



CAMBODIA ENTERPRISE INNOVATION INDEX

GUIDELINES

Prepared By

Department of Policy Monitoring, Inspection and Evaluation
General Department of Science, Technology & Innovation
Ministry of Industry, Science, Technology & Innovation

2024



National Council of Science, Technology & Innovation
NCSTI Secretariat
Phnom Penh, Cambodia



Ministry of Industry, Science, Technology & Innovation
Phnom Penh, Cambodia
Website: www.misti.gov.kh

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Publisher:

Ministry of Industry, Science, Technology & Innovation
General Department of Science, Technology & Innovation
Department of Policy Monitoring, Inspection and Evaluation

Phnom Penh, Cambodia

ISBN: 978-9924-600-22-0

Publication Date: October 2024



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Foreword

In today's rapidly evolving global landscape, innovation stands at the forefront of economic growth and sustainable development. The ability of enterprises to innovate, adapt and thrive in this competitive market is essential for enhancing productivity, competitiveness and overall economic resilience. The CEII Guidelines offer a structured and comprehensive framework to assess and promote innovation across Cambodian enterprises, aligning with international standards. These guidelines mark a pivotal step in our nation's journey towards becoming an innovation-driven economy.

The creation of the CEII is deeply rooted in our national strategies. These guidelines reflect our commitment to fostering a robust innovation ecosystem that supports the aspirations of our people and the goals of our nation. By systematically assessing innovation inputs and outputs, the CEII provides critical insights that will guide our policy-making, strategic investments and innovative business practices.

The development of these guidelines has been a collaborative endeavour, engaging a wide range of stakeholders from the public to private sectors and academia. This inclusive approach ensures that the CEII is not only methodologically sound, but also contextually relevant and practically applicable in the Cambodian business environment.

The CEII is more than a measurement tool; it is a catalyst for transformative change. By leveraging the insights gained from this index, we can identify our strengths and weaknesses, address our challenges and harness the opportunities within our innovation landscape. This will empower Cambodian enterprises to foster competitiveness, create jobs, drive economic growth and ultimately improve the quality of life for all Cambodians.

As Minister of Industry, Science, Technology & Innovation and Chair of the National Council of Science, Technology & Innovation (NCSTI), I commend the Department of Policy Monitoring, Inspection and Evaluation (D/MIE) of the General Department of Science, Technology & Innovation (GD/STI) for formulating these important guidelines. I sincerely appreciate all members of NCSTI for granting their unanimous approval.

As we move forward, I urge all stakeholders to actively engage with the CEII, utilise its findings to foster innovation and contribute to our shared vision of a prosperous and innovative Cambodia. *gh. T-sp.*

Phnom Penh, *8 October* 2024

Minister



HEM Vanndy
HEM Vanndy

Acknowledgement

The CEII Guidelines were endorsed by the National Council of Science, Technology & Innovation (NCSTI). This document was produced by the Department of Policy Monitoring, Inspection, and Evaluation of the General Department of Science, Technology & Innovation of the Ministry of Industry, Science, Technology & Innovation (MISTI).

First and foremost, the deepest appreciation goes to the dedicated individuals of D/MIE, whose tireless efforts made the production of these guidelines possible. Special thanks to the CEII Team of the GD/STI for their invaluable contributions and deepest gratitude to the management of the GD/STI and MISTI for their valuable guidance and support.

We extend our sincere thanks to the National Institute of Statistics (NIS) of the Ministry of Planning for their kind collaboration in producing these guidelines.

A huge thanks to the United Nations Industrial Development Organisation (UNIDO) for providing technical support in the development of these guidelines. Specifically, we would like to acknowledge the contributions of Dr Shetty Seetharama Thombathu Chief Technical Adviser of UNIDO CAPFish-Capture, Mr Fernando Cantu Bazaldua, Chief Statistician from UNIDO Head Quarters Ms Kim Davin, National Project Coordinator and the UNIDO CAPFish-Capture Team and international expert, Associate Prof Zhen Feng, International Enterprise Innovation Index Expert and, whose expertise greatly enhanced the CEII Guidelines.

Last but not least, a heartfelt appreciation goes to ministries, organisations, public and private entities, academia and all development partners who contributed to the creation of these guidelines.

Executive Summary

Innovation is a critical driver of economic development, productivity and competitiveness in the modern business environment. Recognising this importance, the Cambodian government has prioritised fostering innovation through strategic policies such as the Science, Technology, and Innovation (STI) Policy 2030 and the STI Roadmap 2030. In alignment with these national strategies, the CEII Guidelines represent a significant advancement in our efforts to enhance the innovation landscape within Cambodia. This document provides a comprehensive framework for assessing the innovation capabilities of enterprises, offering a robust tool for policymakers, business leaders and researchers.

The primary purpose of the CEII Guidelines is to measure and promote enterprise innovation, ensuring that Cambodia remains competitive and productive in an increasingly interconnected global economy. The Guidelines are structured with two primary sub-indexes: the Innovation Input Sub-Index and the Innovation Output Sub-Index. These sub-indexes encompass various dimensions of innovation, including resources, competencies, networks, culture, environment, production efficiency and creative knowledge. This multi-faceted approach ensures a holistic assessment of innovation activities and outcomes.

To achieve a rigorous and reliable assessment, the Guidelines detail a comprehensive methodology for the development and implementation of the CEII. Key components include the development of a detailed and relevant survey instrument to capture data on enterprise innovation activities and the use of simple and stratified random sampling techniques to ensure representative and reliable data. Additionally, robust data collection and analysis techniques are employed to maintain accuracy and validity with validation processes in place to ensure the reliability of the index.

The CEII Guidelines also outline a clear and actionable implementation plan. This includes a detailed project timeline for the development, testing and deployment of the CEII with the description of roles and responsibilities for various stakeholders involved in the project. Testing is conducted to refine the survey instrument and methodology. Additionally, the processes for continuous monitoring and evaluation (M&E) are established to ensure the ongoing effectiveness of the CEII. Furthermore, strategies for the dissemination of the findings and insights derived from the CEII with relevant stakeholders are provided.

Emphasising the importance of continuous improvement and adaptation to future changes, the guidelines highlight key focus areas for the way forward. These include ensuring ongoing collaboration with a wide range of stakeholders, exploring opportunities to broaden the scope and enhance the impact of the CEII and promoting the use of CEII findings to inform policy, drive innovation and support economic development.

In conclusion, the CEII Guidelines are a pivotal tool in advancing Cambodia's innovation agenda. By providing a structured and comprehensive framework for assessing enterprise innovation, the CEII will inform strategic decision-making, enhance competitiveness and drive sustainable economic growth. We encourage all stakeholders to actively engage with the CEII and leverage its insights to contribute to a prosperous and innovative Cambodia.

