking and developing digital literacy skills;
- ❖ Creating the right incentives and assertive policies;
- ❖ SDGs implementation and monitoring guidance;
- ❖ Taking action.

When exposed to the question “what might the main role of Technology be in achieving the Sustainable Development Goals by 2030?”, the following answers were given:

- ❖ It is an enabler and connector of problems to solutions for sustainable development;
- ❖ It has the role of empowering the economy, education, and equal access;
- ❖ It has the role of improving efficiency and timeliness in achieving the SDGs;
- ❖ It plays the role of a facilitator and mediator of the development process;
- ❖ It has the role of an accelerator, providing services faster and at a more accessible price;
- ❖ It helps make the usage of resources more efficient;
- ❖ Technology has to be accessible, understandable and usable for development;
- ❖ Technology should not look how we want it to look like, but instead reflect the world we want, how we define sustainable development and how we use technology for this purpose;
- ❖ Technology helps make use and sense of the large amount of data produced every day, for development purposes;
- ❖ Technology enables the inclusion and makes it possible and easier to achieve the SDGs
- ❖ Technology currently has the role of enhancing economic growth rather than reducing poverty.

According to the study participants, the main challenges and issues faced by development agents and global leaders in their quest to leverage technology for sustainable development are:

- ❖ The alignment of global agenda with nation-specific priorities. For instance, in a certain country, X, a specific technology can play an important role for development purposes, which might not happen in country Y, with different social, economic, and environmental contexts. Therefore, technology development, commercialization, and use must account for these specific characteristics and local needs;
- ❖ Correctly understanding and applying the Information and Communication Technologies for Development (ICT4D).
- ❖ Over the past years the massification of technology production, dissemination and use are making the concept of ICT4D blurred, with it increasingly becoming Development for ICTs (D4ICT) – which doesn’t have human sustainable development at its core, but rather commercial purposes and interests, meaning that far too often the private sector, governments and civil society are using the concept of development to further their ICT interests while it should be the other way around. ICT4D entails the production and use of technology to truly serve the interests of the poor, minorities and marginalized, therefore reducing poverty and inequalities
- ❖ Creating the right incentives and ecosystem around science, technology and innovation (by enabling, for example, free and open access to information on a global scale, or by introducing policies that attract and allow businesses to give their contribution in leveraging technology for sustainable development), while fostering an environment of trust among stakeholders of different social sectors through the use of regulatory and governance best practices to ensure fair competition in the technological sector;
- ❖ Creating a balanced regulatory environment while at the same time addressing security management (cybersecurity) and the capacity building issue is necessary to make legislation and regulation work for both digital and technological markets.

Finally, according to the results, different roles could be identified for each society sector represented in the study as far as their ability to help solve the aforementioned challenges:

International Organizations/NGOs:

- ❖ The United Nations should spread the best practices worldwide regarding how technology can be deployed to achieve the SDGs;
- NGOs have the role of conducting research at the local level and engaging locally with the communities.

Governments:

- ❖ Employing technology, science, and innovation to help society achieve better outcomes;
- ❖ Empowering communities and creating an innovation ecosystem for entrepreneurs to develop new meaningful technologies, which will have a positive impact on people's lives;
- ❖ Creating incentive policies and encourage people to take action, changing mentalities and behaviors through funding and collaborative initiatives within society;
- ❖ Regulating markets and their competition by cutting down unnecessary expenses, increasing investment and offering services at lower prices, while enforcing fair taxes to the private sector and enabling the creation of new businesses with sustainable models;
- ❖ Fostering inclusion through technological innovation and providing access to affordable and modern technology tools, mainly in developing countries.

Private Sector:

- ❖ Collaborating and engaging with governments for development purposes;
- ❖ Providing emerging markets with new alternatives and solutions to achieve the SDGs, not only the developed countries;

Academia:

- ❖ Preparing future leaders for sustainable development;
- ❖ Giving young minds the know-how, skills, and tools to achieve the SDGs.

Civil Society:

- ❖ Cooperating with other sectors in addressing local challenges;
- ❖ Giving voice to the poor and most marginalized.

