



# Microsoft India Social Impact Study:

Final report

Just Economics

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## About this report

This report provides a synthesis of the findings from Phase 1 of the Microsoft India Social Impact Study. It summarises the detailed findings set out in the interim report. Supporting information can be found in the Appendices, which are available in a separate document, and the accompanying draft Measurement Framework.

# Executive Summary

Microsoft India commissioned Just Economics to conduct a social impact study of the Microsoft Philanthropies India (MPI) portfolio for 2019-20. The study had two principal objectives:

1. Assess the overall performance of the portfolio
2. Develop a measurement framework that improves partner selection and enables impact to be demonstrated robustly.

The study was guided by the OECD/DAC evaluation criteria (OECD/DAC, 2019), with research undertaken between April 2020 and July 2020.

## About the MPI portfolio

India is one of the largest Microsoft Philanthropy investments in the world. The programme aims to reach one million people in India by 2025, focusing on six key areas: (1) Digital Skills for Employability, (2) AI for Good, (3) \$500, (4) Technology for Social Impact, (5) Humanitarian Action and (6) Employee Giving (areas 1-3 are in scope for this study).

Digital Skills for Employability has the largest number of projects and also the greatest investment of all the priority areas. There is a focus on 'depth' projects, with only one 'breadth' project in this workstream currently.

**'Depth'** projects are more intensive and aim to achieve transformational outcomes, such as gaining a first job, or certifications, and addressing barriers to reaching these outcomes (e.g. gender stereotypes, confidence, communication difficulties).

**'Breadth'** projects, on the other hand, aim to reach more people through a shorter intervention that can be delivered at lower cost and at scale.

## Findings

MPI has invested in a range of impressive partners and interventions that are likely to be making a significant difference to underserved individuals and communities in India. NPO partners have a good understanding of their local contexts and have developed multi-faceted interventions to help their target beneficiaries overcome the challenges they face.

There is qualitative evidence of effectiveness, but robust quantitative evidence, particularly around outcomes, is limited. This means that it is not currently possible to assess cost-effectiveness and the ability to make informed decisions about which interventions represent value for money is limited. Portfolio management would be greatly enhanced by the implementation of a consistent outcomes-focused measurement framework.

A difference in perspective on the value of breadth programmes has been identified between the country and global offices. The MPI investments have become increasingly focused on 'depth' programmes in response to the significant challenges and needs in the Indian context. In this way, MPI may deviate from the global mandate, which sets ambitious global throughput targets that are expected to be partly met by breadth programmes. Further exploration of the role of breadth programmes in delivering impact is advised.

Frequent shifts in strategy by Microsoft Philanthropies (global and regional) make long-term planning and achieving impact more challenging. They also pose challenges to implementing a consistent measurement framework.

Reporting requirements and incentives for MPI from global are currently not well-aligned with achieving impact. The majority of targets are output focused (e.g. number of beneficiaries, number of projects) and so risk encouraging throughput at the expense of quality, effectiveness and impact.

## Recommendations

Given the significant gap in data to assess effectiveness, the main recommendation is to implement a measurement framework that routinely gathers comparable outcomes data. To this end, a draft Measurement Framework has been developed (see separate report). Implementation of the framework would enable assessments of effectiveness, value for money and impact. This, in turn, should provide the MPI team with better quality information to manage their portfolio and drive impact.

To be successful, any system in country must align with reporting requirements at the Global/Area level. At present, reporting from country leads to global is focused on outputs. Reframing these reporting requirements around a set of core indicators, which includes outcomes, would ensure that country leads are incentivised to achieve impact.

In addition to the measurement recommendations, this study has a number of other recommendations including:

- Developing a clearer strategic understanding of routes to impact for investments by Microsoft Philanthropies globally, regionally and at country-level. Ensure that an assessment of impact is integrated into the grant application and assessment process for each investment
- Explore how, and what types of, breadth programmes can contribute to impact by catalysing a journey of change
- Ensure sustainability is routinely integrated into the grant-making process and, where necessary, support is provided to grantees around exit planning and achieving financial sustainability
- Apply a quality screening tool to streamline partner selection and grant-making.

# 1. Background and approach

Microsoft India commissioned Just Economics to conduct a social impact study of the Microsoft Philanthropies India (MPI) portfolio for 2019-20. The study had two principal objectives:

1. Assess the overall performance of the portfolio
2. Develop a measurement framework that improves partner selection and enables impact to be demonstrated robustly.

The study was guided by the OECD/DAC evaluation criteria (OECD/DAC, 2019). The OECD/DAC criteria are considered best practice with a 20-year track record of use by NGOs, bilateral and multilateral donors.

Table 1 sets out the criteria.

Criteria	Definition
Relevance	The extent to which the intervention objectives and design respond to beneficiaries', global, country, and partner/institution needs, policies, and priorities, and continue to do so if circumstances change.
Coherence	The compatibility of the intervention with other interventions in a country, sector or institution.
Effectiveness	The extent to which the intervention achieved, or is expected to achieve, its objectives, and its results, including any differential results across groups.
Efficiency	The extent to which the intervention delivers, or is likely to deliver, results in an economic and timely way.
Impact	The extent to which the intervention has generated or is expected to generate significant positive or negative, intended or unintended, higher-level effects.
Sustainability	The extent to which the net benefits of the intervention continue or are likely to continue.

Table 1: OECD/DAC Evaluation Criteria (OECD/DAC, 2019)

## 2. Methodology

The research was undertaken from April to July 2020 and consisted of three phases:

1. Document and literature review
2. Portfolio analysis
3. Primary research to develop Theories of Change (ToCs) and understand impact

Research activities are summarised in Table 2, with full details in Appendix 1.

*Table 2: Summary of research activities*

Phase	Objective	Activities	OECD/DAC Criteria
Document and literature review	Understand strategic priorities (global and local) informing development of MPI portfolio	<ul style="list-style-type: none"> <li>▪ Review of documents related to the Microsoft's global priorities as well as those relating to MPI</li> <li>▪ Review of academic/ grey literature around challenges in the Indian context, including around youth employment, gender and disabilities</li> </ul>	Relevance Coherence
Portfolio analysis	Describe MPI portfolio and assess performance	<ul style="list-style-type: none"> <li>▪ Review documents provided by MPI, including grant proposals, grant agreements and quarterly/annual reports by grantees</li> <li>▪ Map out allocation of investment across themes, types of project, target beneficiary groups, urban/rural contexts and a range of other key variables.</li> </ul>	Relevance Coherence Effectiveness Efficiency
Primary research	Develop Theories of Change (ToCs) (see below) Assess effectiveness and impact Assess NPOs experience of working with MPI	<ul style="list-style-type: none"> <li>▪ Interviews with internal Microsoft stakeholders (global, India) (n=11)</li> <li>▪ Interviews with NPO partners (n=10)</li> <li>▪ 'Deep dive' evaluations of 2 partners (SEEDS, Navgurukul), including development and execution of bespoke beneficiary surveys</li> </ul>	Relevance Coherence Effectiveness Efficiency Impact Sustainability

### 3. About the MPI Portfolio

India is an important market for Microsoft and, along with a 2% Legal CSR Spend Requirement for all foreign companies, is one of the largest Microsoft Philanthropy investments in the world. The programme aims to reach one million people in India by 2025.

