# Terms of Reference – Harnessing AI for impact by SMEs in Cambodia

**5 August 2026**

## Introduction

### GSMA

The GSMA is a global organisation unifying the mobile ecosystem to discover, develop and deliver innovation foundational to positive business environments and societal change. Our vision is to unlock the full power of connectivity so that people, industry and society thrive. Representing mobile operators and organisations across the mobile ecosystem and adjacent industries, the GSMA delivers for its members across three broad pillars: Connectivity for Good, Industry Solutions and Events.

### GSMA Mobile for Development Foundation

The GSMA Mobile for Development Foundation, Inc. ("GSMA") is a U.S. 501(c)(3) charitable organisation. The Mobile for Development team (M4D) operates at the intersection of the mobile ecosystem and the development sector. Our aim is to stimulate digital innovation and deliver both sustainable business and large-scale socio-economic impact. Our research and insights platform, in-market expertise and community of partners push forward digital innovations and implementations that empower underserved populations. To date, we have impacted the lives of over 260 million people.

### Central Insights Unit

The Central Insights Unit (CIU) sits at the core of GSMA M4D. It produces thought-leading research on frontier technologies, digitalisation and society and the impact of mobile and digital technologies in sustainable and inclusive development. The CIU works closely with the UK Foreign, Commonwealth and Development Office (FCDO) and the rest of M4D to ensure that research highlights the role of mobile technology as an enabler, draws on the expertise GSMA holds and builds capacity within the FCDO.

## Research Context and Rationale

The project aims to understand how the use of artificial intelligence (AI)-enabled solutions by small and medium enterprises (SMEs) in the digital health and energy sectors in Cambodia, and examine how AI can amplify their social and economic impact and expand their reach to underserved and last-mile populations. The use of AI can help create impact through multiple pathways: scaling existing solutions and expand outreach to new and underserved markets; providing customised recommendations or interventions tailored to customers; increasing the accuracy and decision-making capabilities of digital tools; identifying trends early to reduce the time taken to deliver services (in the case of public health or education); and improving the allocation of existing resources to reduce costs and decrease wastage.

The study will focus on how SMEs are using or have the potential to use AI in two key sectors: digital health (looking at areas like health diagnostics, preventive care, and telemedicine), and energy (exploring how AI can help expand energy access to remote areas and scale renewable energy use). The output will support Cambodia's Ministry of

Industry, Science, Technology & Innovation (MISTI) to strengthen the digital transformation of SMEs, aligned with Cambodia's national research agenda. It will also help inform the internal strategy and development plan of the Cambodia post of the FCDO.

International development organisations and ecosystem partners including UNESCO, UN-ESCAP, and ADB have developed a body of research on the evolving AI ecosystem and the role of SMEs in Cambodia. A study by UNESCO examines the readiness of the Cambodian AI ecosystem to adopt the technology at scale across different key sectors, while UN-ESCAP's reports outline key considerations in building an ethical, innovative and culturally grounded AI ecosystem. A report by ADB has analysed the status of digital adoption by MSMEs in Cambodia, highlighting key barriers and potential solutions for narrowing the digital divide.

Our proposed study will provide an overview of the digital and AI ecosystem in Cambodia, focusing on the potential impact of AI adoption for SMEs both in their internal operations (increased operational resilience, reduced costs) as well as the impact they create through the services delivered and their market reach (through data-driven customer insights, demand forecasting, etc) especially at the last mile. The research will focus on established formal SMEs, whose digital maturity and operational stability allow for meaningful adoption of AI technologies.

The research will include considerations around the inclusive and responsible use of AI so that it benefits underserved groups including women and indigenous groups, among others. It will also discuss the tangible risks that AI adoption brings, such as potential job losses from the automation of specific tasks, as well as associated risks around digital exclusion, data privacy, and increased vulnerability to frauds and scams.

