



SDG ACCELERATION ROADMAP

UNLEASHING THE POWER OF
PRIVATE-SECTOR DATA IN THE GLOBAL SOUTH



Microsoft's Support to the Public Sector in Asia

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This work was carried out thanks to a grant from the International Development Research Centre (IDRC), Ottawa, Canada. The views expressed herein do not necessarily represent those of IDRC or its Board of Governors.

The SDG Acceleration Roadmap was developed in partnership with LIRNEasia and the support of the Mona School of Business & Management at the University of the West Indies in Jamaica, Local Development Research Institute (LDRI) in Kenya, and the Center for Continuing Education (CCE) at Birzeit University in Palestine.

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Acronyms

CEE	Center for Continuing Education in Palestine
CEO	Chief Executive Officer
COI	Caribbean Open Institute in Jamaica
ESG	Environmental, Social and Governance
GPSDD	Global Partnership for Sustainable Development Data
HKH	Hindu Kush Himalaya
ICIMOD	International Centre for Integrated Mountain Development
KI	Key Informant
KIIs	Key Informant Interviews
LDRI	Local Development Research Initiative
NLP	Natural Language Processing
ODC	Open Data Campaign
OECD	The Organisation for Economic Cooperation and Development
SDG	Sustainable Development Goal
UN	United Nations
USA	United States of America
WHO	World Health Organisation

1. Introduction

Achieving and monitoring the progress of the Sustainable Development Goals (SDGs) within the next seven years demands the cooperation of countries, civil society, and the private sector. The enormous volume of data gathered and held by the private sector can be instrumental in accomplishing this goal. Considering the private sector's expertise, data, and ability to collect data, the private sector plays a crucial role in achieving the SDGs.

In 2021, LIRNEasia (a pro-poor, pro-market think tank working in emerging Asia) and four other partners launched a project to: a) understand the extent to which the private sector has been involved in activities that enable the use of data for the measurement and achievement of the SDGs, b) understanding the barriers faced in the process of private, public and civil society sectors working together on data for SDGs, c) catalyzing increasing the participation of private sector in the data for SDGs movement. Cepei (a think tank based in Latin America), the Local Development Research Initiative (LDRI) in Kenya, the Caribbean Open Institute (COI) in Jamaica, and the Centre for Continuing Education (CEE) based in Palestine, have been worked since 2022 in the SDG Acceleration Roadmap project.

The consortium's primary research inquiry was regarding the private sector's actions toward providing better and more data to achieve and monitor the SDGs in the Global South. To address this subject, the five organizations systematically mapped over 400 public-private data partnerships¹ involving firms of all sizes throughout the Global South.

¹ The term data partnership implies two or more entities involve in data sharing. For this mapping study LIRNEasia defined data sharing as a collection of practices, technologies, cultural elements, and legal frameworks that are relevant to transactions in any kind of information digitally. Data sharing a join use of resources (data). Data sharing can happen as a business transaction, or it can be in-kind transaction with open access to data.

² The mapping study categorized data actions into actions such as: 1) Capacity building and skill sharing, 2) Data analysis, 3) Data collection, 4) Data governance, 5) Data infrastructure, 6) Data mapping, 7) Data migration, 8) Data monitoring, 9) Data for impact assessments and measurement and 10) Data sharing. There can be a lot more actions under data actions.

Subsequently, each region chose one or two data partnership examples to investigate in-depth and presented them in a series of case studies. These eight documents aim to gain insight into the partnership's working context, encountered challenges, and impact. Drawing comparative lessons for data partnerships and actions,² these case studies will offer recommendations at the regional and global levels.

This report presents one of the case studies in the Asian region. During the mapping study of Microsoft Corporation, an American multinational technology corporation producing computer software, personal computers and related services, emerged as a unique entity in the data action realm.

This report uses information collected through Key Informant (KI) interviews and secondary sources to explain Microsoft's data actions. The research team conducted KI interviews and online literature reviews from October to December 2022.

The subsequent section of the report (Section two) provides descriptions of the history of Microsoft, its presence in the Asia region and the reasons for selecting Microsoft for the case study: financial capabilities of the organisation, its global network, commitment to data for development initiatives and attention to SDGs.

Section three describes Microsoft's approach to selected SDGs: SDG 4 (Quality Education), 8 (Decent Work and Economic Growth), 13 (Climate Action), and 16 (Peace, Justice, and Strong Institutions).

Section four explains data-related engagements by Microsoft in the Asia region. The section explains four data-related engagements: Machine Learning for Glacier Monitoring in the Hindu Kush Himalaya, Microsoft Azure FarmBeats, Open Data Campaign and the World Health Data Hub initiative.

² The mapping study categorized data actions into actions such as: 1) Capacity building and skill sharing, 2) Data analysis, 3) Data collection, 4) Data governance, 5) Data infrastructure, 6) Data mapping, 7) Data migration, 8) Data monitoring, 9) Data for impact assessments and measurement and 10) Data sharing. There can be a lot more actions under data actions.

Section five is about the enabling environment for partnerships. The section describes three enabling factors for partnerships: trust, well-connected institutes within the organization and unpolitical facilitation for the private sector.

Section six describes four partnership-building approaches used by Microsoft: 1) synergistic approach, 2) nurturing long-term relationships through the brand, 3) identifying complementary needs and strengths and 4) developing shared vision among stakeholders and Microsoft's significant partnerships with the Governments in India.

Section seven explains the challenges encountered by Microsoft in the partnership-building process, which include misalignment of partnership objectives, limited capacity of partner organizations and insufficient communication with stakeholders.

Section eight concludes that successful partnerships require clear and aligned objectives, trust among the partners, strong internal capacity building, and effective communication with stakeholders.

Section nine provides recommendations for three specific types of stakeholders in the data-sharing ecosystem: large tech companies, partnership facilitators, and governments.

2. Background

2.1 Microsoft Corporation

Bill Gates and Paul Allen started Microsoft in 1975 to develop a compiler (a special program that translates a programming language's source code into machine code, bytecode, or another programming language) for early computers. At present, Microsoft is the world's largest computer software vendor, a leading Cloud computing, search, and online service provider. Since its inception, Microsoft has acquired over 225 companies, including 5 companies in 2022. Some of the notable acquisitions are listed in Table 1: Acquisitions by Microsoft.

Table 2: Acquisitions by Microsoft

Year	Company	Description
2022	Activision-Blizzard	Activision Blizzard became a division of Microsoft Gaming, making Microsoft the third-largest gaming company.
2021	Nuance Communications	Nuance Communications is the leading maker of speech recognition software 'Dragon Naturally Speaking'.
2016	LinkedIn	LinkedIn is a professional social media site, recently Microsoft announced plans to tightly integrate LinkedIn with its video conferencing software Microsoft Teams.
2013	Nokia	Nokia was the largest supporter of the Windows Phone operating system.
2011	Skype	Skype was a video and text messaging service from eBay.