MPI works to three sets of priorities - the Government of India's, Microsoft Philanthropies and Microsoft India – as set out in Table 3.

Table 3: Microsoft Philanthropies India priorities

Government priorities in India	Microsoft India priorities	Microsoft Philanthropies global mandate
Help Microsoft to become a trusted partner with Government and take programs to scale by mapping government interventions in the identified ministries.	Align with core values and mission of local business objectives	<ul style="list-style-type: none"> <li>▪ Societal Impact</li> <li>▪ Build image (socially responsible business model, and improved public perception on technology and AI)</li> <li>▪ Usage of Microsoft Technology and content</li> <li>▪ Scalability and adaptability</li> <li>▪ Business value in local region</li> </ul>

Bringing these together, the MPI is focused on six strands of work:<sup>1</sup>

1. Digital skills for employability
2. AI for Good
3. \$500
4. Technology for social impact
5. Humanitarian Action
6. Employee giving

Within these areas, there is a focus on several target populations. These are young people, women and girls, people with disabilities, remote geographies and underserved populations.

MPI seeks to achieve impact by investing in non-profit organisations (NPOs) that deliver effective programmes in the strategic priority areas and with the target populations.

MPI describes its approach as covering both 'depth' and 'breadth' projects:

- **'Depth'** projects are more intensive and aim to achieve transformational outcomes, such as gaining a first job, or certifications, and addressing barriers to reaching these outcomes (e.g. gender stereotypes, confidence, communication)

<sup>1</sup> Strands 1-3 are in scope for this study

difficulties, family challenges). These projects have a higher cost per person but have the potential to create more meaningful and transformative change.

- **'Breadth'** projects, on the other hand, aim to reach more people through a shorter intervention that can be delivered at lower cost and at scale. The emphasis is on acting as a 'catalyst' on a journey of change that may lead an individual to embark on further training or a career in computing/technology. This approach, although less impactful at the individual level, enables MPI to reach more people with limited resources.

### 3.1 MPI Investments in 2018-2020

This section summarises the investment portfolio of MPI for 2018-2020. The analysis was limited by the availability of outcomes data at the project, programme and portfolio level (see section 5.3).

In total, data for 13 projects was analysed. The majority of investments (10/13) were in the Digital Skills for Employability Stream. In addition, there is currently one active S500 project and two AI for Good projects in India.<sup>2</sup>

Table 4 summarises how these projects align with the target populations.

Target population	Number of projects
Girls/young women	6
Underprivileged youth/communities	5
People with disabilities	2
Rural	6
Urban	3

Table 4: Projects by target population, 2018-20

In the 2018-2020 period, MPI has made a total investment of ₹267,543,316 in its philanthropic programmes. Table 5 shows a breakdown of investments by workstream.

Programme area	Active Projects	Total grants 2018-2020	Average investment per project	Min. project investment	Max. project investment
Digital Skills for Employability	10	₹228,858,133	₹22,885,813	₹11,000,000	₹52,448,500
S500	1	₹18,999,975	₹18,999,975	-	-
AI For Good	2	₹19,685,208	₹9,842,604	₹4,741,588	₹14,943,620
Total	13	₹267,543,316	₹20,580,255		

Table 5: Investment by workstream, 2018-20

<sup>2</sup> AI for Earth grantees were out of scope for this report

Digital Skills receives the greatest investment across the biggest number of projects (10) (see Figure 1). Digital Skills also has the highest average investment per project at ₹22,885,813 together with the biggest investment into any one project for CyberShikshaa (₹52,448,500).

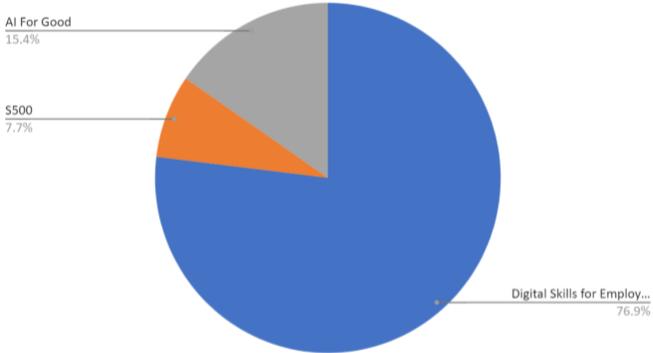


Figure 1: Proportion of investment by theme

## 4. Findings and recommendations

This section sets out the findings and recommendations in three parts:

1. Headline findings
2. Findings and recommendations against each OECD/DAC criteria
3. Measurement recommendations

### 4.1 Headline findings

The headline findings of the study are set out in Table 6.

*Table 6: Headline Findings*

Area	Finding
Quality of partners	<ul style="list-style-type: none"> <li>▪ There is evidence that the MPI team is investing in several impressive NPO partners that have a good understanding of their local contexts and have developed holistic programmes to transform the lives of underserved individuals and communities in India.</li> <li>▪ Given the importance of partner quality to achieving outcomes, it is important that country leads have an in-depth understanding of what makes a good digital skills programme and how to identify effective partners (a screening tool has been drafted for this purpose)</li> </ul>
Responsiveness to context	<ul style="list-style-type: none"> <li>▪ There is a high degree of awareness among the MPI team and NPO partners of the challenges and needs in the Indian context and comprehensive, holistic 'depth' programming to respond to these.</li> </ul>
Effectiveness	<ul style="list-style-type: none"> <li>▪ There is qualitative evidence of effectiveness, but robust quantitative evidence, particularly around outcomes, is limited. This means that it is not currently possible to assess cost-effectiveness and the ability to make informed decisions about which interventions represent value for money is limited. Portfolio management would be greatly enhanced by the implementation of a consistent outcomes-focused measurement framework.</li> </ul>
Reporting requirements	<ul style="list-style-type: none"> <li>▪ Reporting requirements and incentives for MPI from global are currently not well-aligned with achieving impact. The majority of targets are output focused (e.g. number of beneficiaries, number of projects) and so risk encouraging throughput at the expense of quality, effectiveness and impact.</li> </ul>
Strategy	<ul style="list-style-type: none"> <li>▪ Frequent shifts in strategy by Microsoft Philanthropies (global and regional) make long-term planning and achieving impact</li> </ul>

more challenging. They also pose challenges to implementing a consistent measurement framework.

## 4.2 Findings and recommendations by OECD/DAC criteria

This section sets out in more detail the findings and recommendations in relation to each of the OECD/DAC criteria.