The CEII Guidelines not only reflect our commitment to fostering a robust innovation ecosystem but also serve as a catalyst for transformative change. With these guidelines, Cambodia is well-positioned to identify strengths, address challenges and harness opportunities within our innovation landscape, ultimately improving the quality of life for all Cambodians.

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List of Symbols

| | |
|----------------|---|
| α | Significant level |
| E | Absolute error |
| n_0 | Enterprise size or sample size |
| n | Sample size in surveying practice |
| n_1 | Sample size adjusted |
| n_h | Sample size of the stratum h |
| N_h | Population size of the stratum h |
| N | Population size |
| P | Proportion of the main variable |
| P_h | Sample proportion of stratum h |
| P_h | Population proportion of stratum h |
| r | Response rate |
| S_h | Sample standard deviation of stratum h |
| S_i | Score of indicator i |
| V | Ratio of E^2 to $Z_{\alpha/2}^2$ |
| W_h | Ratio of N_h to N |
| W_i | Weight of indicator i |
| $X_{i,j}$ | Real value of the enterprise j in indicator i |
| $X_{i,\min}$ | Minimum value of the indicator i |
| $X_{i,\max}$ | Maximum value of the indicator i |
| $Z_{\alpha/2}$ | z -value above which we find an area of $\alpha/2$ under the normal curve |
| Z | Random variable of normal distribution |

List of Abbreviations

| | |
|----------|---|
| CEII | Cambodia Enterprise Innovation Index |
| CIS | Community Innovation survey |
| CSIC | Cambodia Standard Industrial Classification |
| D/MIE | Department of Policy Monitoring, Inspection, and Evaluation |
| EIS | European Innovation Scoreboard |
| Eurostat | Statistical Office of the European Union |
| GCI | Global Competitiveness Index |
| GD/STI | General Department of Science, Technology & Innovation |
| GII | Global Innovation Index |
| ICT | Information and Communications Technology |
| IMD | Institute for Management Development |
| INSEAD | Institut Européen d'Administration des Affaires (European Institute of Business Administration) |
| IP | Intellectual property |
| KPIs | Key Performance Indicators |
| M&E | Monitoring and evaluation |
| MISTI | Ministry of Industry, Science, Technology & Innovation |
| NCSTI | National Council of Science, Technology & Innovation |
| NIS | National Institute of Statistics |
| OECD | Organisation for Economic Co-operation and Development |
| R&D | Research and development |
| SDGs | Sustainable Development Goals |
| SMEs | small and medium-sized enterprises |
| STI | Science, technology and innovation |
| UNIDO | United Nations Industrial Development Organisation |
| WIPO | World Intellectual Property Organisation |

1. Introduction

1.1. Background

The Oslo Manual (2018), an international guideline, which is jointly developed by the Organisation for Economic Co-operation and Development (OECD) and the Statistical Office of the European Union (Eurostat), for collecting and interpreting data on innovation defined innovation as a new or improved product or business process (or combination thereof) that differs significantly from the enterprise's previous products or business processes and that has been introduced on the market or brought into use by the enterprise. Innovation, which includes technological inventions, scientific discoveries, organisational changes and creative ideas, is vital for solving complex problems, improving efficiency, and creating new opportunities (Kylliäinen, 2019).

According to the 2015 Innovation Imperative report by the OECD, innovation is essential for sustained economic growth and improving living standards. The report states that innovation contributes to productivity growth, which is a key driver of economic progress. It also notes that innovation can help enterprises become more competitive, create new markets and reduce the environmental impact of economic activities. Moreover, innovation can have a positive impact on society by addressing critical issues such as poverty, healthcare and education. For example, innovations in medical technology have led to the development of life-saving treatments and procedures (Wamble et al., 2019), while innovations in renewable energy have helped reduce carbon emissions and mitigate climate change (United Nations, 2024).

In Cambodia, enterprise innovation is crucial for economic growth and development as it helps increase productivity, enhance competitiveness and promote sustainable economic development. By fostering innovation within enterprises, Cambodia can enhance its industrial capabilities, create high-value jobs and diversify its economy which are among numerous key development priorities of the kingdom. Innovation leads to the development of new products, services and processes that can boost efficiency and open new market opportunities, thereby contributing to the overall economic resilience and helping the country achieve its long-term development goals.

Furthermore, assessing innovation at the enterprise level in Cambodia is an unprecedentedly crucial initiative for the following reasons. First, by assessing innovation at the enterprise level, policymakers can identify high-performing enterprises

and sectors that contribute significantly to economic development. Second, detailed insights into enterprise-level innovation help inform government policies and strategies. It enables the development of targeted interventions to support innovation, such as funding programs, tax incentives and relevant regulatory reforms. Third, understanding the innovation landscape allows for a more efficient allocation of resources. It helps identify low-performing enterprises that require support, such as access to finance, technical skills or infrastructure. This helps ensure that resources are directed where they can have the most impact. Additionally, assessing innovation at the enterprise level provides benchmarks against which enterprises can measure their performance. It also helps identify best practices and successful innovation models that can be replicated across different sectors and provinces. On top of that, enterprises can understand their competitive position in both local and global markets. This knowledge helps them adapt and improve their business strategies to remain competitive and survive in this rapidly changing economic environment. Last but not least, a robust enterprise innovation assessment can attract both domestic and international investors by showcasing and promoting the innovative capabilities and potential of Cambodian enterprises. This can further lead to increased investment in R&D and innovation activities which will result in even more innovations among Cambodian enterprises.

1.2. Purposes

The CEII aims to promote innovation and enhance the innovation capability and achievements of Cambodian enterprises. In addition, it intends to provide a set of metrics for systematically assessing the innovation inputs and outputs of Cambodian enterprises across various sectors, establish benchmarks for innovation capability and performance that allow enterprises to compare themselves with others, recognise top innovative Cambodian enterprises, identify the key drivers and barriers to innovation within Cambodian enterprises, provide evidence-based data and insights that support the development of effective innovation policies, improve the availability and quality of data on enterprise innovation in Cambodia and track the progress of innovation activities and their impact on economic growth and development over time.

The expected outcomes and impacts of the CEII include enhanced visibility and recognition of top innovative enterprises within Cambodia, a competitive environment that encourages continuous innovation, enterprises inspired to improve their innovation capabilities leading to overall economic growth and job creation, valuable insights into

the strengths and weaknesses of the Cambodian innovation ecosystem that can guide the formulation of innovation policies, significant contribution to Cambodia's performance in the Global Innovation Index (GII) and significant contribution to Cambodia's goal of becoming a higher-middle-income country by 2030 and a high-income country by 2050.