## Digital transformation of SMEs in Cambodia

SMEs are a critical part of Cambodia's economy, accounting for a staggering 99.8% of all companies and 58% of the country's GDP. Most of these enterprises operate informally, with just 6.5% of micro enterprises being registered. While this trend of informality has been declining over the past decade, despite the temporary effects of the Covid-19 global pandemic, informal enterprises continue to account for nearly 88% of all businesses. The informality of enterprises is associated with challenges in accessing formal credit and markets, as well as being excluded from business support or capacity building schemes offered by the government. Access to formal credit is important since adopting AI systems and the investments in talent they require involves high upfront costs that might not be accessible through informal credit. This may especially be the case in sectors such as health and energy that also require considerable investments in digital devices and infrastructure.

Despite their economic contribution, few Cambodian SMEs have adopted digital tools or advanced technologies in their business. Some of the barriers to digitisation include a lack of awareness about technologies and platforms among SMEs as well as their customers, inadequate technical skills, limited market demand, and inadequate credit to invest in digital tools. Beyond these barriers, SMEs that are located away from urban and peri-urban areas face additional barriers such as access to affordable devices, mobile internet connectivity, and digital literacy, along with high infrastructure costs. Access to smartphones and mobile internet are key enablers for the use of AI, and while the uptake of smartphones in Cambodia has been steadily increasing over the past decade, most connections are either 4G or 3G. Data and AI processing speeds can be further reduced by the uptake of 5G

services, which currently account for just 7.5% of the total phone connections as of 2026. Further, according to the GSMA Mobile Connectivity Index Cambodia has one of the lowest handset affordability scores among the ASEAN countries, highlighting a key barrier to digitisation. These barriers must be addressed to pave the way for SMEs to eventually adopt advanced technologies like AI.

## The AI ecosystem in Cambodia

The government of Cambodia has identified AI as a key enabler in achieving its national development vision of moving towards becoming a high-income, innovation-driven economy. Cambodia is an early stage of AI adoption and development, with limited availability of the key resources of data, compute, and skills. However, the country has already put in place several key strategies and policy frameworks to lay the foundation of AI development, such as the Cambodia Digital Economy and Society Policy and the Cambodia Digital Government Policy 2022-2035. These policies focus on infrastructure and skill development, data collection, and internal coordination.

The government also published Cambodia's draft National AI Strategy for comments in June 2025. The draft strategy outlines strategic directions for AI development within key sectors such as education, agriculture, finance, and health, and stresses the importance of including ethical and responsible AI principles in Cambodia's approach to building AI systems. A 2025 report on inclusive AI innovation in Cambodia by the UN Economic and Social Commission for Asia and the Pacific (ESCAP) also highlights some unique approaches to AI that bring together the country's economic and development goals with principles of ethical, inclusive, and responsible AI. The term 'Generous AI' is an example of AI rooted in the Buddhist values of societal well-being, reduction of suffering, and the spirit of generosity. Another complementary approach to 'Green AI', which involves the development of energy-efficient models to address environmental challenges.

In developing Cambodia's AI ecosystem, the government must overcome several systemic barriers to inclusive AI development that exist across LMICs, such as infrastructure and compute constraints, human capital deficits, data ecosystem gaps, as well as governance challenges and weak coordination between different players. SMEs that adopt AI-enabled tools must grapple with additional challenges such as uneven digital connectivity, power supply issues, climate-related events, and the lack of linguistic representation in datasets.

## Significance of low-tech and low-cost AI innovation in Cambodia

Given the informal nature of the Cambodian economy and the nascent level of digitisation among enterprises, including SMEs, the Economic and Social Commission in the Asia Pacific (ESCAP) in its report on inclusive AI development in Cambodia has stressed on an inclusive and low-tech approach to developing AI tools. The high-cost and high-innovation approach would overlook most of the economy and not serve the segments that would benefit the most from digital transformation. Further, Cambodia has limited domestic high-performance computing (HPC) infrastructure, which is essential for AI, and many AI projects rely on cloud platforms hosted outside the country, suggesting that AI solutions be designed keeping the mind the infrastructure and connectivity constraints. Rolling out AI adoption without customising AI tools and systems to the local context in Cambodia risks further alienating those that are digitally excluded. AI-led innovations must be 'frugal', i.e. designed for low bandwidth, with local-language processing, and with accessible mobile interfaces to ensure that they are inclusive and accessible by all.