### Relevance and Coherence

#### **Key findings:**

***There was high awareness of the key challenges/needs in the Indian context among the MPI team and NPO partners, and high-quality 'depth' programming that sought to respond to these needs.***

***A difference in perspective on the value of breadth programmes has been identified between the local and global offices.***

***There is no evidence that the MPI programme is displacing or duplicating other interventions. Needs and demand are high and the emphasis on depth programmes is providing meaningful routes into employment and technology careers.***

***Recommendation: Explore how, and what types of, breadth programmes can contribute to impact by catalysing a journey of change. This is best achieved where breadth programmes are nested within a clear progression pathway (both training/employment options and curriculum) for young people.***

Relevance and coherence are concerned with the extent to which interventions 'fit' with their context, both in terms of responding to beneficiary needs and the broader institutional and socio-economic context.

Table 7 summarises some of the main challenges and needs in relation to digital inclusion in the Indian context (for an extended discussion of these, see the literature review in the Interim Report [June 2020]).

Domain	Challenge/Need
Digital inclusion	<ul style="list-style-type: none"> <li>One of the largest and fastest-growing digital markets in the world (2<sup>nd</sup> only to China in terms of number of subscribers)</li> <li>Significant inequalities of digital access by location, income, gender, education, language and age</li> <li>Internet density score of 48.4, with over half of the population excluded and exclusion concentrated among women, those with low education/incomes and those living in rural areas</li> </ul>
Gender	<ul style="list-style-type: none"> <li>Significant gender digital divide, with less than a third of internet users female</li> <li>Gender digital divide is rooted in wider gender socio-economic inequalities</li> </ul>

	<ul style="list-style-type: none"> <li>India has one of the lowest female labour participation rates (35.4%) in the world and this has been in decline in recent years</li> <li>Literacy rate for women is 66%, compared with 82% for men</li> </ul>
Location	<ul style="list-style-type: none"> <li>Significant rural/urban divide in access (e.g. 21% of rural students used computers for academic purposes, compared to 70% of urban students)</li> <li>Literacy rate varies significantly by State (e.g. Kerala has a literacy rate of 94%, while rate in Bihar is 63%).</li> </ul>
Education	<ul style="list-style-type: none"> <li>Primary school enrolment has improved dramatically since start of century, but completion rate has plateaued in recent years (91% in 2018)</li> <li>Lower secondary completion rate has plateaued at 85%</li> <li>Dropout rates are highest among girls, those in rural areas and on low incomes</li> </ul>
People with Disabilities (PWDs)	<ul style="list-style-type: none"> <li>70% of people with disabilities live in rural communities, where digital exclusion is often most concentrated</li> <li>More likely to have left school early and to be lacking basic skills, with a 52% illiteracy rate</li> <li>Rights of Persons with Disability Act (2016) provides opportunities for progress</li> </ul>
Labour market	<ul style="list-style-type: none"> <li>High youth unemployment (30%)</li> <li>Significant underemployment and marginal employment, with 93% of workforce employed in informal sector</li> <li>Increasing need for digital/computing/technical skills</li> </ul>

Table 7: Digital inclusion challenges and needs in India

During interviews, both MPI staff and the NPO partners identified the overlapping challenges set out in Table 7 and the portfolio analysis confirmed that the projects were seeking to address many of these challenges (see Table 8 overleaf). The increasing focus on 'depth' programmes by MPI, in particular, was repeatedly discussed in terms of responding effectively to entrenched gender inequalities, the rural/urban divide and low levels of educational attainment in the target populations. There was skepticism about the ability of 'standard' training programmes, which do not seek to address wider needs, to effect meaningful change.

The emphasis on 'depth' programming means that, at present, MPI has one programme within its portfolio that could be described as a 'breadth' programme. This is one area where MPI may deviate from the global mandate, which sets ambitious global throughput targets that are expected to be partly met by breadth programmes in large markets such as India. However, the challenges in the Indian context are substantial and are considered by MPI staff to require a depth approach. Nonetheless, it should be possible to meet both objectives by exploring the potential for 'breadth' programmes that are explicitly integrated into a longer journey of change (e.g. feed

directly into depth programmes). For example, light-touch training that introduces a wide cross-section of young people to computing and digital skills could have the potential to attract individuals from underserved populations to further training/education in computing or technology and, ultimately, employment in these areas. These will work best where there are clear progression options (within and outside of MPI) for those with the interest and capacity to access them. The MPI team would benefit from mapping where such pathways exist and what 'breadth' approaches could act as feeders into these.

Although there are significant resources being invested in digital skills training from the public, private and non-profit sectors, these were still not seen as sufficient to meet the needs. Most organisations interviewed for this research were aware of other skilling initiatives but reported that many of these were not holistically supporting individuals to overcome the multi-faceted challenges they faced. There was a general consensus that there was no risk of duplication due to the scale of the needs and the lack of quality interventions to address these (though there was perceived to be a surplus of 'light touch' skilling initiatives).

The MPI team was aware of the need to understand other interventions and organisations in the broader context. At the time of this study, they were also undergoing a separate exercise with Sattva consulting to map potential NPO partners in the skilling and employability field.

Partner	% girls	Technical skills	Non-technical skills	English lang.	Gender sensitisation	Engage with families/communities	Inspiration/aspiration focus	Disability focus	Urban focus	Rural/remote focus	Support to secure job	Support to start enterprise
<b>Cyber-Shikshaa</b>	100%	✓	✓	✓		✓			✓		✓	
<b>AKRSP</b>	45%	✓	✓	✓	✓	✓				✓	✓	✓
<b>Going to School</b>	80% estimate	✓	✓				✓			✓		✓
<b>Aide et Action</b>	40%	✓	✓	✓	✓	✓	✓			✓	✓	✓
<b>Navgurukul</b>	50% (estimate)	✓	✓	✓	✓	✓	✓				✓	
<b>NASSCOM Foundation</b>	100%	✓	✓	✓		✓			✓		✓	

Table 8: Matrix of projects against need and context

## Effectiveness

**Key finding: There is qualitative evidence that MPI has invested in a number of high-quality interventions, but a lack of systematic data collection to evidence effectiveness quantitatively**

**Recommendation: Implement an outcomes-based measurement framework routinely with all partners (see Section 5.3)**

Effectiveness refers to the extent to which the intervention achieves its intended results, both direct and indirect, and across different groups of beneficiaries.

Most NPOs reported a broadly similar set of short, medium, and longer-term outcomes were achieved (as summarised in the theories of change in Appendix 2). Interview findings suggested that NPOs had each developed their own multi-faceted intervention to develop the digital skills of young people as well as the other skills they need to get started on a digital career path. NPOs reported young people progressing to more senior roles, setting up enterprises, and in some cases earning up to three times their starting salary. There were also reports of wider economic independence, or what one NPO referred to as 'financial liberty' such as paying for weddings, supporting their families. It was also reported that these qualified young people, who enjoyed career success, were equipped to become positive changemakers in their communities, should they choose to do so.

Culturally, there were reports of traditional views being challenged as a result of the outcomes of the training; young women becoming respected in their own families, having a voice, and inputting into decision-making. Beyond the family, there were reports of young women becoming role models for girls in their communities, suggesting a diffusion of female empowerment beyond the immediate trainees (and similarly for disadvantaged young men role modelling potential career paths). Data gathered by MPI also shows that 47% students are first generation graduates, or the first generation in their family to study beyond Std. 10<sup>th</sup>. Table 9 sets out the qualitative evidence of effectiveness gathered via the interviews.