1.3. Overview of the Guidelines

The CEII Guidelines were crafted through extensive research, collaboration with international experts and consultations with key stakeholders, ensuring the robustness of the framework within the Cambodian context. The methodology ensures that the indicators and measures are reliable and provide accurate reflections of the innovation capabilities of enterprises.

The guidelines provide a comprehensive framework and standardised methodology for assessing and enhancing enterprise innovation in Cambodia through the CEII. These guidelines aim to establish clear metrics, methodologies, procedures and plans for measuring innovation capabilities and performance across different sectors, ensuring consistency and reliability in data collection and analysis and ultimately fostering a more robust and innovative business environment in Cambodia. This document serves as an essential tool for enterprises to systematically assess their innovation capabilities and outcomes, providing insights that can inform strategic improvements and policy developments.

The structure of the CEII Guidelines is organised to cover all aspects of innovation measurement and enhancement. The document is divided into several key sections, each addressing different components of the innovation ecosystem within enterprises. The CEII Guidelines encompass several critical components as follows.

- **Conceptual Framework:** The conceptual framework outlines the theoretical basis for the CEII, including the definition, types of innovation and the various dimensions it encompasses. It provides a clear understanding of how innovation is conceptualised within the guidelines.

- **Survey Instrument:** A detailed description of the tools and questionnaires used to collect data from enterprises. This instrument is designed to capture comprehensive

information about the innovation activities, resources, competencies and outcomes of enterprises.

- **Sampling:** A detailed explanation of the sampling methodology used to ensure that the data collected is representative of the broader enterprise population in Cambodia. It highlights the criteria for selecting enterprises and the process for ensuring diverse and inclusive samples.

- **Indexing and Classification:** A thorough explanation of how the collected data is analysed, indexed and classified. This includes the calculation of the total innovation index score and the categorisation of enterprises into four innovation levels which are Innovation Leaders, Strong Innovators, Moderate Innovators and Emerging Innovators. This classification helps enterprises understand their current innovation status and guides them on the path to improvement.

1.4. Alignment with National Strategies

Cambodia is striving to foster STI as part of its inclusive and sustainable economic development strategy. The government has implemented several initiatives to promote innovation, such as the establishment of the National Pentagonal Strategy Phase I, National Strategic Development Plan 2019-2023, National Policy of STI 2020-2030, Industrial Development Plan 2015-2025 and STI Roadmap 2030.

1.4.1. National Pentagonal Strategy Phase I

The National Pentagonal Strategy Phase I provides a comprehensive framework for the government's policies, programs and projects, aligning with Cambodia's long-term development goals. The strategy is built under five core mottos encompassing growth, employment, equity, efficiency and sustainability. These mottos serve five key priorities for development, including people, roads, water, electricity and technology. Additionally, it focuses on five strategic objectives: ensuring economic growth, creating more jobs, achieving poverty reduction, Continuing to strengthen capacity, governance, and improving the quality of public institutions, and ensuring sustainable socio-economic development.

1.4.2. National Policy on STI 2020-2030

The National Policy of STI 2020-2030 identifies strategies and tactics to achieve the goals set in accordance with the actual context of the country, aiming to promote and enhance the knowledge-based economy to enable the achievement of the national development agenda such as the Cambodia Vision 2050.

1.4.3. Cambodia Industrial Development Policy 2015-2025

The Cambodia Industrial Development Policy 2015-2025 is a strategic framework aiming to transform Cambodia's economy into a more diversified, competitive and sustainable industrial base that contributes to inclusive growth, job creation and poverty reduction. The implementation of the Cambodia Industrial Development Policy involves various strategies and measures, including policy reforms, capacity building, infrastructure development, research and development support, promotion of small and medium-sized enterprises (SMEs) and collaboration with relevant stakeholders.

1.4.4. Cambodia's STI Roadmap 2030

Cambodia's STI Roadmap 2030 was designed to guide the implementation of the National STI Policy, comprising five main pillars, namely enhancing the governance of the STI system; building human capital in STI; strengthening research capacity and quality of research; increasing collaboration and networking between STI stakeholders; fostering an enabling ecosystem for building absorption capacities in enterprises and attracting investments in STI.

Under the first pillar of Cambodia's STI Roadmap, "*Improving the governance of the national innovation system*", conducting an enterprise-level survey on innovation performance is one among numerous actions and instruments proposed to achieve the set policy targets. The availability of more data about innovation performance and impacts through charting the innovation index helps developing countries in the catching-up process and in assessing what they should do to boost innovation. Further, the innovation index highlights policy challenges to craft new national innovation strategies (Wonglimpiyarat, 2010).

2. Methodology

2.1. International Guidelines Alignment

The CEII Guidelines are meticulously designed to align with international best practices and frameworks, providing Cambodian enterprises with a robust tool for innovation assessment and enhancement that resonates with global standards.

The development of the CEII Guidelines has been informed by a thorough review and integration of the international innovation measurement frameworks. Notably, the guidelines draw extensively from the European Innovation Scoreboard (EIS) 2023, the Global Innovation Index and the Oslo Manual by the OECD. These references ensure that the Guidelines not only reflect best practices but also incorporate globally recognised methodologies for innovation measurement and evaluation.

2.1.1. European Innovation Scoreboard (EIS)

The CEII Guidelines adopt several key indicators and classification methodologies from the EIS (2023), which provides a comparative assessment of innovation performance across European countries. By incorporating elements from the EIS, the CEII ensures that Cambodian enterprises can benchmark their innovation activities against European standards, facilitating a better understanding of where they stand on the global innovation landscape. This alignment helps in identifying gaps and opportunities for improvement, enabling Cambodian enterprises to adopt strategies that have proven successful in more advanced economies.

2.1.2. Global Innovation Index (GII)

The GII is another cornerstone reference for the CEII Guidelines. The GII provides detailed metrics on the innovation performance of countries worldwide, encompassing various dimensions such as institutions, human capital, infrastructure, market sophistication and business sophistication. By integrating insights from the GII, the CEII Guidelines encompass a comprehensive range of factors that influence innovation, ensuring a holistic approach to assessing and enhancing innovation capabilities within Cambodian enterprises.

2.1.3. Oslo Manual (4th Edition)

The Oslo Manual (2018), developed by the OECD and Eurostat, is a key reference for the conceptual and methodological foundations of the CEII Guidelines. The manual provides internationally recognised guidelines for collecting and interpreting innovation data, emphasising the importance of methodological accuracy and consistency. By adhering to the principles outlined in the Oslo Manual, the Guidelines ensure that the data collected is reliable, comparable and can be effectively used for both national and international benchmarking.