4. DISCUSSION

The current globalized world we live in reflects what technology has enabled in recent years. Technology is now an integral part of most human activities as we know them, and it affects our everyday lives. Neither the Millennium Development Goals (MDGs) nor presently the SDGs could be achievable without the contribution of science, technology, and innovation (Ely, Zwanenberg, and Stirling, 2011). This is also the opinion of more than half of the study experts, who believe human Sustainable Development to be dependent on technology.

The main arguments given were that despite the known merits of technology in this context, there are other ways to achieve the SDGs such as educating people for sustainability and having the right mindset not to allow technology to become the end of development itself. Also, the participants emphasized the importance of defining Sustainable Development and its purpose, and then putting it into practice through proper regulation and policies. As an example: the “eco-social policies”, which stipulate that economic growth from a sustainability point of view must also be “green”, allow for the creation of employment and reduction of environmental damage by shifting behaviors or providing the right incentives for a sustainable management of resources and adaptive capacities of individuals and communities (UNRSID, 2017).

Technology can be a tool and enabler for development without development being fully dependent on it. According to one of the experts, the discussion around the SDGs goes deeper to its founding roots, purpose and programme architecture, which from the start might have compromised any achievement of the SDGs. Different factors can help address this point of view, ranging from the transparency of the international funding addressed by Denney (2012), the fact it was a top-down exercise and left out many countries in the process, namely in Africa, which was covered in detail by Transparency International (2012) and Easterly (2009), or the lack of alignment between international and national level goals, as mentioned by McArthur and Rasmussen (2017). Despite the improvement on some of these limitations in the transition to the SDGs, there still remains among skeptics the opinion that not enough is actually being done to truly bring extreme poverty and world hunger to an end or to reduce inequalities, goals which are at the core of the SDGs.

According to Asah (2015) there are inconsistencies in the architecture of the Development Agenda and its guiding principles such as the different conceptualizations and viewpoints on what Sustainable Development entails (which, according to Du Pisani (2006), has been the case throughout history) and the higher relevance given to western worldviews and constructs of the Sustainable Development concept than to the issues and debates around the social, economic and environmental needs of the so-called Global South.

From a strategic point of view, country ownership, leadership, and a supportive international environment is crucial for an effective mobilization of resources according to the United Nations (2014a). Each country must be responsible for its own Development while the international community's role is to provide the necessary support and an enabling environment; this will then lead to a second stage, where government policies are at the core of a robust SD financing strategy. These public policies will, in turn, allow all the other sectors to operate within this framework guided and strengthened by effective policymaking and its resulting policies, transparency, accountability and good governance (United Nations, 2014a). This way, synergies can be maximized between financing streams such as private and public finance - and their respective investment decisions – and the creation of new mechanisms and instruments at the national level to give answer to social

Understanding local level needs and empowering local communities by providing them with the necessary tools, such as education and the 21st-century skills, will allow societies to be more ready to face not only local but also global challenges in the future (Filho, Mifsud & Pace, 2018).

This new 21st-century paradigm for educational change entails not only formal education but also non-formal and informal education. The European Council (2006) created a recommendation on key competencies for lifelong learning, which then started to be used and implemented by governments, from learning foreign languages and developing digital competencies to developing a sense of initiative, entrepreneurial spirit, cultural awareness, and expression. (Filho et al., 2018).

The alignment of International, National and Local levels, combined with the lifelong learning approach to education for Sustainable Development and the effective contribution of each one of the society sectors (International Organizations/NGOs, Governments, Private-Sector, Academia and Civil Society) can help pave the way to dignity and the subsequent achievement of the Sustainable Development Goals.

Despite the technological progress undertaken over these past few years, namely in the field of Development, "a related painful paradox is that despite the ongoing technological revolution the majority of the world population still lives in abject poverty" (Vergragt, 2006, pp.1). This reality is in part based on the premise that development is a process of structural changes that will require a series of historic steps that the developing nations have to follow in order to reach the present levels of mass consumption of the developed world (Brito, 2014; mentioned in Hazboun, 2014). While technology has been recognized by the 2030 agenda as an important means for implementing the SGSs according to the UNDP (2017), technology has not yet been sufficiently addressed regarding its conception, creation and implementation for development purposes as well as who should be responsible for it (Vergragt, 2006).