### Qualitative indicators of effectiveness

- High-levels of awareness of complex needs of target beneficiaries
- Holistic programmes to respond to multiple needs (e.g. gender sensitisation, English-language, job placement, soft skills etc.)
- Learning culture, willingness to adapt to support continuous improvement
- Genuine passion and enthusiasm
- Numerous case studies of transformational change (e.g. progression to senior roles, becoming role-models in their communities, setting up their own enterprises, becoming female role models, girls finding their voice)

*Table 9: Qualitative evidence of effectiveness*

In addition, the 'deep-dive' evaluation conducted with Navgurukul provides comprehensive quantitative evidence of effectiveness and quality (see separate report

for full details).<sup>3</sup> The survey, which was completed by alumni that had undertaken the project prior to the start of the Microsoft grant<sup>4</sup>, showed significant employment and income gains as well as substantial improvements in well-being, confidence and on gender sensitisation measures (see Table 10). These improvements were recorded despite the survey being undertaken during the Covid-19 outbreak (June 2020).

Domain	Survey Finding
Employment and income	<ul style="list-style-type: none"> <li>100% placed in employment after graduating</li> <li>100% said that Navgurukul had helped them to find a job</li> <li>80% average salary increase (compared to prior to course) within 12-18 months of graduating</li> <li>150% average salary increase within 2-3 years of graduating</li> </ul>
Well-being	<ul style="list-style-type: none"> <li>Resilience measure ('I've been dealing with problems well') saw a more than two-fold increase in the percentage of respondents choosing 'all of the time' following the programme (14% to 36%)</li> <li>Significant improvements also on the 'feeling optimistic', 'feeling useful', 'thinking clearly' and 'able to make decisions' scales.</li> </ul>
Gender	<ul style="list-style-type: none"> <li>Improvements on 5/6 gender norm measures</li> </ul>
Satisfaction	<ul style="list-style-type: none"> <li>100% would recommend it to others</li> </ul>

Table 10: Selected findings from Navgurukul 'deep dive' survey

The data currently available to MPI from its routine data collection makes it difficult to robustly assess effectiveness. While there is a quarterly reporting template for NPO partners, completion of this is patchy. There is some output data (e.g. number of beneficiaries), but limited data on outcomes (i.e. changes that result from the intervention). Outcomes data is vital, if judgements are to be made about effectiveness. We strongly recommend, therefore, the adoption of the measurement framework developed as part of this commission (see 4.3 and separate Measurement Framework).

In line with OECD guidance, effectiveness should consider both process as well as outcomes effectiveness. Barriers to programme implementation were also discussed in interview and are summarised in Table 11.

<sup>3</sup> The deep-dive evaluation with SEEDS is still underway at time of writing

<sup>4</sup> The Microsoft grant had only commenced several months prior to the study. As such, it was too early to assess outcomes directly for the Microsoft cohort. However, as the programme has not been changed in any material way, the experiences of the previous cohorts were deemed to provide a suitable proxy for the likely outcomes of the Microsoft grant.

Table 11: Barriers to progression

Barrier	How it manifests	How it is overcome
Geography	<ul style="list-style-type: none"> <li>Many students (or perhaps student's families) were not prepared to move away from their community to take up a job. Moving to the city can also be overwhelming for the students and they can 'run home'.</li> </ul>	<ul style="list-style-type: none"> <li>Invest in family/community engagement</li> <li>Identifying opportunities for enterprise development within villages and home communities.</li> <li>Supporting those who moved to the city to take up a new job</li> </ul>
Discouraged students	<ul style="list-style-type: none"> <li>Students easily become discouraged if don't immediately find a job. The first 100 days are critical to maintain momentum and keep interest.</li> </ul>	<ul style="list-style-type: none"> <li>Identifying opportunities for enterprise development within villages and home communities.</li> <li>Soft skills training to increase employability</li> </ul>
Recruitment and retention	<ul style="list-style-type: none"> <li>Can be difficult to recruit and retain. Significant resource going into mobilisation and admissions (up to 50% of budget). However, this is necessary to recruit the right individuals and keep them engaged (consistent with literature findings).</li> </ul>	<ul style="list-style-type: none"> <li>Actively identifying young people, engaging with their families, and undergoing thorough screening process to explore motivations and commitment.</li> </ul>

Efficiency

**Key finding: There are clear examples of NPOs using resources efficiently. However, the lack of comparable data on outcomes means that judgements about relative cost-effectiveness of interventions cannot be made. This poses challenges for making informed and intelligent decisions about programming.**

**Recommendation: As above, implement an outcomes-based measurement framework to enable cost-effectiveness assessments to be made**

Efficiency describes the extent to which results are delivered in an 'economic' and 'timely' away. In this definition, 'economic' means financial and non-financial inputs being converted into outputs, outcomes, and impacts, in the most cost-effective way possible, as compared to feasible alternatives. 'Timely' means 'within the intended timeframe, or a timeframe reasonably adjusted to the demands of the evolving context'.

The interviews identified examples of NPOs seeking to ensure that resources were maximised. For example, NPOs described examples of leveraging scarce resources, such as utilising the alumni networks to help with the delivery of the programme. It was reported by other NPOs that it was not uncommon for students to return and become trainers on the course, which was beneficial as these individuals understood the context and the challenges the students faced. These young people can also act as role models and support the objectives of the programme to inspire students.

The interviews revealed that NPOs had often gone through the same learning curves and experienced similar false starts to their projects. Common challenges were difficulties in engaging and mobilising participants, considerable drop-out rates, and individuals' requiring support on soft skill development (as well as technical skills) to be able to secure employment. NPOs made changes to their approach and processes to address these issues. Microsoft is a good position to collate this learning and share it with NPOs to prevent the same mistakes being made and inefficiencies experienced at the start of projects.

AI for Good projects are currently costly to deliver relative to Digital Skills. This may be partly to do with the fact that the programme is new, but it may also be that the challenge of bridging the technology/social divide is time consuming and will require that level of investment long-term. However, AI for Good is also one of the means by which Microsoft hopes to achieve impact at scale and these investments may become cost-effective in the long-run when they achieve scale.

Quantitative data on efficiency is limited for projects in the MPI portfolio. Although spend data are available, the lack of comparable outcomes data (see 'Effectiveness') means that cost-effectiveness ratios, which require an outcome to spend ratio, cannot be calculated robustly.

This presents significant challenges for informed decision-making around partner selection and programming. Within the MPI portfolio, there is considerable variability in training duration and intensity of delivery of models amongst NPOs (e.g. from 2-3 months to a residential year). These models have different cost implications. However, without knowing their relative effectiveness, it is not possible to determine which represent the best value for money for MPI.