2.2 Microsoft in Asia

Microsoft established its first office in Asia (Japan) in 1986 and there are over 40,000 employees representing over 60 nationalities currently working. There are two Microsoft research centers (in India and China), and 20 data centers are located in Asia. Microsoft's mission is to create technology to empower every person and every organization on the planet to achieve more. Microsoft has over 100,000 partners: governments, non-government organizations, enterprises, communities, and individuals in Asia to deliver Microsoft mission.⁴

The Company advances sustainability-related technology innovations in Asia, so their partners can change along with it. For instance, Microsoft launched an analytics platform, namely Digital Earth Pacific on Microsoft Planetary Computer (Planetary Computer combines a multi-petabyte catalog of global environmental data with intuitive APIs) to make informed decisions related to climate change, food security and natural disasters in the Asia Pacific region.⁵

2.3 Rationale for Microsoft's Selection

Microsoft Study was one of a series of case studies conducted by multiple organizations in this project with the intent of understanding the role that different entities play in data for development (i.e., these cases were selected from a mapping study in which we recorded various cases of entities engaging in data for development).

Microsoft is well positioned as a case study for the following reasons: **First, the organisation's immense financial means and network allow it to operate in several countries and regions, to develop its expertise in various sectors and industries (thus producing a range of data with diverse applications) and, most importantly for our study, to attract and engage with a wide variety of stakeholders –Government, private sector, international organizations-** range from the WHO, with which Microsoft is partnering for the development of the

³ <https://www.microsoft.com/en-us/Investor/acquisition-history.aspx>

⁴ <https://news.microsoft.com/apac/features/microsoft-in-asia-empowering-a-new-global-innovation-engine-that-is-transforming-economies-and-societies/>

⁵ <https://www.spc.int/DigitalEarthPacific>

World Data Hub.⁶ Over the past 40 years,⁷ Microsoft has assisted multiple government agencies with digital transformation and the International Centre for Integrated Mountain Development in a project on ecological monitoring using machine-learning.⁸

A key informant from Microsoft provided an explanation of its ability to operate in multiple countries without solely focusing on short-term high yields.

“What I see Microsoft doing is very different, and I see us [Microsoft] making investments that are a 10-year return, I see us going into countries that have very little tech skills.. We don't need an immediate pay off for the good things that we do. We can do good things, and wait for those things to have any commercial benefit for Microsoft.”

Second, Microsoft's commitment to data for development. Microsoft explicitly communicates its commitment to the production of data related to pressing social issues; indeed, many of the data-related partnerships in which it is involved (and there are many) involve some degree of social utility/philanthropy. The organisation also advocates making data as accessible as possible and bridging the data divide.⁹

Data-related partnerships for development is explained in the Microsoft sustainability development report in 2022:

“Microsoft and Avanade are collaborating with WHO to create the world's first comprehensive, end-to-end data solution for global health. This will allow us [Microsoft] not only to respond to current crises but also to identify systemic issues to inform policy, drive intervention, and save lives.”

⁶ <https://www.who.int/news-room/feature-stories/detail/fighting-infection-with-information>

⁷ <https://blogs.partner.microsoft.com/partner/microsoft-for-government-empowered-citizens-empowered-societies-empowered-governments/>

⁸ <https://s3.us-east-1.amazonaws.com/climate-change-ai/papers/neurips2020/57/paper.pdf>

⁹ <https://blogs.microsoft.com/on-the-issues/2020/04/21/open-data-campaign-divide/>

Third, Microsoft explicitly communicates its commitment to each SDG and covers a broad range of SDGs in its work.¹⁰ The organization currently places emphasis on four SDGs: SDG 4 (Quality Education), 8 (Decent Work and Economic Growth), 13 (Climate Action), and 16 (Peace, Justice, and Strong Institutions).

Microsoft established a new UN Representative Office in 2020 to deepen its support for the UN's mission and work. The UN representation team operated in startup mode and built relationships with the UN community to expand Microsoft's engagements. The team believes that the major challenges facing society (e.g. the achievement of the SDGs) can only be effectively addressed through multi-stakeholder action, and such action requires two elements to make progress: 1) international cooperation among governments and 2) inclusive initiatives that bring in civil society and private sector organizations to collaborate on solutions.¹¹ Microsoft emphasizes multi-stakeholder actions to achieve SDGs and such actions require government, civil society, and private sector collaboration.

This premise is further elaborated in the Microsoft and UN Sustainable Development Goals Report in 2022 as below:

"The challenges facing people and the planet are complex, and no individual company, industry, or country can solve them alone. That's why we work across sectors and borders to foster collective action and amplify impact, including through our work on the UN SDGs—driving progress faster and wider than we could on our own."

¹⁰ <https://www.microsoft.com/en-us/corporate-responsibility/un-sustainable-development-goals>

¹¹ <https://blogs.microsoft.com/on-the-issues/2020/09/17/microsoft-un-affairs-team-unga/>

3. Microsoft and the Sustainable Development Goals

This section discusses Microsoft's approach to the SDGs: the values the approach entails and how the organization engages individual SDGs.

Microsoft's mission is to "empower every person and every organization on the planet to achieve more". The organization is cognizant of the challenges brought about by an increasingly digital world, which it is committed to tackling by leveraging technology and innovations. The organization's relationship with the SDGs runs deep from leadership in international organizations to projects on the ground. Microsoft holds a commitment to each SDG, under which it commits to an array of engagements (of which some are data-related).

The organization also engages with the UN directly on the 17 goals: in 2020, formed a UN affairs team that has, over the last two years, working with the UN to advance the SDGs;¹² Microsoft President Brad Smith was appointed as an SDG Advocate by UN-Secretary General António Guterres, for which Smith's focus will be on environmental sustainability and tackling the digital skills gap.¹³ Microsoft details four guiding principles that inform its commitment to the SDGs: Support inclusive economic opportunity, protect fundamental rights, commit to a sustainable future, and earn trust¹⁴ and, as stated above, focuses on 4 SDGs: SDG 4 (Quality Education), 8 (Decent Work and Economic Growth), 13 (Climate Action), and 16 (Peace, Justice, and Strong Institutions). The next paragraph highlights Microsoft's data-related efforts under these SDGs.