2.2. Guidelines Development

The development of the CEII Guidelines, especially its important components including conceptual framework and survey instrument, is a meticulous process that involves collaborative initial development, extensive stakeholder consultation, thorough testing and refinement, and the incorporation of key elements to ensure effectiveness and reliability. This structured approach aims to provide a comprehensive and accurate assessment of the innovation performance of enterprises in Cambodia, contributing to the broader goal of enhancing the country's innovation ecosystem.

2.2.1. Initial Development

The Guidelines development started with a thorough literature review of existing innovation assessment approaches and frameworks. In the meantime, it involved a collaborative process involving input from industry experts, academic researchers and key stakeholders. Subsequently, consultations with professionals were conducted to identify the most relevant framework for the Cambodian context. Following these processes, the testing surveys were then conducted, incorporating insights from these activities to address the specific needs and challenges faced by Cambodian enterprises.

2.2.2. Stakeholder Consultation

Consulting stakeholders was a crucial part of the framework and survey instrument development process. Various means were employed to engage stakeholders, including workshops and focus group discussions with representatives from different sectors to gather diverse perspectives. A preliminary survey instrument was designed and

distributed to stakeholders to collect their input on the key indicators of the framework. Additionally, in-depth interviews were conducted with industry leaders, policymakers and innovation experts to understand their expectations and needs. Feedback sessions were held after each draft of the framework and survey instrument to incorporate stakeholder suggestions and address any concerns.

2.2.3. Testing and Refinement

After the framework was initially well defined, testing and refining the survey instrument were conducted involving several steps. Firstly, testing was done with a small sample of enterprises to evaluate the clarity and relevance of the questions. Feedback was collected from the participants regarding any ambiguities or difficulties they encountered. An expert review was then carried out, involving the subject matter, examining the results and suggesting improvements. Based on subjective feedback and expert recommendations, necessary revisions were made to the framework and the survey. Finally, a round of final refinement, which involved a similar process, was conducted to ensure both the robustness and effectiveness of the Guidelines.

2.2.4. Effectiveness and Reliability

To ensure the effectiveness and reliability of the Guidelines, several key elements were incorporated. Firstly, relevance was a priority, ensuring that the conceptual framework was pertinent to the current innovation landscape and specific to the context of Cambodian enterprises. Clarity was also emphasised, with a clear and concise questionnaire designed to avoid misunderstandings and ensure accurate responses. Regular validations of the survey instrument through testing and expert reviews were conducted to maintain its reliability. Additionally, a feedback mechanism was incorporated to improve the survey continuously.

3. CEII Guidelines

3.1. Conceptual Framework

The conceptual framework of the CEII comprises two sub-indices which are the Input Sub-Index and Output Sub-Index (Figure 1). Input Sub-Index consists of five pillars, namely Resource, Competence, Network, Culture and Environment, with a total of 18 indicators. Whereas the Output Sub-Index comprises two pillars which are Efficient Production and Creative Knowledge, with a total of 9 indicators. Altogether, the Cambodia Enterprise Innovation Index includes 27 indicators.

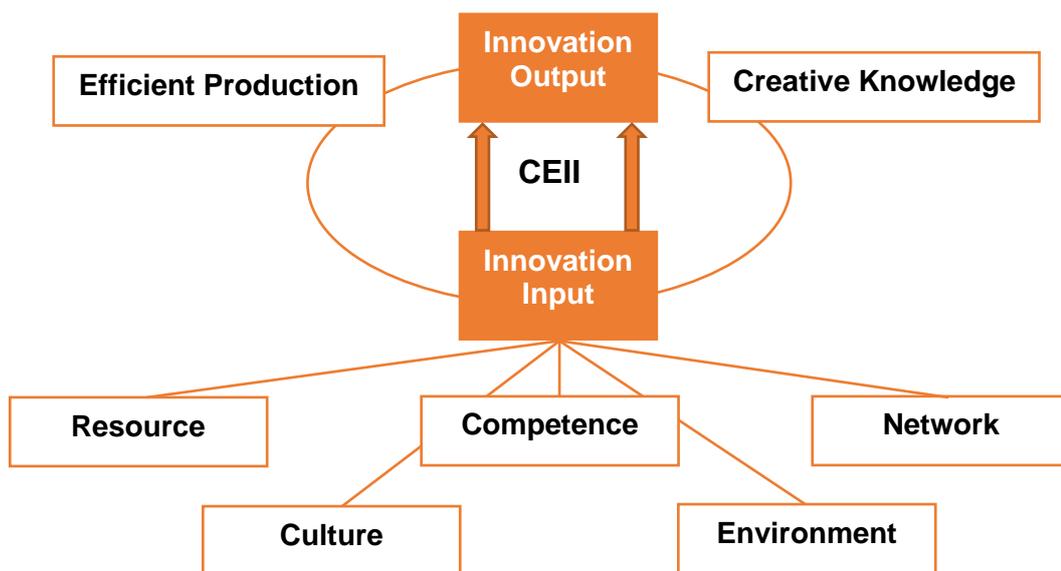


Figure 1. Conceptual Framework of the CEII

3.1.1. Innovation Input Sub-Index

The Innovation Input Sub-Index is a comprehensive measure designed to evaluate the foundational elements that contribute to the innovation capacity of enterprises. It encompasses five key pillars which provide an understanding of various dimensions such as the financial and human resources allocated to research and development, the extent of innovative activities and process improvements, the effectiveness of internal and external collaborations, the promotion of a data-driven culture and the level of digital transformation within the organisation (Figure 2). Together, these indicators offer a robust framework for evaluating the readiness and potential of enterprises to innovate.