## Impact

**Key finding: There are a number of routes to achieving impact and it is not always clear how individual investments contribute to a broader theory of change around impact. Programming would benefit from greater clarity on the theory of change for impact at the country and global-level for Microsoft Philanthropies.**

**Recommendation: Develop a clearer strategic understanding of routes to impact for investments by Microsoft Philanthropies globally, regionally and at country-level. Ensure that an assessment of impact is integrated into the grant application and assessment process for each investment.**

Impact is the extent to which the intervention "... has generated or is expected to generate significant positive or negative, intended, or unintended, higher-level effects." These are the transformative effects of interventions that are long-term or broader in scope than those addressed earlier. This might include structural changes to policy, systems, norms, culture and so on.

Impact is an important concept to Microsoft Philanthropies and core to the objectives of the global programme. Impact enables the programme to achieve outcomes at

scale for relatively small investments, and there are various means by which this could be achieved as set out in Figure 2 and Table 12.

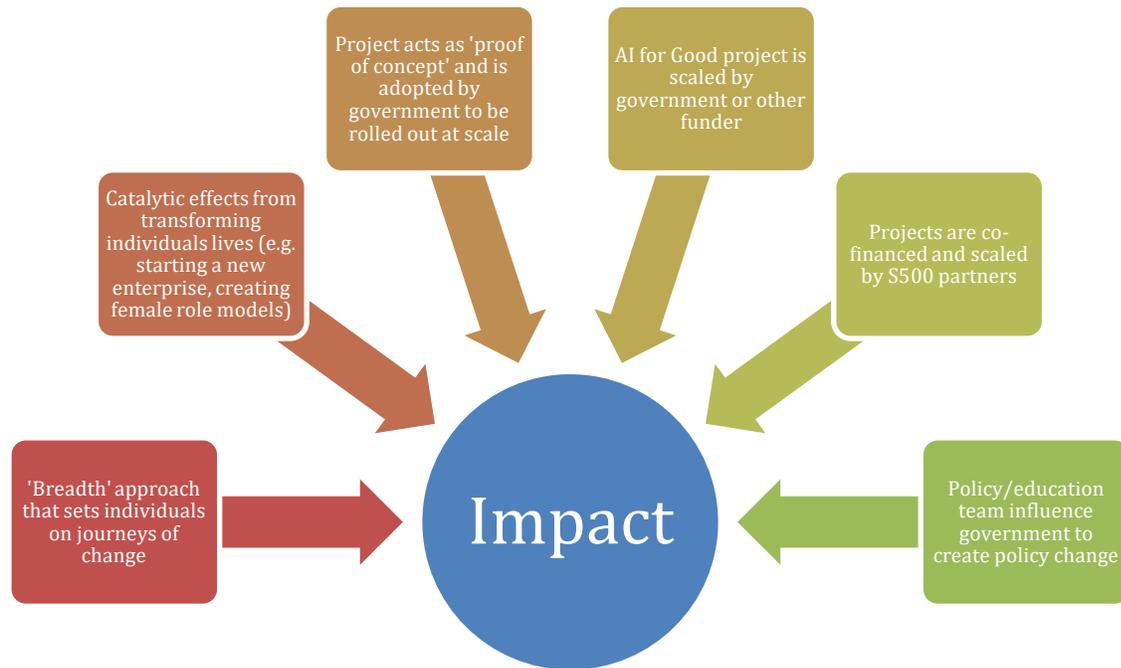


Figure 2: Routes to impact

Type of project	Route to impact
Proof of concept	<ul style="list-style-type: none"> <li>Can be either a 'depth' or 'breadth' project</li> <li>Impact can be achieved if government, or other funder, can be convinced to deliver at scale once concept has been proven</li> </ul>
Breadth	<ul style="list-style-type: none"> <li>Aim is to reach as large a number of individuals as possible with a light touch intervention</li> <li>Can lead to impact if successfully integrated within a journey of change that enables participants to access the next step</li> <li>Investment should only be made where the breadth project can be situated within a clear journey of change</li> <li>Has been a consistent feature of Microsoft Philanthropies programming (e.g. Hour of Code)</li> </ul>
Depth	<ul style="list-style-type: none"> <li>Intensive intervention with smaller number of individuals</li> <li>Can lead to impact either via proof of concept (above) or where transformational change in individuals leads to wider impacts</li> <li>Examples of wider impacts could include visible female role models that inspire other girls or shift gender attitudes/norms, establishment of enterprises that transform lives, creation of community changemakers.</li> </ul>

AI for Good	<ul style="list-style-type: none"> <li>Projects have significant upfront investment</li> <li>Impact can be achieved by reaching large number of beneficiaries within current project and potential application in other similar contexts regionally and globally</li> </ul>
S500	<ul style="list-style-type: none"> <li>Enables firms to pool their resources and reach new communities. These should combine to enable MPI to reach more people more effectively</li> <li>Projects can also function as a proof of concept</li> </ul>
Policy change	<ul style="list-style-type: none"> <li>Policy and influence teams can help achieve impact through policy change</li> <li>Linked to proof of concept, likely to be most effective where Microsoft can first demonstrate the efficacy of an approach.</li> <li>There may be more scope for MPI to work with the policy and education team to align these objectives more closely.</li> </ul>

Table 12: Routes to Impact

These routes are all potentially valid means of achieving impact. Key to effective programming is ensuring that there is a clear understanding of how investments will achieve impact. That is, at country-level, when individual investments are made in interventions there should be a theory of change around how the project could achieve impact. At present, it was not clear to us that this was systematically assessed within the grant-making process and we would recommend that it becomes a key part of the application and assessment process. To support this, clarity at the strategic level around these routes to impact would be helpful.

## Sustainability

**Key finding: Sustainability increases impact by ensuring lasting change. There was some emphasis on achieving sustainability, but this was not consistent across the portfolio. Investing in capacity building around sustainability could enable organisations to become more effective at raising funds from other sources.**

**Recommendation: Ensure sustainability is routinely integrated into the grant-making process and, where necessary, support is provided to grantees around exit planning and achieving financial sustainability.**

Sustainability relates to the extent to which the net benefits of the intervention continue, or are likely to continue, and includes an examination of the capacities of the NPO partners, governments, or other stakeholders to sustain benefits over time.

Microsoft aims to support organisations to 'graduate' from philanthropic support and become self-sustaining, either as an organisation or by ensuring the intervention is adopted at scale by government or by another funder. Whilst some partners (e.g. Navgurukul, Centum) had business plans, which could in principle become sustainable, this was less the case for others. Exit strategies were also not always in place, presenting a potential hazard given the tendency for short-term grants (e.g. 12-18 months) and

investment in several organisations for whom becoming self-sustaining may not be a realistic objective. As with impact, we would recommend that sustainability is explicitly assessed as part of the grant-making and reporting process. Becoming self-sustaining should not be a criteria for receiving a grant. However, plans should be put in place to ensure long-term financial sustainability (e.g. capacity building around finding other funders, grant applications). Good quality evaluation is a key area of capacity building that would benefit grantees to attract funding from other sources.

Another route to creating sustainability is through the AI for Good programme. The impetus for investing in SEEDs for example is in response to the rising cost and unsustainability of disaster response. The project currently underway would seek to build resilience to flooding in affected communities and reduce the need for ongoing investment in reconstruction.