Under SDG 4, Microsoft's efforts target "education institutions, educators, and students to enable inclusive, engaging, and immersive learning"¹⁵ The organization recognizes a need to help education keep up with technological developments so that students can leverage these upon graduation. To achieve

¹² <https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RWMGbt>, page 4

¹³ *ibid*

¹⁴ *ibid*

¹⁵ <https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RWMGbt>, page 14

this, Microsoft Philanthropies invests in providing teachers and students with digital skills.¹⁶ SDG 8 sees an emphasis on "equitable and inclusive growth spurred by access to technology", with Microsoft's support of over 250 nonprofits globally and the communities in which it operates, specifically to ensure that over 15,000 employees worldwide have access to skills training and opportunities.¹⁷ Microsoft believes that technology and the organization's role as a tech giant can play an instrumental role in advancing SDG 13; specifically target 13.2 (national policies that lay out measures to tackle climate change) and 13.3 (increased climate change literacy).¹⁸ Finally, under SDG 16, Microsoft engages in capacity-building in cybersecurity and advocates for public-private partnerships and international cooperation to deal with cyberspace-based criminal and terrorist threats.¹⁹

Microsoft's commitment to SDGs and the value of partnerships in achieving SDGs is explained in Microsoft sustainability report (2022)

"The Microsoft mission—to empower every person and every organization on the planet to achieve more—aligns strongly with the UN global agenda for sustainable development from 2015 through 2030. Partnerships will play a crucial role as vehicles for mobilizing and sharing knowledge, expertise, technologies, and financial resources".

4. Microsoft and Data Actions

This section highlights four data-related engagements by Microsoft: Machine Learning for Glacier Monitoring in the Hindu Kush Himalaya (HKH),²⁰ Microsoft Azure FarmBeats,²¹ Open Data Campaign²² and World Health Data Hub initiative.²³

¹⁶ ibid page 16

¹⁷ Ibid, page 19

¹⁸ Ibid, page 24

¹⁹ Ibid, page 28 & 29

²⁰ Visit <https://www.microsoft.com/en-us/research/publication/machine-learning-for-glacier-monitoring-in-the-hindu-kush-himalaya/>

²¹ Visit <https://www.microsoft.com/en-us/research/project/farmbeats-iot-agriculture/>

²² Visit <https://www.microsoft.com/en-us/corporate-responsibility/open-data?activetab=pivot1%3aprimar6>

²³ Visit <https://data.who.int/>

The following four data-related engagements provide an idea of the breadth and depth of Microsoft's work vis-à-vis data. They span a range of Microsoft organizations, partners, and regions and mostly center around data analysis, reporting and sharing. The first engagement (HKH) is Asia-specific; engagements 2, 3 and 4, are global (but still concerning Asia): Microsoft Azure FarmBeats, Open Data Campaign and World Health Data Hub initiative.

A common conclusion of the KIs was the commitment of Microsoft to its philanthropic work. The range of cross-cutting themes identified during the literature review across four projects discussed in this section corroborates this (climate change/ecological and geological vulnerabilities, food/water insecurity and the data divide). The following paragraphs explain how these cross-cutting themes are engaged with each relevant project.

The first engagement, launched in December 2020, involves Microsoft Research's participation in an effort to automate glacier mapping in the Hindu Kush Himalaya.²⁴ In addition to the obvious risk of rising sea levels due to glacier shrinkage, glacier monitoring is important because it is a vital source of freshwater for communities in the surrounding area. The glacier mapping tool developed for this project is a valuable tool for local communities in Asia and the world, it allows... researchers to monitor better glacier shrinkage in the face of rising sea levels and reduced freshwater, helping alleviate water insecurity in the region and loss of land due to expanding oceans.

The second engagement is FarmBeats, a system launched in Public Preview in November 2019 that leverages sensor data to provide farmers with real-time information about their farms, allowing them to better manage resources and maximize output. FarmBeats is currently used in two Asian countries (India and China) and if expanded across the continent, has the potential to massively

²⁴ Visit <https://s3.us-east-1.amazonaws.com/climate-change-ai/papers/neurips2020/57/paper.pdf>

benefit Asia's population in increasing farm output, and combat food insecurity; FarmBeats provides farmers in poorer countries with access to farm data. In front of erratic weather patterns induced by climate change, FarmBeats provides reliable weather, soil and plant data that can aid farmers in planning.

FarmBeats is a vital tool for Asia, given that the continent holds two of the world's biggest producers of food: India and China.²⁵

The third engagement is the Microsoft's Open Data Campaign, launched in April 2020. The campaign highlights Microsoft's commitment to bridging the data divide. Microsoft's initial steps on this were to develop guiding principles vis-a-vis Microsoft's approach to sharing data, collaborations involving data-sharing, and investment in infrastructure to facilitate data sharing.

The fourth project is the World Health Data Hub, a collaboration launched in 2021 between the WHO, Microsoft, and Avanade to build a consolidated platform consisting of global health data to/from which countries can upload/access predictions and visualizations from that data that can be used to inform health policy.²⁷ A system that facilitates collaboration and intra-country data sharing may be particularly beneficial for developing countries in Asia with poorer health infrastructure.

²⁵ Visit <https://www.weforum.org/agenda/2022/03/visualizing-the-world-s-biggest-rice-producers/>

²⁶ Visit <https://www.ses.com/why-closing-digital-divide-asia-important>

²⁷ Visit <https://www.weforum.org/agenda/2022/03/visualizing-the-world-s-biggest-rice-producers/><https://www.who.int/news-room/feature-stories/detail/fighting-infection-with-information>

Table 3 summarizes these data/SDG-related Microsoft projects.

Table 3: Data related Microsoft projects (source: desk research and key informant interviews)

Project	Data action	Description	The problem/gap filled by data action	Functions of the tool/project	Utility of the tool/project
Machine Learning for Glacier Monitoring in the Hindu Kush Himalaya (HKH)²⁸	Data Analysis, Data Reporting	Microsoft's role in this project was, through Microsoft Research, to help develop an approach to ecological monitoring (specifically, glacier monitoring) using machine learning.	Glaciers in the HKH region hold both ecological and socioeconomic utility, primarily as a source of freshwater. Global warming induced-glacier shrinkage is diminishing that freshwater flow and contributes to rising sea levels. The existing method used to monitor glaciers is too resource and time intensive.	Satellite imagery provided by the International Centre for Integrated Mountain Development (ICIMOD) to develop a dataset, baseline and methods used to automate glacier mapping. A glacier mapping tool was developed that enables the user to visualize predictions and create glacier maps.	The research/tool allows for quicker mapping of glaciers/monitoring changes, more effective water resources and glacier hazard/risk management.
Microsoft Azure FarmBeats²⁹	Data analysis, data visualization	It is widely recognized that global food production needs to significantly increase by 2050 (by 70% compared to 2010 levels). Optimizing sensors, and drones to provide accurate data on farm production so as to increase productivity and lower costs.	It is widely recognized that global food production needs to significantly increase by 2050 (by 70% compared to 2010 levels). Optimizing production on farms would provide some sort of recourse. This requires, in part, data on farm production. However, accessing farm data is difficult, especially in poorer countries, due to little or no electricity and internet access.	FarmBeats leverages use the following: sensors (for soil, plant, and weather data), drones (to provide imagery), TV White Spaces (a technology used to increase internet coverage), an Azure IoT Edge device (to process data, as opposed to uploading the data to the cloud for processing), and the Cloud (which aggregates and visualizes data for farmers). The system aims to improve the user's ability to better manage cattle, monitor storage, view crop field maps that display sensor data, and more.	FarmBeats is used in locations like India, Africa, China, and the United States. Lower costs and increased output can not only significantly improve the livelihood of farmers, but also increase overall food production globally to meet the 2050 target.
Open Data Campaign³⁰	Data sharing	The Open Data Campaign aims to tackle an increasing global data divide and aid organizations worldwide in leveraging the numerous benefits of data.	According to Microsoft, "fewer than 100 companies now collect more than 50% of the data generated by online interactions", leaving those organizations without access to such volumes of data. This poses a global issue: according to PwC, around "70% of the economic value generated by AI will accrue to just two countries: the USA and China", leading to socioeconomic inequalities of all sorts worldwide.	At the ODC's launch in April 2020, Microsoft detailed the following three steps: First, Microsoft would develop new guiding principles that will inform Microsoft's approach to sharing data (Open, Usable, Empowering, Secure, Private). Second, Microsoft laid out a commitment to start 20 collaborations that involve shared data, in which they would work with organizations in the open data space like Open Data Institute and The Governance Lab. Third, investment in "essential assets that will make data sharing easier, including the required tools, frameworks and templates" ³¹	Making data open and available to as many people as possible makes for better and more collaborative use of that data, which in turn can help combat global crises of all sorts. For example, a significant hindrance to responses to COVID-19 was inconsistency in data collection; the ODC's efforts are aimed at curtailing these kinds of issues.
World Health Data Hub³²	Data analysis, Data visualization	A collaboration between the World Health Organization, Microsoft, and Avanade, to produce a "comprehensive, end-to-end data solution for global health"	Data fragmentation is an impediment to solving global health-related issues because it makes it difficult for international organizations like the WHO to form complete pictures with which it can respond to crises. There is, therefore a need for a consolidated platform.	The Hub is currently in development, but here is what we know about it: the WHO positions it as the "new home of health data", a collaborative effort between the WHO and member states that will allow states to upload data and receive visualizations and predictions/forecasting accessible by policymakers and members of the public.	The tool would hopefully allow for quicker and better-informed policymaking and serve as a reliable source of data for academia