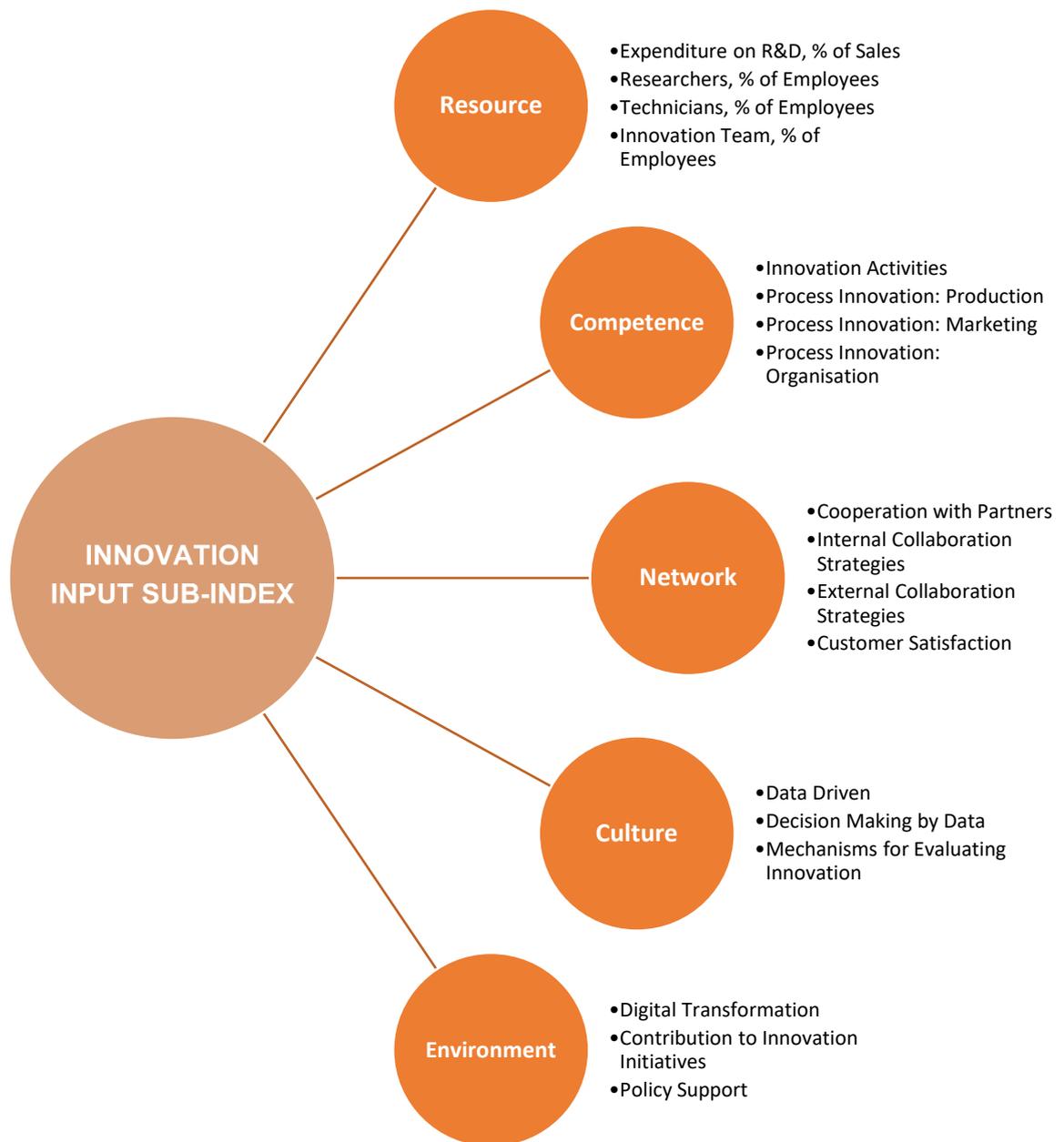


Figure 2. Indicators of the Innovation Input Sub-Index

3.1.1.1. *Resource*

The Resource pillar measures the financial and human resources allocated to innovation within an enterprise. This pillar is crucial for understanding the level of commitment an enterprise has towards innovation and its capacity to support sustained innovation efforts through adequate funding and skilled personnel.

- **Expenditure on R&D** (% of sales): Measures the proportion of sales revenue invested in research and development activities.

- **Researchers** (% of employees): Indicates the proportion of researchers within the enterprise's workforce.
- **Technicians** (% of employees): Represents the percentage of employees who are technicians.
- **Innovation Team** (% of employees): Reflects the proportion of employees who are part of the innovation team.

3.1.1.2. *Competence*

The Competence pillar evaluates the enterprise's ability to execute innovative activities effectively. This pillar provides insights into the enterprise's internal capabilities and the extent to which it can implement new and improved processes, thereby enhancing its overall innovation performance.

- **Innovation activities:** Assess whether the enterprise has engaged in any innovation activities.
- **Process innovation (production):** Measures the implementation of new or significantly improved production processes.
- **Process innovation (marketing):** Evaluates the introduction of new marketing methods or strategies.
- **Process innovation (organisation):** Assesses the degree of innovation in organisational methods or structures.

3.1.1.3. *Network*

The Network pillar examines the collaborative efforts of the enterprise both internally and externally. This pillar highlights the importance of networking and partnerships in fostering innovation, demonstrating how enterprises leverage relationships to enhance their innovative capabilities and outcomes.

- **Cooperation with partners:** Measures whether the enterprise has collaborated with external partners.

- **Internal collaboration strategies:** Evaluate the effectiveness of collaboration strategies within the enterprise.
- **External collaboration strategies:** Assesses the strategies for collaborating with external partners.
- **Customer satisfaction:** Measure whether enterprises have conducted the customer satisfaction survey.

3.1.1.4. *Culture*

The Culture pillar assesses the organisational environment and attitudes towards innovation. This pillar underscores the significance of an innovation-friendly culture that supports continuous learning, data utilisation and systematic evaluation to drive successful innovation.

- **Data-driven:** Evaluates whether the enterprise promotes data culture.
- **Decision-making by data:** Measures whether the enterprise relies on data for making strategic decisions.
- **Mechanism in evaluating innovation:** Assesses whether there are mechanisms in place for evaluating the outcomes and effectiveness of innovation activities.

3.1.1.5. *Environment*

The Environment pillar focuses on the external and internal conditions that influence the enterprise's innovation activities. This pillar is essential for understanding the contextual factors that enable or hinder innovation, highlighting the role of digital infrastructure, policy frameworks and the enterprise's engagement in the national innovation ecosystem.

- **Digital transformation:** Evaluates the degree of digital transformation within the enterprise.
- **Contribution to innovation initiatives:** Measures the enterprise's contribution to broader innovation initiatives in the country.

- **Policy support:** Assesses the level of support for innovation from the government.

3.1.2. Innovation Output Sub-Index

The Innovation Output Sub-Index is a critical measure that assesses the tangible results of an enterprise's innovation efforts. It consists of two key pillars which evaluate the effectiveness of product innovation, labour productivity and the financial impact of exports and new products on sales. Additionally, the output sub-index measures the enterprise's achievements in intellectual property, including patents, industrial designs, trademarks and copyrights (Figure 3). By analysing these aspects, the Innovation Output Sub-Index provides a comprehensive overview of how well an enterprise converts its innovation inputs into valuable outcomes, highlighting its capability to generate new products, enhance productivity and contribute to the knowledge economy. This sub-index is essential for understanding the real-world impact of innovation activities on an enterprise's performance and growth.