## 4.3 Measurement findings and recommendations

### Data availability

**Key finding: One of the key findings to emerge from this study is that there is a lack of comparable outcomes data. This creates a challenge for programming, as the country lead must rely on qualitative reports of change and case studies to inform investment decisions.**

Robust quantitative data is currently only available in relation to the following output measures:

- Number of projects
- Number of beneficiaries (though this is patchy in places)
- Investment

Yet the qualitative research undertaken for this study points to significant outcomes for direct and indirect beneficiaries, as well as Microsoft, across the Skills for Employability, S500 and AI for Good areas. For direct beneficiaries, these outcomes span employment, income, well-being, confidence, health and empowerment. For Microsoft, the outcomes include improved brand perception, increased sales and increased likelihood of client retention. Appendix 3 contains a data matrix showing the outcomes identified for the Skills for Employability area and the corresponding gaps in data availability.

The lack of outcome data has implications for programme management and, ultimately, for achieving impact both for beneficiaries and Microsoft. Specifically:

- There is currently insufficient outcomes data to make robust assessments of effectiveness, cost-effectiveness, sustainability and impact.
- This, in turn, severely limits the ability to make evidence-based decisions about investments and programming. For example, MPI staff lack data on which

delivery models (e.g. high vs. low-intensity; residential vs. non-residential) represent value for money

- The ability of Microsoft to tell credible stories about impact is limited, given the increased expectation for robust evidence of outcomes and impact from philanthropic investments, and so the brand benefits are potentially curtailed

### Area/global reporting requirements

**Key finding: There is a risk that the emphasis on outputs in the reporting requirements from MPI to global (e.g. number of learners, number of \$500 projects) could compromise impact by incentivising throughput at the expense of quality and effectiveness.**

Reporting requirements from country leads to Global/Area are almost exclusively focused on outputs. The FY21 Area Scorecard, for example, for the \$500 and Skills for Employability priority areas has only one outcome measure (Numbers in Employment) with the remainder output measures (e.g. Number of Projects, Number of Intended Learners).

Outputs omit any measure of quality and effectiveness. In fact, outputs can lead to quality and effectiveness being compromised as programme managers are incentivised to increase throughput.

### Measurement and reporting recommendations

Data requirements at the Global/Area-, country- and project-level are different. However, in all instances some measurement of outcomes is required to ensure that quality and effectiveness can be assessed.

As part of this commission, we have developed a Measurement Framework (see separate standalone report for an outline of this) with recommendations for data collection at each of these levels. The goal was to develop an approach that minimises the administrative and cost burden of measurement, but nonetheless ensures that robust data is available for effective management at each level. To this end, at the heart of the framework is a 'Core Indicator' set that aims to collect key outcomes information in a succinct and comparable format (see below for the core indicators for each workstream).

Table 13 summarises the data requirements for effective management at each level and the proposed measurement activities (full details of these can be found in the accompanying Measurement Framework). At each level, resourcing and capacity-building should be provided to enable effective reporting.

*Table 13: Data and measurement requirements at Global/Area, Country-, and Project-level*

Level	Data requirements for effective management	Proposed measurement/reporting
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Global/Area	<ul style="list-style-type: none"> <li>High-level, comparable data on achievement of key outputs and outcomes in each country/area</li> </ul>	<ul style="list-style-type: none"> <li>Receive and aggregate reports from country-level against the 'Core Indicators' (see below) sets for each philanthropy priority area</li> </ul>
Country	<ul style="list-style-type: none"> <li>High-level, comparable output and outcomes data to assess performance of the portfolio as a whole and report to Global/Area</li> <li>More fine-grained outcomes data to assess cost-effectiveness and inform decisions about programme management</li> </ul>	<ul style="list-style-type: none"> <li>Ensure grantees are systematically collecting and reporting against the core indicator set</li> <li>Resource projects to undertake more comprehensive outcome data collection as required and appropriate</li> </ul>
Project/intervention	<ul style="list-style-type: none"> <li>Detailed outcomes information to ensure intended benefits are realised and provide necessary information for effective programme management that maximises impact</li> </ul>	<ul style="list-style-type: none"> <li>Measure against the Core Indicator set ideally at initial engagement, at the end of the programme and at regular intervals following completion</li> <li>Undertake additional outcome measurement as required for effective programme management</li> </ul>

The proposed Core Indicators are set out in Tables 14-17. These cover the demographic requirements, as well as high level outcomes for each of the three programmes. Further indicator sets for more in-depth monitoring are contained in the Measurement Framework.

*Table 14: Demographic indicators*

Question	Answer option
1. What is your age?	<i>Freetext box</i>
2. Which gender to do you identify with?	<i>a) man, b) woman, c) non-binary</i>
3. Do you consider yourself to have a disability?	<i>a) yes, b) no</i>
4. What is your highest level of education?	<i>a) third level, b) upper-secondary, c) lower secondary, d) primary, e) none</i>
5. Is the area you live in...	<i>a) mostly rural (small town, village or countryside), or b) mostly urban (large town or city)</i>

Table 15: Digital Skills for Employability Core Indicators

Question	Answer option
1. Which of the following best describes your current employment situation?	a) full-time paid employment with a contract, b) part-time paid employment with a contract, c) informal/casual employment, d) unpaid/voluntary work, e) full or part-time education, f) self-employed, g) unpaid homemaker/carer, h) unemployed.
2. For how many months have you been in this situation?	a) less than 6 months b) 6-12 months c) 13-24 months d) More than 2 years
3. What is your average annual personal income (that is, combined income from all sources)?	Expressed as an income scale for each country
4. Do you agree with the following statements: a) I have been feeling confident in my own abilities recently, b) I can make independent choices about the life I lead, c) I have been feeling optimistic about the future, d) I am motivated to pursue a career/further education that involves technology e) I am motivated to start my own business, f) I use computers regularly in my personal, social or professional life.	1= strongly agree, 2 = agree, 3=undecided, 4=disagree, 5=strongly disagree
5. How would you rate your own physical health at the moment?	a) excellent, b) very good, c) good, d) fair, e) poor.
6. All things considered; do you think your life in general has improved since you engaged in this project?	Yes/No
7. How attributable do you think any improvement in your life has been to your involvement in this project?	Scale of 1-5 where 1 is not at all and 5 is entirely as a result of training.