Table 3: Data related Microsoft projects (source: desk research and key informant interviews)

²⁸ <https://s3.us-east-1.amazonaws.com/climate-change-ai/papers/neurips2020/57/paper.pdf>

²⁹ <https://www.microsoft.com/en-us/research/project/farmbeats-iot-agriculture/> & <https://sinews.siam.org/Details-Page/farmbeats-improving-farm-productivity-using-data-driven-agriculture>

³⁰ <https://blogs.microsoft.com/on-the-issues/2020/04/21/open-data-campaign-divide/> & <https://theodi.org/project/microsoft-and-the-odi-helping-bridge-the-data-divide>

³¹ <https://blogs.microsoft.com/on-the-issues/2020/04/21/open-data-campaign-divide/>

³² <https://data.who.int/> & <https://www.who.int/news-room/feature-stories/detail/fighting-infection-with-information>

The data related to Microsoft Projects (Table 3) reveals that Microsoft's collaboration varies depending on the data actions. As a technology company, Microsoft provides technology or data in different cases. Microsoft brings Expertise to Open Data Campaigns, and they work as collaborators or conveners of the project. For instance, a key informant mentioned that Microsoft supports with Data Ecosystem Mapping Tools.

5. Enabling environment

This section of the report explores the enabling environment of Microsoft data actions. The section describes three enablers of data actions: trust, well-connected institutes within an organization and unpolitical facilitation for the private sector for its stakeholder engagements.

An enabling environment for data actions involves establishing favorable conditions and facilitating data sharing across various sectors, including public and private organizations. This conducive environment is critical for promoting positive change and removing barriers to achieving common data-sharing objectives.

The key informants of this study mentioned the factors that facilitate data actions by the private sector, including Microsoft.

5.1 Trust in data sharing

It refers to the level of confidence and reliability that organizations have in sharing their data with other organizations and governments. In data sharing, trust is a critical factor, as organisations need to be confident that data will be used ethically and in accordance with the relevant laws and regulations. Moreover, the trust can be built through accountability and effective communication between the data-sharing organizations, as the key informants mentioned.

As cited below, trust is a critical factor in successful data partnerships. It can be built by transparency, understanding the nature of the contribution by each party in the partnership, and by being clear on benefits for each party through partnering.

“There needs to be a level of transparency and trust to help things gel well and actually working on different data collaborations a lot of the work that we [Microsoft] did obviously it was over the pandemic was online and we were using the data ecosystem mapping tool with different groups. The groups groups that worked well together were the ones who were really familiar with each other and trust is probably another success factor in. But I think you help build trust by being transparent and understanding what each company or organization is bringing to a particular collaboration and their benefits”:
-key informant

Transparency is a key component of building trust in data partnerships. All parties involved must be clear and open about their goals, expectations, and limitations. This includes being transparent about data ownership, privacy, and security concerns. Understanding the nature of each party's contribution is also important. Each party should clearly define their role and their value to the partnership. This can help to avoid misunderstandings and ensure that each party benefits from the partnership. It's also essential to be clear on the benefits that each party will receive through the partnership. This includes defining the partnership's goals and how those will be achieved. A shared understanding of the benefits can help to build trust and ensure that all parties are committed to achieving the desired outcome, according to the above statement by the key informant. It therefore appears that trust will continue to be a critical factor that enables data partnerships.

Another key informant emphasized the importance of trust by equating it to the entire Microsoft business.

"When you operate as a hyperscale cloud provider, where I'm [Microsoft] running your Windows desktop in the cloud, I'm running your storage in the cloud. I'm running your security in the cloud. If I lose your trust, it is our whole business together."

The key informant further explained that it is crucial for Microsoft to prioritize trust in data sharing, even while complying with legal frameworks and regulations. Violating trust can have detrimental effects on Microsoft's relationships with stakeholders and its reputation, the interviewee mentioned.

Several other key informants also noted that trust is embedded in Microsoft's business model and all data partnerships with stakeholders. Microsoft's business model includes hyperscale Cloud services. Hyperscale Cloud services include computing services to many clients across the world. These services can be scaled up based on clients' demand and Microsoft needs to establish and maintain a high-level of trust with the clients to do it. The clients entrust Microsoft with their sensitive data and rely on Microsoft to provide secure and reliable computing services. To maintain this trust, Microsoft demonstrates its commitment to data privacy and security by being transparent about data practices.

Some key informants raised concerns about the negative perception of Microsoft in certain Global South countries, which is mainly attributed to Microsoft's status as a large technology company headquartered in the USA in the Global North. The negative perception of Microsoft in Global South countries has been deemed unfavorable and poses a significant challenge to the company's efforts to foster positive relationships with stakeholders.

5.2 Well-connected institutes within the organization

Well-connected institutes to enable data actions refer to departments or teams in the organization with well-established communication channels and data-sharing protocols. Regular communication helps to identify potential risks associated with data actions and data sharing protocols ensure that data actions are executed in compliance with ethical and legal frameworks.