This is particularly relevant in the case of SMEs, where the lack of funds and resources are key barriers to the adoption of advanced technologies. Many SMEs currently rely on global cloud credits and free online resources (such as large language models) which are not always customised to the Cambodian context, to build their AI solutions. Other factors include the inadequate access to electricity, access to devices, and digital literacy levels outside of urban areas, where a bulk of the last-mile customers in the health and energy sectors would be. For SMEs to expand their reach to their untapped markets the focus must be use cases that also have offline or low-tech functionalities. Further, data and compute resources available to SMEs must be affordable and resilient, i.e. tailored specifically to local conditions.

## Risks associated with AI adoption among SMEs

As we explore the potential positive impacts for SMEs adopting AI-enabled solutions, it is also important to consider various risks it poses for SMEs. The adoption of AI requires high upfront costs as well as investments in skill development and compute, which are significant for enterprises that are already highly resource strained. UNESCO's AI Readiness Assessment Report flagged that Cambodia faced a high risk of job loss due to AI, owing to its workforce being concentrated in sectors and tasks that are manual and in a low-wage bracket. This can severely impact livelihoods that currently depend on the SME sector. On the customers side, the introduction of AI in services could potentially exclude the very segments that the tools are designed to serve. Tools that are limited to just English or require digital skills will no longer be relevant for customers that are not digitally literate. SMEs adopting AI may also be exposed to operational risks, such as data privacy concerns, vulnerability to online scams or frauds, and lack of compliance with data governance requirements, given that most SMEs still have low levels of digital literacy and awareness of technologies.

## Priority sectors for the research

Existing research on the digitisation of SMEs in Cambodia and the potential of AI adoption is primarily focused on economically significant sectors such as agriculture, food processing, tourism, and finance. This study proposes to prioritise two sectors, health and energy. These sectors align with the country's national development agenda, have significant gaps where there is a potential for digital transformation, and present an opportunity for SMEs to expand their reach to underserved markets and benefit from economic as well as social development outcomes.

### Health

The Ministry of Health has stressed the need to invest in building the digital foundations for technology use in the delivery of healthcare, through investments in digital infrastructure, digital literacy, interoperability among departments, and strengthening data governance. However, this must be accompanied by promoting the accessibility and readiness of the wider healthcare infrastructure, through the digitisation of health records, increased access to local language datasets, building digital literacy among healthcare workers, and developing data privacy regulations to safeguard healthcare providers as well as patients. On the demand side it is important to assess the digital readiness of those living rural and peri-urban areas to be able to adopt digital health tools.

AI has the potential to create impact by helping healthcare systems manage growing demand while making better use of limited financial and human resources. This may be in

the form of reducing the burden of administrative tasks, bridging gaps in the availability of health professionals, providing diagnostics support, and using telemedicine to expand access to healthcare in rural areas and last-mile areas. This study will aim to identify high-impact AI use cases that can be adopted by SMEs to improve their services and expand the markets that they are able to reach. Indicative use cases include:[1]

- AI-led health education and training for medical professionals
- Health diagnosis and early detection using AI-assisted medical devices
- AI-supported mobile health and clinical decision-making
- Leveraging AI to build local language datasets and utilising indigenous health data

**Energy**

Energy, and specifically reliable energy supply is another key area outlined in Cambodia's national research agenda. Cambodia relies heavily on coal and oil sources for its energy supply, with coal accounting for 60% of the energy generation in the country. While Cambodia has significantly expanded its national electricity grid over the past decade, with more than 95% households having access to electricity, affordability has been a key barrier for many rural households which continue to rely on firewood and small-scale solar home systems as their primary sources of energy. The country has also been investing in increasing its domestic production of renewable energy such as hydropower, wind turbines, and solar panels, and has set a target to increase the share of renewable energy in the total energy generated to 70% by 2030, from the existing share of about 60%.