At a Global level, the United Nations and other international and non-governmental organizations, have the role of spreading best practice worldwide on how technology can be deployed to achieve the SDGs. And according to Evans (2012), they also have the role to gather and share data and knowledge, support Intergovernmental decision making and finance and support country-level implementation of the SDGs.

Being the adopters of the SDGs, governments have the responsibility to take the lead in collectively tackling the world's most pressing Sustainable Development challenges, however, the range of possible contributions of the business sector shows that public and private roles and responsibilities are increasingly becoming intertwined (Agarwal, Gneiting, & Mhlanga, 2017).

According to Agarwal et al. (2017), the private-sector has increasingly demonstrated its interest and commitment to Sustainable Development by supporting policy development that matches their actions while looking to even the odds and overcome the competitive disadvantages of unilateral sustainability actions.

Companies should focus not only on what the SDGs can do for them but also what they should do for the SDGs, by looking at how core commercial practices such as wages and taxation either detract from or enable a world with reduced inequalities, through the exploration of new sustainable business models or by removing barriers to sustainable business behavior (Agarwal et al., 2017).

Civil Society has the role of giving and raising the voice of the poor and most marginalized. It should advocate for the application of human rights conventions and bridge the communication gap between society and remaining sectors, mainly the private sector and governments, in order to mobilize resources and work towards local development.

Education has been introduced in this section as one of the major drivers for Sustainable Development, and the preparation of the present and future generations; goal 4 of the SDGs, reflects the importance attributed to Academia's contribution in achieving the SDGs and leveraging technologies for this purpose.

Academia has been playing a crucial role in advocating and promoting innovation through advancing technological research and sharing their findings with the public (Vidican, 2009). Universities have the role

of contributing to community development and coherence by advocating their core ethical values of equity and transparency. Through their interaction with the local government they can develop programmes that involve and engage young people and the local community in general in SDGs-related activities. Finally and according to UNDESA (2015), to realize the potential contribution of each and every society sector in facing the 21st century challenges, the international community has increasingly recognized the importance of embracing a Global Partnership to deliver on all of the SDGs and facilitate an intense global engagement, bridging the path of cooperation between the International, National and Local levels and among Development Agents and Global Leaders, and, together, walk the road to dignity 2030.

5. CONCLUSION

The transition from the MDGs to the SDGs brought new challenges and opportunities for international development in an increasingly globalized world, where alignment and collaboration between developed and developing countries is now a key variable to achieve the Sustainable Development Goals.

Technology is, according to both the revised literature and the experts who participated on this study, one of greatest hopes for humankind to effectively address the 21st Century Challenges. However, technology alone will not be sufficient to solve the problems and challenges we face. In order to successfully expand and enable the potential of these tools for development, several other variables have to be brought together by Development Agents and Global Leaders such as:

- Governments to effectively mobilize financial and natural resources according to Sustainable Development practices. Through technology, it might be possible to effectively improve resource management, avoid waste and reuse materials in an efficient way;
- Regulations that foster Science, Technology and Innovation through the implementation of flexible policies that create incentives and explore new technological solutions, as well as creating policies that ensure fair competition, the security of data and information and encourage businesses to adopt sustainability best practices. Regulations can and should also play a crucial role in making technologies more accessible and affordable, through taxation policies on the private sector.
- Education Programs for Sustainable Development, as a way to provide the current and future workforce with the 21st Century skills necessary for success, such as digital literacy, critical thinking, flexibility and adaptability, allowing people to rapidly adapt to new working environments and to be able to effectively use technological tools not only for professional purposes but also in their everyday lives.
- Engage citizens and local communities in SDGs and technology related activities; this will lead to the rapid dissemination of sustainability best practices alongside and greatly increase awareness on technology can be used for the good of society and to improve people's lives, mainly those of the poor and marginalized in remote communities.

Technology is considered by both the relevant literature and study participants a powerful tool and enabler of development, but only by gathering international, national and local efforts toward Sustainable Development best practices can it help overcome barriers such as the digital divide, while preparing the present and future generations to effectively keep up with the rapid world progress and technological change we are facing today, and effectively use these tools to tackle the 21st century global challenges and simultaneously improve the economy, the environment and society.

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