Data actions have significant implications on data compliances, data ethics, data privacy and security. Data compliance refers to the extent to which data actions are in line with legal requirements such as data protection laws. Data ethics pertains to the moral principles that guide data actions. Data privacy refers to the protection of individuals' personal data, and data security insists technical measures are used to protect data from breaches.

According to a key informant, those elements (data compliances, data ethics, data privacy and security) need to be swiftly figured out by Senior Executives at Microsoft who are involved in data actions. These elements are functions of different institutes at Microsoft and the officer involved in data actions can easily approach those institutes, which ensures that Microsoft operates within the laws and ethical boundaries applied to data actions.

"... [in a large company] you can get buried in "call this person," "call that person," "I don't know, what about this?," "I'm not empowered to do that," you know, "there's some mythical creature somewhere that could approve that, but I don't know them". ... [as] a senior executive, you have to very quickly figure out who those players are [e.g.: those who monitor compliances at Microsoft] to operate within the law and within ethical boundaries".

Microsoft has established several institutes to enable data actions related tasks, and the offices responsible for such tasks can easily access these institutes due to their excellent connectivity.

5.3 Non-political facilitation for private sector

Private sector compels to work with multi-stakeholders, including the public sector on most of projects related to SDGs. In such situations, the UN plays a facilitating role in the conversations between the private sector and other stakeholders, which can raise concerns for the private sector regarding how to effectively convey their desires and goals in these partnerships. The key informants have noted that the private sector may struggle with understanding the UN language and the UN's perspective on business needs. Furthermore, the public sector often expects most of the funding for projects to come

from the private sector, paying less attention to other resources owned by the private sector. While the UN is focused on the political aspects of public-private partnerships, other organizations, such as the Organization for Economic Cooperation and Development (OECD) facilitate evidence-based conversations (and less attention to political aspects) to enable such partnerships. According to the key informants, a non-political facilitation approach is much needed to enable partnerships with the public sector, including data partnerships.

6. How Microsoft builds its partnerships

This section of the report provides details on Microsoft's partnership strategy, approaches, and its partnership with the government of India. These findings are derived from the key informant interviews and the literature review.

6.1 Microsoft partnership strategy and approaches

Interviews with Microsoft key informants revealed that, in order to achieve the SDGs, Microsoft's partnership strategy involves three levels of partnership: 1) country-level engagements, 2) regional engagements, and 3) UN Headquarters engagements. These partnerships are crucial for Microsoft to understand and address the unique challenges and opportunities in different regions and countries.

At the country level, Microsoft often relies on local partners who have superior knowledge and experience in the local context to lead implementations. These partnerships help ensure that Microsoft's solutions and initiatives are tailored to meet each country's specific needs and challenges.

At the regional level, Microsoft teams coordinate closely with country-level partners to gather input on issues and learn from other implementations. These partnerships help to share best practices and ensure that solutions are scalable across regions.

Microsoft teams who engage with UN Headquarters rely on information and insights gathered from the country and regional partners. These partnerships

help Microsoft to better understand global trends, challenges and opportunities and to ensure that its solutions and initiatives are aligned with the SDG agenda and the UN terminology.

Microsoft's stakeholder partnership strategy involves four approaches: 1) synergistic approach, 2) nurturing long-term relationships through the brand, 3) identifying complementary needs and strengths, and 4) developing a shared vision among stakeholders.

First, the synergistic approach focuses on identifying and leveraging the strengths and resources of each partner to create a more powerful and effective collaboration. Microsoft seeks partners who have complementary strengths and resources that can be combined with their own to achieve shared goals. The synergistic approach defines Microsoft's operations carefully to avoid competition with their partners, but rather enable them. This is achieved by defining Microsoft's mission in the ecosystem and by understanding the potential partners' business goals, challenges, and opportunities. Further, a synergistic approach sets Microsoft apart from other competitive organizations in the ecosystem. Key informants revealed that those competitive organizations interact with their partners using two contradictory practices: competing and collaborating.

A key informant from Microsoft explained their synergistic approach to collaborations:

"This is just how we [Microsoft] work. We are very careful about the way we define our business. So that we don't compete with our partners but we enable our partners. Hopefully, you can compare that with our competitors who do both."

Second, nurturing long-term relationships through the brand approach focuses on building strong, long-lasting relationships with partners. The approach aims to create a strong brand presence that inspires trust and confidence in its partners. Positive perception of the brand increases partnership opportunities and as a Corporate, Microsoft initiates public activities to build trust with governments and NGOs.

A key informant from Microsoft explained the value of the brand and its efforts to build long-term relationships:

"That's for experiences, is really about how customers feel about our brand and the more confident you are in our brand, the more you have positive feelings about our brand, the more willing you are to do business with us. And, you know, ultimately, we're not running a charity, we are running a commercial organization. So, if I can do things in the public sphere, that builds confidence in my clients and my trust with you as a government or an NGO, gosh, that's good public promotion too. And so that was very, very compelling".

Third, identifying complementary needs and strengths approach focuses on finding partners who have needs and strengths that complement Microsoft. It believes that by identifying these complementary aspects, Microsoft can create mutually beneficial partnerships with the potential to achieve greater results than either partner could achieve alone. Such partnerships can be initiated by an external organization that is interested in a particular social or technological challenge or by one of Microsoft's business units working on various challenges. For instance, Natural Language Processing (NLP) gained mainstream attention recently and the Government of India is interested in establishing a center for NLP. However, Microsoft researchers had been working on NLP for over two decades, and they collaborated with the government to establish such an institute, as mentioned by a key informant at Microsoft.

"When the government [of India] wanted to do this [establishing an NLP center], suddenly, there was a lot of interest in natural language processing. But these scientists, you know, have been working on natural language parsing for 25 years."

Another key informant emphasized that understanding others' needs is important in building partnerships. For instance, Microsoft focuses on understanding the barriers and challenges that the governments are facing and exploring ways in which Microsoft can provide assistance instead of simply presenting Microsoft services (e.g.: Cloud).

Fourth, developing a shared vision approach focuses on aligning everyone's goals in the partnership to have successful outcomes. This involves agreeing on resolving the problem and common objectives among the stakeholders. A key informant explained the shared vision among stakeholders in a collaborative process with the World Bank and Global Partnership for Sustainable Development Data (GPSDD). This collaboration focused on four types of needs in the process: supply, demand, governance, and finance. Microsoft committed to providing analytics and computer resources for the projects and worked with the World Bank and GPSDD at the country level to ensure projects were impactful, scalable, and meaningful to the country, with a focus on addressing data gaps of the SDGs targets and strengthening the data ecosystem. Microsoft provided the necessary knowledge and resources while developing a shared vision among stakeholders.

6.2 Microsoft's partnerships with the governments in India

This section of the report describes several partnerships initiated by Microsoft in India (which were mentioned by key informants of this study) and others were identified through the literature review.