AI has the potential to address some of the critical challenges around access and affordability that are faced in the energy sector. For instance, AI can help develop smart grids that can manage supply and demand of electricity in real time, to reduce losses and improve the efficiency of the overall grid and increase access to energy for last mile customers. It can also play a role in better integrating renewable energy in the national grid by forecasting renewable energy generation using variables like weather data.

Cambodia's National Energy Efficiency Policy 2022-2030 encourages SMEs to adopt smart technologies, data management systems, and automated forecasting to reduce their carbon footprint and optimize power distribution. SMEs using AI can leverage the existing digital foundations such as mobile connectivity, digital payment systems, and IoT-enabled solar assets to expand their services to remote areas to serve last-mile populations, through use cases like customer analytics to identify business models for low-income households, monitoring solar energy systems remotely, and forecasting customer demand. This study will examine use cases including:[1]

- Smart energy management through IoT sensors and AI-enabled solutions, especially in rural areas
- Leveraging AI for energy demand forecasting to map consumption patterns
- Predictive credit scoring for off-grid solar and renewable energy use

[1] Further details about the priority areas within each sector will be provided by the GSMA during the contracting process.

## Research objectives and questions

The overall objective of the project will be to provide actionable recommendations to support the adoption of AI and digital tools by SMEs in Cambodia. The primary audience will be the FCDO office in Cambodia, MISTI and MISTI's National Research Foundation, and the study will inform their short-term programming and long-term strategies. The research will also be relevant for other government departments as well as ecosystem stakeholders such as SMEs, organisations that support and fund SMEs, capacity building organisations, and local research and academic institutions.

The research will seek to answer the following questions:

1. What is the current state of digital and AI adoption among SMEs in Cambodia?
    - To what extent are SMEs in Cambodia building or adapting AI tools? What are the key use cases of AI tools among SMEs?
    - How does AI use vary by location, firm size and maturity? Is the trend similar or different among women-owned SMEs?
    - What are the key use cases where SMEs are using AI in the health and energy sectors?

2. What are the potential impacts of using AI-enabled solutions on underserved and marginalised populations in Cambodia? (focused on the health and energy sectors)
    - What role does AI play in enabling SMEs expand to improve socio-economic outcomes and access to services for underserved and marginalised populations? What additional value does the use of AI provide?
    - What are the potential economic impacts of AI use by SMEs on local livelihoods and the job creation in Cambodia?
    - What are the key deterrents that prevent last-mile populations from adopting AI-enabled solutions? What role can SMEs and other ecosystem players play in lowering these barriers to access and adoption?

3. What are the key enablers and gaps in the Cambodian AI ecosystem?
    - To what extent are local data assets (e.g., sector-specific, local language, or domain-specific data) available in Cambodia, and how accessible are these to SMEs looking to build or adapt AI tools?
    - To what extent do Cambodian SMEs depend on foreign-owned data infrastructure, platforms, or AI models? What is the cost implication for SMEs relying on international data infrastructure?
    - Are there examples of SMEs that are using Edge AI or low-bandwidth designs in these sectors, particularly in the energy sector where the highest impact would be in remote areas? What are the key considerations in deploying such tools?
    - To what extent does the lack of Khmer-language datasets constrain SMEs from reaching underserved and last-mile populations? What are some existing initiatives working to bridge the lack of datasets available in Khmer, and who are the key players involved in this space?

4. How can AI use by SMEs be scaled sustainably in Cambodia? (focused on the health and energy sectors)

    - What are the existing avenues of support and capacity building for Cambodian SMEs looking to adopt AI-enabled tools? Who are the key ecosystem players involved in supporting SMEs?
    - What is the type of financial, technical or regulatory support that SMEs need to increase their adoption of AI in the health and energy sectors?
    - What is the underlying policy, infrastructure, or funding environment that would enable greater Cambodian ownership and control over AI development while still allowing SMEs to benefit from global AI ecosystems?