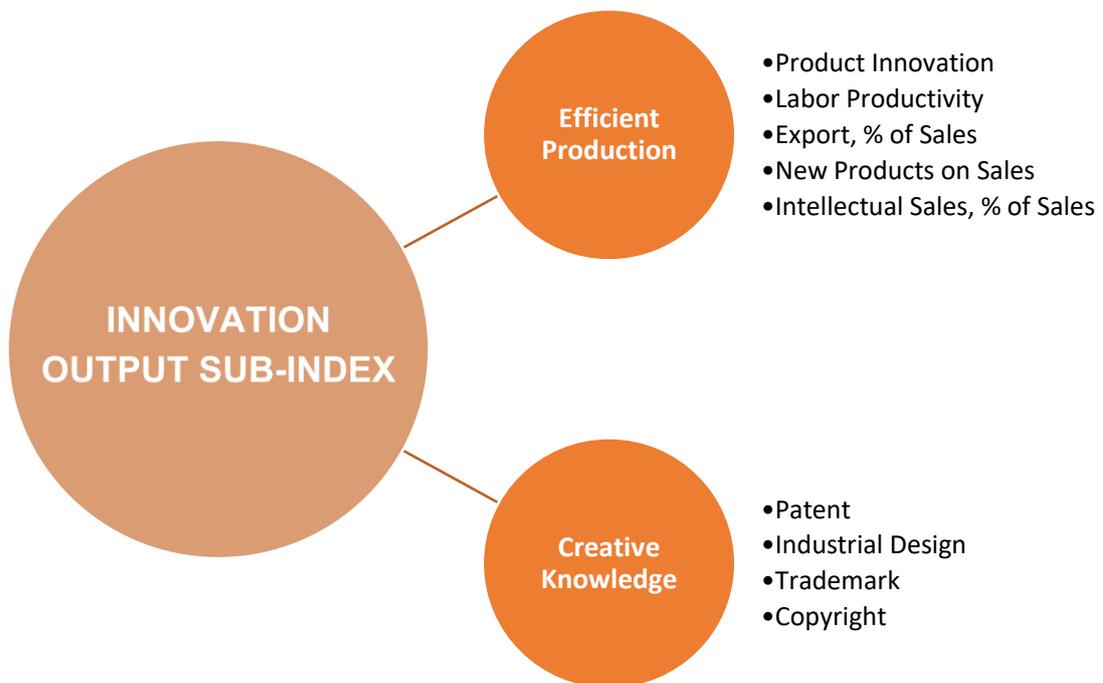


Figure 3. Indicators of the Innovation Output Sub-Index

3.1.2.1. *Efficient Production*

The Efficient Production pillar measures the tangible outcomes of an enterprise's innovation activities in terms of productivity and market performance. This pillar provides a comprehensive view of how effectively an enterprise converts its innovation efforts into marketable products and services, thereby enhancing its competitive edge and economic performance.

- **Product innovation:** Measures whether enterprises have produced new or significantly improved products.
- **Labor productivity:** Evaluates the efficiency and productivity of the workforce.
- **Export** (% of sales): Indicates the proportion of sales revenue generated from exports.
- **New products on sales** (% of sales): Measures the percentage of sales revenue from new products.
- **Intellectual sales** (% of sales): Assesses the revenue generated from intellectual property, such as patents and trademarks.

3.1.2.2. *Creative Knowledge*

The Creative Knowledge pillar assesses the enterprise's contributions to the intellectual property landscape and knowledge economy. This pillar highlights the enterprise's ability to generate new ideas and protect its intellectual assets, showcasing its role in advancing innovation and contributing to the broader creative and knowledge-based economy.

- **Patent:** Measures the number of patents filed or granted.
- **Industrial design:** Evaluates the number of industrial design registrations.
- **Trade mark:** Assesses the number of trademark registrations.
- **Copyright:** Measures the number of copyright registrations.

These components provide a comprehensive framework for assessing and monitoring enterprise innovation in Cambodia, covering both the inputs that drive innovation and the outputs that result from innovative activities.

3.2. Survey Instrument

The survey instrument is meticulously designed to capture comprehensive information about innovation activities, resources, competencies and outcomes within enterprises. The survey includes a range of questions tailored to assess various aspects of innovation, ensuring that the data collected is robust and reliable. For the complete survey instrument, including the full set of questions, please refer to Appendix A.

3.3. Sampling

The sampling survey is the main survey method in official statistics. The survey and the sample size are always balancing the costs and the error of estimation. A larger sample size means a lower error but a higher cost. During the investigation and discussion, several sampling methods were tested and sample sizes were estimated for the reference of cost estimation.

In general, two sampling methods may be considered in the survey, i.e. Simple Random Sampling and Stratified Random Sampling. Simple random sampling makes it easy to calculate the sample size, good for reference but may cost more to find the random cases in countrywide practice. Stratified Random Sampling is more often used but should give the factors correct to control the error and the sample size.

Based on certain suppose of the main factors, these two kinds of methods are given here to estimate the sample size. However, the real sampling in practice in the survey should take into consideration local factors, traditional methods and practice and be determined by local experience. The methods and numbers here lists are only for reference in estimating the sample size.

For the CEII, in general, the sampling method will not influence the calculation of the index, for the index is at the enterprise level and it has no need to estimate the parameters of the population. That is also a question discussed in Recommendations for the Survey and Index.

3.3.1. Suppose of Population

Table 1 provides an example of the supposed population. In practice, the result of the Economic Census 2022 can be used as a sampling frame for industrial and service sectors. The agriculture sector should find another good historical frame for sampling.

Table 1. Number of enterprises supposed in sectors and different enterprise sizes

| Sector \ Enterprise size | Small | Medium | Large | Total |
|---------------------------------|--------------|---------------|--------------|--------------|
| Manufacturing | 21000 | 18000 | 5000 | 44000 |
| Agriculture | 97000 | 78000 | 60000 | 235000 |
| Commercial & Service | 497000 | 206000 | 13000 | 716000 |
| Total | 615000 | 302000 | 78000 | 995000 |

3.3.2. Simple Random Sampling

If prefer to estimate each cross point of sectors and enterprise sizes, we may follow the formula [1]

$$n_0 = \frac{p(1-p)Z_{\alpha/2}^2}{E^2} \quad [1]$$

Of which p is the proportion of the main variable (question), which will be the proportion of enterprises with market innovation in the old version of the Community Innovation Index (CIS). The proportion can also be set as 0.5, which means $p(1-p)$ will get the maximum value of 0.25. The sample size is based on $p=0.5$ will fit all the values of p , but the sample size is also the largest which can bring higher costs. Z is the Normal distribution probability value for a confidence interval determined by α (e.g. with $\alpha=0.025$, two-tailed test, 5% in total, $Z_{\alpha}=1.96$ or 2 approximately). E is the absolute error of the proportion and it can be set as 0.05 (5%) if p is large enough, or 0.02 (2%) if p is a small value.