Microsoft has partnered with Indian governments to drive innovation and create a positive societal impact through several projects. Some of the noticeable projects are AI for earth,³³ National digital health mission,³⁴ Education initiatives³⁵ and Digital transformation initiatives.³⁶

³³ "Microsoft. (2018, September 4). Microsoft announces AI for Earth grant recipients from India and deepens commitment to sustainability in the country from <https://news.microsoft.com/en-in/microsoft-announces-ai-for-earth-grant-recipients-from-india-and-deepens-commitment-to-sustainability-in-the-country/>

³⁴ "Microsoft. (2019, February 20). Microsoft shows the way to unlock full potential of AI for India <https://news.microsoft.com/en-in/microsoft-india-ai-whitepaper-age-of-intelligence/>

³⁵ "Microsoft, IITs collaborate to offer AI courses in India." The Economic Times, June 27, 2018. <https://economictimes.indiatimes.com/industry/services/education/microsoft-iits-collaborate-to-offer-ai-courses-in-india/articleshow/64752316.cms>

³⁶ "Microsoft, State Bank of India join hands to transform banking." The Economic Times, August 23, 2018. <https://economictimes.indiatimes.com/industry/banking/finance/microsoft-state-bank-of-india-join-hands-to-transform-banking/articleshow/65577701.cms>

For the AI for Earth program, Microsoft partnered with Indian organizations to apply AI and machine learning technologies to address environmental challenges in India. For example, Microsoft partnered with the Indian Institute of Technology Delhi to develop AI-powered tools for air quality monitoring, and with the in Wadhvani Institute for Artificial Intelligence to develop AI-based solutions for agriculture and water management.

The national digital health mission aims to create a unified digital health infrastructure across India, Microsoft provided technical support and expertise to the project and is working with the government to develop a range of digital health solutions, such as electronic health records and telemedicine services. The Indian Health Minister, Dr. Harsh Vardhan, has praised Microsoft's partnership with the National Digital Health Mission, noting that it helps to create a robust digital health infrastructure in India.

For the education initiatives, Microsoft partnered with Indian educational institutions to provide digital tools and resources for students and teachers. For example, Microsoft partnered with the Indian Institute of Technology Kharagpur to develop AI-based tools for education and with the National Skill Development Corporation to provide digital skilling programs for young people.

Regarding the digital transformation initiatives, Microsoft partnered with Indian businesses and government agencies to support digital transformation initiatives across various sectors, including finance, retail, and manufacturing. For example, Microsoft worked with the State Bank of India to develop digital banking solutions and with the Indian government's Ministry of Electronics and Information Technology to promote digital literacy and entrepreneurship. The CEO of the State Bank of India has praised Microsoft's work on digital banking solutions, noting that it will help to improve access to financial services for millions of Indians.

7. Partnership challenges

This section explains challenges encountered by Microsoft during partnership buildings as explained by key informants. The challenges they explained were misalignment of partnership objectives, limited capacity of partnering organizations and insufficient communication with stakeholders.

7.1 Misalignment of partnership objectives

Data partnerships can involve collaboration between two or more organizations from public and private sector. These sectors have potentially different goals and priorities. One common issue that can arise in data partnerships is a mismatch of expectations around partnership deliverables. For example, government representatives may set partnership goals that are driven by political priorities, such as winning re-election or satisfying a particular constituency. On the other hand, private sector partners such as Microsoft may prioritize frequent deliverables and concrete outcomes that can help drive their business objectives. These different expectations can create misalignments in the partnership. Partners may have different ideas about what constitutes success, how progress should be measured, and what level of investment and effort is required. For example, if the government partner is not fully committed to the partnership, they may not prioritize the partnership deliverables, leading to delays and a lack of progress.

7.2 Limited capacity of partnering organizations

The conversation around partnerships is not necessarily difficult for Microsoft, but it requires internal capacity in other stakeholders to do effectively, a key informant mentioned. Internal capacity building includes promoting leadership engagement in recognizing the value of data sharing and collaboration.

Building internal capacity for effective partnership is a crucial step for Microsoft to ensure successful collaborations with other stakeholders. As mentioned by a key informant, an organization leader's engagement is a key factor in promoting the value of data sharing and collaboration. Microsoft focuses on creating awareness and education around the benefits of partnerships and collaboration

to build this internal capacity. This could include training programs, workshops, and other initiatives aimed at promoting the importance of data sharing and collaboration. Another important step Microsoft involves is creating a culture supporting partnerships and collaboration. It also gains the full potential of these partnerships by promoting leadership engagement and creating a culture that supports collaboration.

7.3 Insufficient communication with stakeholders

Microsoft has developed a framework that outlines high-level steps for approaching data sharing for social good. It is designed to be flexible and adaptable to various scenarios, and it guides stakeholders on how to engage effectively with each other. The framework emphasizes that partnership challenges are not technical hurdles but rather effective engagement with stakeholders. This means that stakeholders must work together to identify common goals, establish trust, and communicate openly throughout the data-sharing process. It also encourages stakeholders to develop a shared understanding of the benefits and risks of data sharing and to establish clear roles and responsibilities for each stakeholder, as mentioned by a key informant.

Microsoft's data-sharing framework is designed to promote collaboration and transparency among stakeholders, and it provides a roadmap for approaching data sharing for social good. By emphasizing the importance of effective stakeholder engagement, the framework can help organizations navigate data sharing challenges and build strong partnerships that can drive positive social impact.

In addition, another key informant mentioned that Microsoft needs to be mindful of the complex geo-political landscape in which it operates and to carefully consider the potential impact of its actions and partnerships. The key informant referred to the impact of the WikiLeaks conversation on cloud service providers, which suggests the potential risks associated with using cloud services for sensitive information, especially in the context of geopolitical tensions. The key informant emphasised on the importance of understanding how partnerships can be used for unintended purposes, highlights the need for Microsoft to carefully consider the potential risks and benefits of their collaborations.

8. Conclusion

Microsoft is one of the world's largest technology companies, with a wide range of products and services spanning personal computing, gaming, enterprise software, and cloud computing. Its products and services are used by millions of people and businesses around the world. Microsoft has made significant investments in Asia, focusing on developing markets: India and China.

Microsoft has committed to achieving four SDGs (1. Quality Education; 2. Decent Work and Economic Growth; 3. Climate Action and 4. Peace, Justice, and Strong Institutions) using its technology, resources, and partnerships. In the Asia region, Microsoft has initiated four data partnerships: Machine Learning for Glacier Monitoring in the Hindu Kush Himalaya, Microsoft Azure FarmBeats, Open Data Campaign and World Health Data Hub initiative. These initiatives build open data available to many people for better and more collaborative use of data which in turn helps to achieve SDGs. Collaborative use of data inevitably demands for stakeholder partnerships.