5. What are the key risks to consider from an increased use of AI by SMEs?
    - How has human resource allocation changed for SMEs that have already adopted AI-enabled tools?
    - What are some pathways for SMEs to reskill their workers or minimise job loss stemming from AI adoption?
    - What are the key risks that SMEs may be exposed to (data privacy, cybersecurity, online scams and financial fraud) because of AI adoption, and what are some recommendations to mitigate these factors?

## Methodology

The research supplier is expected to implement a robust and context-appropriate methodology to examine the use of AI and AI-enabled tools among small and medium-sized enterprises (SMEs) in the digital health and energy sectors in Cambodia.

The study should adopt a mixed-methods approach, combining secondary analysis and primary data collection to generate actionable findings for policy design and strategic interventions.

The study recommends the use of the following research tools:

- **Secondary research**: Covering an overview of the AI ecosystem in Cambodia, with a focus on the key pillars and the barriers/constrains faced by SMEs; existing policies (such as the draft National AI Strategy, Digital Economy and Society Policy Framework, and the draft SME development policy); previous SME digitisation programs conducted by other international donors; sector-specific guidelines for health and energy.
- **Key informant interviews**: 20-25 in-depth interviews with a range of different stakeholders, including government departments and regulators, capital providers, research and academic institutions, SMEs capacity building and technical support providers, and tech companies. Where relevant, focus group discussions or group interviews may also be conducted. KIIs may be a mix of in-person and virtual interviews, depending on geographical accessibility and connectivity.
- **Case studies**: In-depth interviews 3-4 established or mature SMEs across the two sectors, firm size, geography, gender, and AI use case. The intention would be to cover SMEs that have already developed or are using AI tools and those that are considering it.

- **Quantitative survey**: A survey of established SMEs in the health and energy sectors, to understand their use of AI, access to domain-specific and local language data, access to compute resources, talent development and acquisition, their customer base, the measured or potential impact of AI on their business and market reach, considerations around governance and policy, and key enablers and barriers to adoption of AI.

**Selection of SMEs**

- The study will focus on SMEs across Cambodia. The analysis should primarily centre on formal (registered) SMEs, but the report will also touch upon the specific barriers and challenges faced by informal SMEs in the uptake of digital tools and AI.
- For the quantitative part of the methodology, the supplier is expected to propose a clear sampling strategy. We recommend a survey sample size of 150-200 SMEs, as a representative sample of all registered SMEs. The strategy should ensure representation across firm size (small & medium enterprises), sector (health and energy), and levels of AI adoption. There will be a focus on including women-led enterprises, SMEs based in rural areas, and those serving underserved population groups with a focus on impact. SMEs may also be selected through referrals and professional networks were appropriate.

**Scope**

This study will primarily focus on established or mature formal SMEs based in Cambodia, across its urban centres as well as peri-urban and rural areas. Considerations relevant to informal SMEs will be included in the research, to explore some of the barriers they face with digitisation and the adoption of advanced technologies like AI in the Cambodian context.

Within the use of AI by SMEs, the research will primarily look at the use of AI for ‘externally relevant’ or sector-specific tasks such as demand forecasting, credit scoring for customers, identifying new markets, or understanding existing customer trends. There will be lesser emphasis on ‘internal’ AI use, such as administrative tasks, scheduling or maintaining accounts, and inventory or predictive maintenance.