Then the sample size can be adjusted by formula [2], with the consideration of population size N . Furthermore, the real sample size in practice should be larger by considering the response rate r with formula [3] and n is the sample size in surveying practice.

$$n_1 = \frac{n_0}{1 + \frac{n_0}{N}} \quad [2]$$

$$n = \frac{n_1}{r} \quad [3]$$

The testing results are listed in Table 2 with four different settings of the main factors, i.e. and E .

Table 2. Sample size in estimations of simple random sampling

| Sector | Enterprise size | N | Sample size | | | |
|----------------------|-----------------|---------------|-------------------------------------|---------------------------|-----------------------------------|---------------------------|
| | | | Model I | Model II | Model III | Model IV |
| Manufacturing | Small | 21000 | 235 | 436 | 1397 | 2482 |
| Agriculture | Small | 97000 | 232 | 443 | 1436 | 2708 |
| Commercial & Service | Small | 497000 | 238 | 444 | 1482 | 2764 |
| Manufacturing | Medium | 18000 | 235 | 435 | 1383 | 2439 |
| Agriculture | Medium | 78000 | 232 | 442 | 1431 | 2692 |
| Commercial & Service | Medium | 206000 | 237 | 444 | 1476 | 2744 |
| Manufacturing | Large | 5000 | 380 | 412 | 1747 | 1852 |
| Agriculture | Large | 60000 | 308 | 442 | 1877 | 2667 |
| Commercial & Service | Large | 13000 | 333 | 431 | 1858 | 2330 |
| Total | | 995000 | 2431 | 3928 | 14087 | 22677 |
| Setting of p & E | | | $p = \text{real}^*$, $E = 0.05$ | $p = 0.5$, $E = 0.05$ | $p = \text{real}$, $E = 0.02$ | $p = 0.5$, $E = 0.02$ |

Notes:

- $p = \text{real}$ means to set p as the real proportion in China Innovation Survey 2023. Just for estimation of the sample size. A better choice of p is the result of CIS 2022 or 2023 in Cambodia at the provincial level.
- E is the key factor and may increase the sample size sharply by setting a smaller value. In practice, if the proportion p is relatively large, the setting E maybe as large as 5% to get a small sample size and control the costs. However, if the value of p is too small, E should be set to 2% or even smaller, which will lead to a much larger sample size.

- r is set to 90% for the investigation and the practice in the local survey, the Cambodian people are always friendly to answer the questions in the survey which makes the response rate higher than normal.

3.3.3. Stratified Random Sampling

If the cross point of sectors and enterprise sizes in Table 1 is considered as a strata with different unit costs and different variances, we may use stratified random sampling to calculate the sample size in total by formula [4] (*Here in the formula, n is already adjusted by the population size N . It is equivalent to $n1$ in formula [2]*) and then separate the total sample size n to each stratum by formula [5].

$$n = \frac{\sum \frac{W_h^2 S_h^2}{w_h}}{V + \sum \frac{W_h S_h^2}{N}} \approx \frac{\sum \frac{W_h^2 P_h (1-P_h)}{w_h}}{V + \sum \frac{W_h P_h (1-P_h)}{N}} \quad [4]$$

$$n_h = n \frac{W_h S_h}{\sum_{h=1}^L W_h S_h} = n \frac{N_h S_h}{\sum_{h=1}^L N_h S_h} \quad [5]$$

Of which h is the strata, N is the population size, N_h is the sub-population size of

each stratum, $W_h = \frac{N_h}{N}$, $S_h = \sqrt{p_h(1-p_h)}$, $w_h = \frac{W_h S_h}{\sum_{h=1}^L W_h S_h}$ and $V = \frac{E^2}{Z_{\alpha/2}^2}$.

With the same setting of r , p and E in simple random sampling, we can calculate the sample size n and get n_h in Table 3.

Notes:

- The same as in Table 2. The sample size is adjusted by the same response rate, 90% in each stratum.
- Please be aware that the results in Table 2 and Table 3 are not comparable. They are just examples of estimating the sample size. In practice in Cambodia, since the proportion of small enterprises has a low proportion of product innovation or marketing innovation, E should be set to 2% in Table 3, otherwise, there might

be no innovation case in a small sub-sample size in certain strata like small manufacturing enterprises.

Table 3. Sample size in estimations in stratified random sampling

| Sector | Enterprise size | N | Sample size | | | |
|----------------------|-----------------|---------------|-------------------------------------|---------------------------|-----------------------------------|---------------------------|
| | | | Model I | Model II | Model III | Model IV |
| Manufacturing | Small | 21000 | 5 | 9 | 31 | 58 |
| Agriculture | Small | 97000 | 23 | 43 | 142 | 270 |
| Commercial & Service | Small | 497000 | 119 | 222 | 741 | 1384 |
| Manufacturing | Medium | 18000 | 4 | 8 | 27 | 50 |
| Agriculture | Medium | 78000 | 18 | 35 | 114 | 217 |
| Commercial & Service | Medium | 206000 | 49 | 92 | 307 | 574 |
| Manufacturing | Large | 5000 | 2 | 2 | 13 | 14 |
| Agriculture | Large | 60000 | 19 | 27 | 116 | 167 |
| Commercial & Service | Large | 13000 | 4 | 6 | 28 | 36 |
| Total | | 995000 | 243 | 444 | 1519 | 2771 |
| Setting of p & E | | | $p = \text{real}^*$, $E = 0.05$ | $p = 0.5$, $E = 0.05$ | $p = \text{real}$, $E = 0.02$ | $p = 0.5$, $E = 0.02$ |

3.3.4. Further Discussion

In practice, the following factors should be considered.

- The first one is the level of estimation in sub-population. The estimation of sample size was separated by large sectors and enterprise size, and 9 sub-populations were set in the estimation in Table 2 and Table 3. However, the organization of sampling may be based on detailed 2-digit sectors of the Cambodia Standard Industrial Classification (CSIC) and province, which means there will be many more sub-populations and the sample size will increase sharply.
- The second is the importance of knowledge by prior experience. If the local agency has prior knowledge of the data variability or can make an informed estimate of the key factors like r , p , E and so on (for example based on prior research and/or test samples), then the determination of sample size becomes more straightforward.

3.4. Index Calculation Methodology

3.4.1. Methodology of the Index

CEII is an enterprise-level index comparing enterprises' innovation activities in Cambodia. It may set the index in each year and renew after the new survey, and it may also set the reference year(s) in multiple years with several rounds of surveys. However, since adding new cases will change the scale and score of quantitative indicators, it is a dilemma in the world practice of indexing. Hereby we take one-year indexing as an example and it is selected by most of the international organizations when doing indexes.