The enabling environment of the above data actions is critical to the success of the company's data-driven initiatives. Trust, well-connected institutes within an organization, and unpolitical facilitation for private sector stakeholder engagement are three key enablers of data actions. Trust among the stakeholders is the key to success and Microsoft builds trust through brand equity. Building trust requires transparency, understanding the nature of the required contribution by stakeholders and being clear on the benefits of the partnership. The second element relates to the organization culture: well-connected institutes within the organization. Most of all, unpolitical facilitation for data partnerships by external parties has been vital for Microsoft. Widely mentioned facilitators are the UN and OECD. These stakeholders have high interest, influence, and power to facilitate partnerships for Sustainable Development. Microsoft closely manages relationships with such stakeholders; however, the Company desires evidence-based and less politicized conversations from the partnership facilitators. By establishing these enablers, data partner organizations can ensure ethical, effective, and responsible data partnerships.

Microsoft builds partnerships with other organizations to achieve a more significant outcome than what organizations could be achieved alone. The synergistic approach for partnerships identifies the needs and gaps of each partner and the Framework developed by Microsoft to guide partnerships is used to improve leadership qualities in partnering organizations. There, Microsoft plays a somewhat higher role in the partnership by improving partner capacity. Microsoft can bring technology, data, expertise, and capacity development to the partnership based on the requirements.

Successful data partnerships require clear and aligned objectives, strong internal capacity building, and effective stakeholder communication. The potential misalignments in partnership goals and priorities between different sectors, such as public and private, must be identified and addressed to ensure successful partnership. Building internal capacity for effective partnership involves promoting leadership commitment and creating an organisational culture that supports collaboration.

9. Recommendations

Table 4: Recommendations

Stakeholder	Recommendation
Large technology companies	<p>Build synergetic partnerships with other stakeholders in the eco-system. Synergistic approaches to partnerships identify and leverage the strengths and resources of each partner to create an effective collaboration. Large tech companies in the eco-system should define their value proposition so that it does not compete with other collaborators in the partnership.</p> <p>Include leadership training and capacity development programs for small players in the partnership.</p> <p>Foster trust among stakeholders in the partnership through consistent, transparent and reliable communication.</p>
Facilitators for partnerships (e.g.: UN, OECD)	<p>Use evidence-based practices to design and implement partnership strategies that lead to successful outcomes.</p>
Governments	<p>Set up specific goals and metrics for successful partnerships with the private sector. Clarify partner roles and responsibilities of private sector partners and align around private sector best practices of partnerships.</p>

Annex – I - List of Interviewees

1. Carlyne Nguyen – Director, Technology Policy at Microsoft
2. Justin Spelhaug – Vice President and Global Head – Tech for Social Impact, Microsoft Philanthropies
3. Mike Flannagan – Leading Global Customer Success at Microsoft
4. Sonia Cooper – Assistant General Counsel, Open Innovation Team at Microsoft and Vice President IP Federation
5. Sriram Rajamani – Managing Director, Microsoft Research India

Annex - II - Key Informant Interview Guide

The role of the private sector in the data revolution for sustainable development : A Global South Analysis

Introduction:

The International Development Research Centre (IDRC) is conducting a Global South study on the private sector contributions to accelerate Sustainable Development Goals (SDGs) through different data actions: Research, Data sharing, Data reporting, Impact assessment and measurement (e.g. support on SDG progress tracking, statistical support, etc.), Capacity building and skill sharing, Funding, Technical service provision and Data governance.

The study will produce 2 case studies to present the impacts of the above data actions. The impact of data actions will be examined to understand 1) What improved and to what extent 2) What didn't work, 3) Contextual factors that contributed to success or failures 4) Challenges faced and how they were overcome.

Objective of the case study:

To explore the context around which the organizations is able to work with data, work in partnership, the barriers and how to scale up partnerships.

[Note: This discussion guide serves as checklists for the interviewer so that s/he does not miss out on any important area of discussion. They are indicative and highlight areas of inquiry and the associated methods of questioning. All the questions should be asked in an informal manner, maintaining the flow of the conversation while interviewing. Look for examples in all the

Discussion guide <Microsoft offices>

Participant Consent

Introduction: Hello! I am _____ from LIRNEasia. LIRNEasia, together with CEPPEI (a Colombia based think tank working in South America), received a grant from the International Development Research Center (IDRC) to understand the role of private sector in the data revolution for sustainable development in the global south. Thank you for taking the time.

The aim is to explore the context around which your organization is able to work with data, work in partnership, the barriers and how to scale up partnerships.

In the final report the organisation name <Microsoft> will be mentioned, and we will either mention your overall comments or at times we may want to quote you by name, but in keeping with international practice if you do not wish to be named or identified, we will use insights of this interview in our report without naming you.

Our interview should take about an hour. To begin with, let me take you through the informed consent process.

Consent: Your consent to participate in the above study is sought. A consent form has been provided in which you can verbally agree to acknowledge that you know what the project is about and your role within it. Please ask us any questions you may have any time before, during, or after the interview. Do not hesitate to stop us during the interview if you have any doubts or questions.

Please seek the permission of the participants before recording.

Freedom to withdraw from the interview: You have the right to refuse consent or withdraw the same during any part of the interview without giving any reason, and without any prejudice on our part. You are also free to withdraw this consent at any point before, during, or after the interview, which will mean that any responses given by you will not be used during the analysis phase. You are also free to refuse to answer any questions during the interview.

Section 1: About the organisation/institute

- 1.1 Let us start with knowing a little more about you. Could you tell us a little bit about yourself?
- 1.2 Could you tell us about your organisation?
Probe: Organization objectives, role in the country/region, Being a global organisation and working with different regions
- 1.3 How do you describe the operating context/relevance of the

organisation?

Probe: Global/Region technological development, Development strategies in regions

1.4 How do you position your organisation in this operating context?

Section 2: About major initiatives and data actions by the organisation

2.1 Could you tell us about major initiatives, which involved public sector/private sector/civil society, international organisations?

[Data actions: Identifying data gap, Research component of the initiative, Data sharing, Data reporting]

Eg:

- 1) Machine Learning for Glacier Monitoring in the Hindu Kush Himalaya (Microsoft AI for Good Research Lab)

<https://s3.us-east-1.amazonaws.com/climate-change-ai/papers/neurips2020/57/paper.pdf>

Researchers utilized readily available remote sensing data to create a model to **identify and outline both clean ice and debris-covered glaciers from satellite imagery**, released data and developed a web tool, with the ultimate aim of accelerating the **glacier mapping process**.

- 2) Detecting Cattle and Elk in the Wild from Space (Microsoft AI for Good Research Lab)

<https://arxiv.org/pdf/2106.15448.pdf>

Project to localize and count hooved mammals like cows and elk.

Researchers **proposed a method that simultaneously estimates the number of animals in an image and predicts their location at a pixel level**. They also proposed a methodology for evaluating such models on counting and localization tasks **across large scenes** that **takes the uncertainty of noisy labels and the information needed by stakeholders in ecological monitoring tasks into account**.