## Deliverables and timelines

| Activities | Timeline (Due date) |
|---|---|
| Proposal submission from supplier | 12:00 pm GMT+1 on Monday, 17 August 2026 |
| Interviews with short-listed suppliers | 20-24 August 2026 |
| Contract research supplier and project kick-off | Mid-September 2026 |
| Literature review, preparation of data collection guides, and inception report | September 2026 |
| Primary research – KIIs, FGD (if relevant), and SME survey | September – December 2026 |
| Analysis and synthesis of findings | October – January 2026 |

| | |
|---|---|
| Workshop to share interim findings with GSMA | December 2026 |
| Submission of survey data and final report | January 2026 |
| GSMA review and sign-off | February 2026 |

**Deliverables**

- Inception report: 5-10 pages of secondary insights, ecosystem mapping and list of stakeholders to be targeted for KIIs/FGDs, and interview guides + survey guide.
- Interim findings: A PowerPoint presentation (15-20 slides) covering early findings and emerging themes from the research, with preliminary recommendations for the intended audience.
- Final report: A Microsoft Word document (35-40 pages) focusing on findings and analysis from the research, including case studies and deep dives into the two priority sectors, and clear recommendations and a way forward.
- Survey raw data and analysis.
- Transcripts and notes from stakeholder interviews.

## Firm and proposal requirements

**Looking for: *Research/consultancy team***

**Required specifications and experience**

- Based in Cambodia or has a team with a local presence.
- Demonstrable track record of working with international development organisations/donors.
- Familiarity with AI ecosystem in Cambodia (data/skills/compute); thematic expertise in AI and its socio-economic impact in LMICs
- Deep understanding of key barriers and enablers for Cambodian SMEs in digitalisation and the adoption of AI.
- Expertise working across development sectors including health and energy, particularly an understanding of constraints faced by last-mile populations in Cambodia.
- Experience in conducting surveys and interviews with a wide range of digital ecosystem stakeholders.
- Full working proficiency in English, writing to publication quality.
- A strong network within Cambodia and the broader ASEAN region.

**Proposals should include a separate technical and financial proposal:**

Technical proposal

1. A short (1 page) statement of suitability, highlighting recent relevant experience.
2. A short (2-4 page) discussion of the proposed approach including: the analytical frameworks to be used, identified data sources, and initial proposals on case studies.
3. Any proposed changes to the ToR.
4. Details of relevant firm project experience. Examples of 1-2 previous research reports (published within the last 4-5 years) that relate to digital and AI adoption, SMEs and Cambodia.
5. Gantt chart outlining major project stages and timelines
6. CVs, and location of team members.

Financial proposal

1. Level of effort (person-day) by activity.
2. Fee rates (per day in GBP).
3. Total project cost (GBP), without VAT[2].
4. The Respondent's Total Price is inclusive of all costs, insurances, fees, costs, expenses, liabilities, obligations, risks, and all financial requirements for the performance of Services and provision of Deliverables.
5. Any charge not stated in this Proposal, which extends above to the Total Price, is not permitted.

Due to GSMA compliance requirements, exact project budgets cannot be provided at this stage. You are, however, able to provide a few implementation/budget options that can help us assess value for money and we can align our project scope to the relevant budget after a consultant has been selected.

## Proposal assessment and selection Process

The proposal will be scored on the following set of criteria:

| Criteria | Importance | Weighting |
|---|---|---|
| Cost | Proposal's value for money | 20% |
| Quality | Quality of the research approach outlined in the proposal, including degree to which it addresses the outlined research questions and proposal elements | 35% |
| Bidder's capacity to manage the project on time and on budget | Demonstrated experience of running multi-country evaluations, selection of experienced high-quality research partner(s) and ability to manage the project on time and on budget | 30% |
| Relevant experience | Bidder's experience in successfully conducting similar projects | 15% |

- Proposals are to be submitted no later than 12:00pm BST (GMT+1) on Monday, 17 August 2026 to Tanvi Deshpande (tdeshpande@gsma.com) and Daisy Macaskie (dmacaskie@gsma.com).
- Please send any clarification questions to Tanvi Deshpande or Daisy Macaskie by 11 August. Responses to clarification questions will be sent by 13 August. If you would like to be included on this mailing list, please confirm your interest before this date.
- Shortlisted applicants may be contacted for an interview, which should take place between 18-21 August 2026.

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[2] GSMA Foundation Inc is a US registered 501(c)(3) charity and is exempt from VAT.