Table 16: AI for Good core indicators

Theme	Sub-theme	Indicators
Environment		<ul style="list-style-type: none"> <li>Number of rare and threatened species protected</li> </ul>

	Biodiversity and conservation	<ul style="list-style-type: none"> <li>• Number of invasive or pest organisms controlled</li> <li>• Quantity of natural resources conserved/reduced (water, land/soil, waste, natural forests, fish, non-renewable resources)</li> </ul>
	Climate mitigation	<ul style="list-style-type: none"> <li>• Quantity of CO2 emissions reduced/avoided</li> <li>• Quantity of other GHGs reduced/avoided</li> </ul>
	Climate adaptation	<ul style="list-style-type: none"> <li>• Number of households protected from adverse effects of climate change</li> <li>• Quantity of social infrastructure protected from climate change (roads, schools, hospitals etc.)</li> </ul>
Humanitarian	Material savings	<ul style="list-style-type: none"> <li>• Value of income losses avoided/incomes increased (total household incomes including reduced debt repayments)</li> <li>• Value of assets protected (e.g. housing or personal effects)</li> </ul>
	Physical Health	<ul style="list-style-type: none"> <li>• Volume of self-reported improvements in physical health (expressed on 1-5 scale)</li> </ul>
	Well-being	<ul style="list-style-type: none"> <li>• Volume of self-reported reductions in stress, anxiety and depression</li> </ul>
	Housing	<ul style="list-style-type: none"> <li>• Number of households prevented from becoming homeless/displaced</li> </ul>
Accessibility	Health, well-being, employment and inclusiveness outcomes for PWD	<ul style="list-style-type: none"> <li>• Number of PWD that experience digital/social inclusion as a result of the programme</li> <li>• Number of PWD that achieve grade improvements, educational attainment</li> <li>• Number of PWD that gain employment/better employment</li> <li>• Improvements in mental wellbeing</li> <li>• Improvements in physical health</li> </ul>

Table 17: S500 core indicators

Outcomes	Indicators/measures
<ul style="list-style-type: none"> <li>• Increase in account value</li> <li>• Improved client relationship</li> <li>• Improved client retention rate</li> </ul>	<ul style="list-style-type: none"> <li>• Monitoring of account value over time</li> <li>• Baseline and follow-up client relationship survey that includes questions on intention to change supplier and perception of Microsoft</li> </ul>

### Project selection recommendations

A key finding is the importance of high-quality partners that understand the context they are working in and can respond to the sizeable challenges they face. Staff have limited resource to invest in monitoring and are required to trust their partners to deliver. We have described how light touch measurement can support this process.

In addition, a more systematic approach to screening partners for quality could improve programme management. Table 18 provides a draft screening tool that could

be used to inform partner/project selection. We recommend that these criteria are shared with applicants to enable them to self-select and that they are then used to structure application forms and interview guides.

Table 18: Screening tool

Criterion	Related questions
Relevance and coherence	<p><b>General Context</b></p> <ul style="list-style-type: none"> <li>• How is your project responding to the social, cultural, political or economic context within which you operate?</li> <li>• Who are your competitors? Are there risks of duplication between your approach and others?</li> </ul> <p><b>Gender</b></p> <ul style="list-style-type: none"> <li>• What percentage of your clients are girls?</li> <li>• What is your approach to recruiting girls, and what factors do you take into consideration (e.g. targeting girls, engaging families and community)?</li> <li>• Do you have a differentiated/relevant approach to training girls? (e.g. to include role models, appropriate content, layout of room/design, confidence/self-efficacy, gender mix, patriarchal attitudes etc.)</li> <li>• How do you retain girls on your courses (e.g. emotional support, mentors, engaging families and communities)?</li> <li>• How do you ensure that girls take up progression options offered to them (e.g. in work support, identifying opportunities in own communities such as enterprise creation)?</li> </ul> <p><b>Disability/rural focus</b></p> <ul style="list-style-type: none"> <li>• Do you have a differentiated/relevant approach for PWDs and for those living in rural areas (recruitment, retention and progression)?</li> <li>• How do you manage the tension between individual and community outcomes (i.e. potential negative impact of young people leaving communities to improve life chances)?</li> </ul> <p><b>Holistic offer</b></p> <ul style="list-style-type: none"> <li>• What non-technical skills do you offer (e.g. English language, life skills, soft skills, communication, presentation, entrepreneurship)?</li> <li>• How do you ensure that material factors such as access to devices, internet connections and power stability do not act as barriers for clients?</li> </ul>
Pathways	<ul style="list-style-type: none"> <li>• Where does your course fit on the Digital Skills for Employability pathway (i.e. where in the journey of change are you for participants)?</li> <li>• If relevant, do you partner with any other organisations that are before you or after you on the pathway?</li> <li>• Do you offer support to alumni, or network them with each other?</li> <li>• Do you use alumni for training, mentoring or other support?</li> </ul>

Progression	<ul style="list-style-type: none"> <li>• What progression options are there for graduates and how can they access these?</li> <li>• How do you ensure that interest/motivation and positive attitude are maintained, and that young people do not become discouraged or lose their skills?</li> </ul>
Efficiency	<ul style="list-style-type: none"> <li>• How do you ensure that resources are used as efficiently as possible (i.e. how do you maximise spending to achieve outcomes)?</li> </ul>
Impact	<ul style="list-style-type: none"> <li>• How do you see your project aligning with/supporting the MPI theory of change?</li> <li>• Is your project one that could be replicated, scaled up or scaled out to other geographies? This could happen directly through reaching a large number of people or indirectly through developing proof of concept that could be adopted by government or other donors.</li> <li>• Is there potential for your project to contribute to wider structural/societal level changes?</li> <li>• How do you currently evidence impact? Are you open to monitoring outcomes in line with the Microsoft approach?</li> </ul>
Sustainability	<ul style="list-style-type: none"> <li>• How self-sustaining is your organisation (i.e. what proportion of your income comes from grants)? [note that organisations should not be penalised for 100% grant funding]</li> <li>• Do you have a plan to become more self-sustaining?</li> <li>• How would you envisage using the Microsoft grant to become more self-sustaining in the longer-term?</li> <li>• If becoming self-sustaining is not a realistic outcome, do you have another plan to ensure financial sustainability at the end of a grant from Microsoft?</li> </ul>

## 5. Conclusion

The MPI programme has invested in a range of impressive partners and interventions that are likely to be making a significant difference to underserved individuals and communities in India. The team has a high degree of insight into the challenges and needs in the Indian context and is undertaking programming that seeks to respond to these. The 'depth' programming within the 'Employability for Skills' area and the AI for Good project with SEEDS stand out as examples of high-quality interventions.

There is, however, a significant gap in data to evidence effectiveness and impact. While this study has produced qualitative evidence of effectiveness, there is a lack of robust quantitative data on the outcomes that result from the investments by MPI. This makes it difficult to make informed decisions about investments and ongoing programme management. For example, the team currently invest in projects with varied delivery models but does not have data to assess which of these is most cost-effective. As a result, opportunities for maximising social impact from the finite resources available to the MPI team are potentially missed.

To this end, the main recommendation from this study is to implement a measurement framework that routinely gathers comparable outcomes data, thus enabling judgements to be made about effectiveness, value for money and impact. This, in turn, should provide the MPI team with better quality information to manage their portfolio and drive impact.

To be successful, any new system in country should align with reporting requirements at the Global/Area level. At present, reporting from country leads to global is focused on outputs, such as 'number of learners' and 'number of projects', rather than outcomes. Reframing global/area reporting requirements around a set of core indicators, which includes outcomes, would ensure that country leads are incentivised to achieve impact. In fact, there is a risk with the current focus on outputs that country leads are incentivised to maximise throughput, even where this may come at the expense of quality, effectiveness and ultimately impact.