- 3) Microsoft Azure FarmBeats

<https://www.microsoft.com/en-us/research/project/farmbeats-iot-agriculture/>
<https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RE4XHoJ>,
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This projects **harnesses data and AI to help farmers cut costs, increase yields, and sustainably grow crops** that are more resilient to climate change. FarmBeats collects data from multiple sources, such as sensors, drones, satellites, and tractors, and feeds it into **cloud-based AI models** that provide a **detailed picture of conditions on the farm.**

- 4) The World Health Data Hub

<https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RE4XHoJ>,
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<https://www.who.int/news-room/feature-stories/detail/fighting-infection-with-information>

- Microsoft is partnering with the WHO and Avanade to create the world's first comprehensive, end-to-end data solution for global health, which will reduce fragmentation, streamline processes, identify and resolve gaps and inequalities, and ensure data is accessible, findable and usable for all stakeholders.

- Additional data-related initiatives:

Global skills initiative in June 2020 to help 25 million people worldwide acquire the in-demand digital and foundational skills needed to succeed amid the economic impacts of the COVID pandemic

<https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RE4XHoJ>,

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- Green Software Foundation (launched May 2021) alongside Accenture, ThoughtWorks and GitHub to create green software industry standards drive awareness, grow advocacy, and accelerate innovation to enable

developers to reduce the carbon emissions of the software platforms that they build

<https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RE4XHoJ>,

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- **PhotoDNA**, a technology developed by Microsoft and Dartmouth College, aids in finding and removing known images of child exploitation.

<https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RE4XHoJ>,

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- **Microsoft Philanthropies** and **Microsoft Airband** partnered with gener8tor to offer virtual digital skills training for unemployed and underemployed job seekers for communities of color across the United States

<https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RE4XHoJ>,

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2.3 Why do you think partnerships [with private/government/civil society] are important?

Probe: Need for partnering, challenge, success

Note: Q. 2.4 to 2.10 are example questions. The moderator can explore different initiatives separately using example questions below.

2.4 Could you tell us more about < FarmBeats > initiative?

Prob: Significance of the thematic area of the initiative to the country/region, partnerships (Public, Private, Civil society)

2.5 Could you take us through the partnership building process (Public/Private/Civil society) in <FarmBeats> initiative?

Probe: Initiation of the partnership, Enabling factors, Official relationships, Personal relationships, Relationships with Civil society

2.6 Could you tell us about the 'data action' of <FarmBeats> initiative? [The respondent might not be familiar with the term 'data action'. In such instances, the moderator has to unpack it and ask relevant questions].

Prob: Data gap, the Research component of the initiative, Data sharing, Data reporting

- 2.7 Could you tell us about data philanthropy, providing technical assistance and capacity building activities related to <FarmBeats> initiative?
- 2.8 Could you tell us about technical service provision activities related to <FarmBeats> initiative?
- 2.9 Is the project ongoing? If not, why did it stop? What other stakeholders could you provide the output/data to?
- 2.10 Could you tell us about data governance/ data interoperability activities related to <FarmBeats> initiative?

Section 3: About the data action initiation

Note: Q. 3.1 to 3.7 are example questions. The moderator can explore different initiatives separately or as a whole using example questions below.

- 3.1 What were the general global/regional/thematic guidance documents, policies, corporate standards, etc that you used?
- 3.2 Who were the partners of data actions?
- 3.3 What role (if any) does the SDG agenda play in the data actions <Microsoft> pick?
- 3.4 Was private sector (other than Microsoft)/public sector/civil society data considered for this project? Why wasn't it used?
Probe: Private sector organizations, Specific government institutes, Individuals, Nonprofits, Civil society
- 3.5 What is <Microsoft's> strategy towards engaging with the private sector/Public sector/Civil society/ Nonprofit? Are these engagements typically one-off?
- 3.6 What is unique about <Microsoft> in these partnerships?
Probe: Networks, Expertise, Tech skills, Brokering role
- 3.7 Could you tell us about nature of the partnership?

Eg: Partnered from the design stage, Partnered at the implementation, Shared Un/conventional data sets, Adoption of new operational practices

3.8 Could you tell us about the coordination mechanism with those partners?

Probe: Common interests, Agreements/MoU, Knowledge and skill sharing, on the job knowledge sharing, Follow up mechanisms, Facilitators

Section 4: Data actions – impact assessment

[Note: Impact assessment can be done along 3 areas: 1. Operational impacts (changes in the way that you do business), 2. Ecosystem impact (analytic partnership and accelerator role) and 3. Methodological impact (new methods used)].

4.1 Could you tell us about data actions that worked well?

4.1.1 Did the project move beyond a pilot phase?

4.1.2 Is it sustainably established?

Probe: The context that facilitated the action, Guidance documents, MoU, Agreements, Facilitators, and Commitment by the institutes

4.2 Could you tell us about data actions that did not work well? and why?

4.3 Could you tell us about the impact of the data action/s that worked well?

4.3.1 Did you close a data gap?

4.3.2 Who used the data?

4.3.3 For what purposes have the data been used?

4.3.4 What are the direct impacts of data actions?

4.4 Did it support reforms by enabling the environment?

4.5 What were the benefits for the partners involved?

Probe: Tech skills, Capacity development

4.6 What were the benefits for the government partners?

Section 5: Data actions – cross cutting themes: gender

5.5 Could you tell us about the gender sensitivity of the data action?

Probe: Specific features of the design/implementation that addressed gender issues, Outputs

5.5.1 Did you consider gender issues at the design stage of the data action?

If yes, Probe: thematic area of the data action, partner selection, and individuals involved

5.5.2 Did you consider gender issues during the implementation?

If yes, Probe: Changes in the data action design, and partner selection during the implementation

5.6 Could you tell us about beneficiaries of gender-sensitive data actions?

5.7 Could you tell us about the impact of gender-sensitive data actions?

5.8 Could you tell us about the need for cross-cutting themes (such as gender, disability, Elderly, regional disparities, social inclusion) in data actions?

Section 6: Data actions – challenges and lessons learnt

Going forward in data collection:

Who do you think we should talk to:

- To understand operational level concerns of your initiatives?
- To understand your partners of different initiatives?
- To understand your relationships with external organisations?

6.1 Tell us about challenges faced when designing data actions? <if technical challenges like anonymization not mentioned by respondent, prompt>
Probe: Selection of thematic area, Selection of partners, guidance documents, legal environment

6.2 Tell us about challenges faced when implementing data actions?
Probe: Coordinating with partners, Technological skills

6.3 Tell us about challenges faced when disseminating data actions?
Probe: Communication barriers, Stakeholder interest

6.4 Tell us about challenges faced when up-scaling data actions?
Probe: Funding, Tech skills, Data availability, Stakeholder interest

6.5 Tell us about potential data risks of data actions.
Probe: Foreseen risks, methods of mitigating risks

6.6 Tell us about funding challenges of data actions
Probe: Adequacy, Funder influence, Sustainable funding

6.7 Tell us about challenges you face due to the nature/structure of the organization.

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