In addition to implementing the accompanying Measurement Framework, this study has a number of other key findings and recommendations, which are summarised in Table 18 overleaf.

Criteria	Findings	Recommendations
Relevance and coherence	<ul style="list-style-type: none"> <li>• There was high awareness of the key challenges/needs in the Indian context among the MPI team and NPO partners, and high-quality 'depth' programming that sought to respond to these needs.</li> <li>• There is a difference of opinion about the place of 'breadth' programmes, given the sizeable challenges in the Indian context.</li> <li>• The MPI investments provide additional value, rather than displacing or duplicating other interventions</li> </ul>	<ul style="list-style-type: none"> <li>• Explore how, and what types of, breadth programmes can contribute to impact by catalysing a journey of change.</li> </ul>
Effectiveness	<ul style="list-style-type: none"> <li>• There is qualitative evidence that MPI has invested in a number of high-quality interventions, but a lack of systematic data collection to evidence effectiveness</li> </ul>	<ul style="list-style-type: none"> <li>• Implement an outcomes-based measurement framework routinely with all partners</li> </ul>
Efficiency	<ul style="list-style-type: none"> <li>• The lack of comparable data on outcomes means that judgements about relative cost-effectiveness of interventions cannot be made. This poses challenges for making informed and intelligent decisions about programming.</li> </ul>	<ul style="list-style-type: none"> <li>• As above, implement an outcomes-based measurement framework to enable cost-effectiveness assessments to be made</li> </ul>
Impact	<ul style="list-style-type: none"> <li>• There are a number of routes to achieving impact and it is not always clear how individual investments contribute to a broader theory of change around impact. Programming would benefit from greater clarity on the theory of change for impact at the country- and global-level.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a clearer strategic understanding of routes to impact for investments by Microsoft Philanthropies globally, regionally and at country-level. Ensure that an assessment of impact is integrated into the grant application and assessment process for each investment</li> </ul>
Sustainability	<ul style="list-style-type: none"> <li>• Sustainability increases impact by ensuring lasting change. There was some emphasis on achieving sustainability, but this was not consistent across the portfolio.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure sustainability is routinely integrated into the grant-making process and, where necessary, support is provided to grantees around exit planning and achieving financial sustainability</li> </ul>
Measurement and reporting requirements	<ul style="list-style-type: none"> <li>• There is a lack of comparable outcomes data</li> <li>• There is a risk that the emphasis on outputs in the reporting requirements from MPI to global (e.g. number of learners, number of \$500 projects) could compromise impact by incentivising throughput at the expense of quality and effectiveness.</li> </ul>	<ul style="list-style-type: none"> <li>• Implement a measurement framework that is able to collect comparable output- and outcomes-data. The level of data should be appropriate to each management level (area/global, country, project).</li> <li>• Ensure resources are provided at country- and project-level to enable effective measurement and reporting</li> </ul>
Partner selection	<ul style="list-style-type: none"> <li>• Quality partners are vital to delivering outcomes and impact</li> </ul>	<ul style="list-style-type: none"> <li>• Use a systematic screening tool, such as the one proposed in this report, to guide grant-making</li> </ul>

Table 19: Summary of findings and recommendations

# Bibliography

Agrawal, A., & Asrani, C. (2018). Digital divide among the Indian households: extent and correlates. *Economics Bulletin*, 38(4), 2444-2466.

Agarwal, T., & Panda, P. K. (2018). Pattern of digital divide and convergence in access to ICT facilities among the Indian States. *Journal of Infrastructure Development*, 10(1-2), 37-51.

Alcott, B. & Rose, P. (2017). Learning in India's primary schools: How do disparities widen across the grades? *International Journal of Educational Development*. Volume 56, pp 42-51 <https://doi.org/10.1016/j.ijedudev.2017.05.002>

ASER. (2019). Main findings all India (rural) report. Retrieved from <http://img.asercentre.org/docs/ASER%202018/Release%20Material/aser2018nationalfindingsppt.pdf>

Economist (2020) *The Inclusive Internet Index* [available online] <https://theinclusiveinternet.eiu.com>

Government of India. (2019). Social infrastructure, employment and human development. In *Economic Survey 2018-19* (pp.251-278). Retrieved from [https://www.indiabudget.gov.in/economicsurvey/doc/vol2chapter/echap10\\_vol2.pdf](https://www.indiabudget.gov.in/economicsurvey/doc/vol2chapter/echap10_vol2.pdf)

Joshi, A., Malhotra, B., Amadi-Mgbenka, C., Loomba, M., Misra, A., Sharma, S., ... & Amatya, J. (2019). Gender and the Digital Divide Across Urban Slums of New Delhi, India: A Cross-Sectional Study. *Journal of medical Internet research*.

Khanna, K., & Chavan, V. (2017). Digital Divide: A Road Block for Digitalization in Rural India. *Political Economy Journal of India*, 26(2), 38.

Kumar, B. S., & Kumara, S. S. (2018). The digital divide in India: Use and non-use of ICT by rural and urban students. *World Journal of Science, Technology and Sustainable Development*.

Luk, C. Y. (2019). A Human Rights-Based Approach to Bridge Gender Digital Divide: The Case Study of India. In *Gender Gaps and the Social Inclusion Movement in ICT* (pp. 24-44). IGI Global.

Math, S. B., Gowda, G. S., Basavaraju, V., Manjunatha, N., Kumar, C. N., Philip, S., & Gowda, M. (2019). The rights of persons with disability act, 2016: Challenges and opportunities. *Indian journal of psychiatry*, 61 (Suppl 4), S809.

Rammohan, A., & Vu, P. (2018). Gender inequality in education and kinship norms in India. *Feminist Economics*, 24(1), 142-167.

Sinha, S. (2018). Gender digital divide in India: Impacting women's participation in the labour market. In *Reflecting on India's development* (pp. 293-310). Springer, Singapore.

Sipre, Y. S., & Malik, M. (2017). Bridging Digital Divide in India: Some factors and initiatives. *International Journal of Digital Library Services*, 2250-1142.

Tilak, J. B. (2018). What Matters for Outcomes in Elementary Education in India?. In *Education and Development in India* (pp. 163-202). Palgrave Macmillan, Singapore.

Trines, 2018 Education in India World Education News and Review [available online] <https://wenr.wes.org/2018/09/education-in-india>

Vijayan, A. (2019). Digital India–A roadmap to sustainability. *International Journal on Innovative Technology and Exploring Engineering*, 8(5).

White, G., Ruther, M., & Kahn, J. (2016). Educational inequality in India: an analysis of gender differences in reading and mathematics. *University of Maryland College Park, USA*.

World Bank, 2007 People with Disabilities in India: From commitments to outcomes [available online] <http://documents.worldbank.org/curated/en/358151468268839622/pdf/415850IN0Disab1ort0NOV200701PUBLIC1.pdf>

World Economic Forum (2019) *Global Gender Gap 2020* [available online] [http://www3.weforum.org/docs/WEF\\_GGGR\\_2020.pdf](http://www3.weforum.org/docs/WEF_GGGR_2020.pdf)