- Step 1: Cleaning the data

Since there always are non-sampling errors like missing values during the survey, the first step is to clean the data, replace the missing data or delete the case with missing values. For the missing values, it can be replaced by either the average value of the indicator of all enterprises with values or be replaced by the average value of enterprises in a similar group like enterprises in the same sector and the same size in the same province.

- Step 2: Replacing the outliers if necessary

Positive outliers may happen in the hard data type "H" in the Data column in Table 4. If the value of one indicator in one enterprise is too high, it will compress the score of other enterprises. The outliers may be defined as those enterprises' values or scores, which are higher than the mean across all enterprises plus twice the standard deviation. These outliers can be replaced by the respective maximum values observed over all the enterprises excluding the identified outliers. By replacing positive outliers, the enterprises with positive outliers can share the highest normalised score of 100.

Negative outliers will not happen since the value will be 0 in the hard data in many enterprises without innovation activities and they can set a score of 0 directly.

- Step 3: Transforming indicators with high skewness

The binary indicators are with values of 0 and 1 only. However, the hard data indicators are unbound indicators, where values are not limited to an upper threshold. These indicators can be highly volatile and can have skewed data distributions (*where most enterprises show low-performance levels and a few enterprises show exceptionally high levels of performance*). For these indicators where the degree of skewness across the

enterprises is above 1 (or a certain skewness value above 1.5), data can be transformed using a square root transformation, i.e. using the square root of the indicator value instead of the original value when doing min-max normalisation.

- Step 4: Calculating re-scaled scores

There are two kinds of scoring methods for the hard data and binary data respectively.

For the hard data, re-scaled scores of the enterprise (after correcting for outliers and a possible transformation of the data) in each indicator will be calculated by min-max normalisation by using the formula [6].

$$S_i = \frac{X_{i,j} - X_{i,min}}{X_{i,max} - X_{i,min}} * 100 \quad [6]$$

Of which S_i is the score of the indicator i , and it is calculated by $X_{i,j}$, the real value of enterprise j in indicator i , subtracting the Minimum value of the indicator i and then dividing by the difference between the Maximum and Minimum values of the indicator i . The maximum re-scaled score is thus equal to 100. For positive outliers, the re-scaled score is equal to 100.

For the binary data indicators, there are only two values in general, i.e. 0 for answer “no” and 1 for “yes”. Then the re-scaled score of “yes” can be set as 100 directly, and “no” set as 0.

- Step 5: Calculating innovation indexes

Till now, the innovation index in the sector level, sub-index level and composite CEII level can be calculated by the weighted average of the re-scaled scores for all indicators by the formula [7] together with the weighting system shown in Table 4 in the last column. Take CEII as an example.

$$CEII = \sum_{i=1}^{27} S_i * W_i \quad [7]$$

Of which S_i is the re-scaled score from 0 to 100 of each indicator and W_i is the weight (%) of each indicator shown in the last column of Table 4.

The sub-index and sector index can be calculated in the same way by using the only indicators involved in each sub-index or sector.

3.4.2. Weighting the Indicators

Weighting the indicators is always a step with disputation. We prefer relatively equal weight among the same kind of indicators.

Firstly, the indicators are set in 5 kinds of different basic weights. The basic weight is set to 1 for most of the binary indicators. Then the hard data indicators are set to 2 as a double weight compared with the basic binaries, by following the experience of GII and some other international organizations. The binaries for key innovation activities are set weight from 2 to 4 in Table 4 to emphasise the importance of each different innovation activity.

Table 4. Weighting system of CEII

| No. | Indicator | Basic Weight | Code of indicators |
|-----|--|--------------|---|
| 1 | Binary D – product innovation | 4 | 2.1.1 |
| 2 | Binary C – process innovation | 3 | 1.2.2, 1.2.3, 1.2.4 |
| 3 | Binary B – innovation activities, cooperation and policy | 2 | 1.2.1, 1.3.1, 1.5.3 |
| 4 | Hard data | 2 | All the indicators with Data=H |
| 5 | Binary A – basic weight | 1 | All other binary indicators except B, C and D |

Secondly, the basic weights can be transferred proportionally to the real weight W_i to make sure the summary of W_i equals to 100%.

4. Innovation Level Classification

4.1. Standard Classification

After completing the self-assessment questionnaire and obtaining your total innovation index score, it's essential to understand what your score signifies. This section helps you classify your enterprise into one of several innovation levels, providing insights into your current innovation status and guiding your next steps towards improvement. The classification is based on the European Innovation Scoreboard 2023 framework, which categorises innovation performance into four levels: Innovation Leader, Strong Innovator, Moderate Innovator and Emerging Innovator (Figure 4).

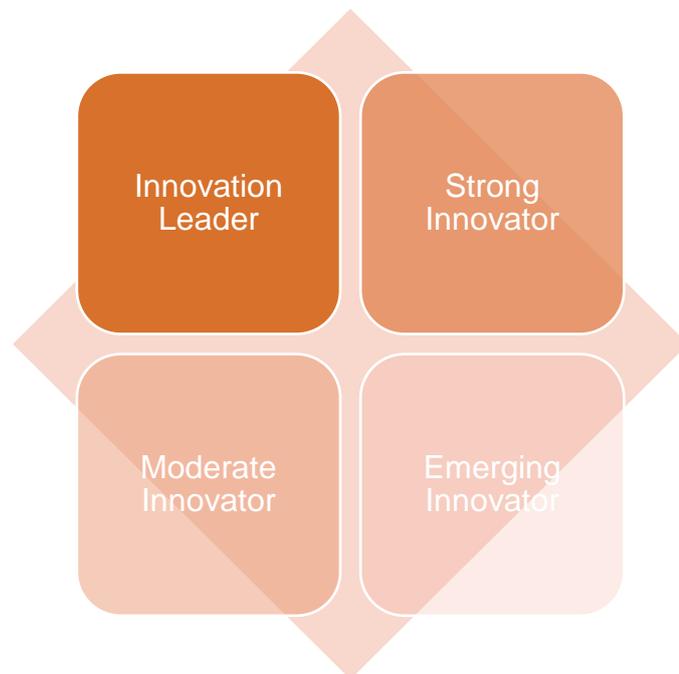


Figure 4. CEII innovation level classification

4.2. Score Range



Enterprises in this category exhibit a high degree of innovation across all measured dimensions. They consistently invest in R&D, demonstrate robust innovation activities, foster strong internal and external networks, maintain an innovation-friendly culture and achieve significant innovation outputs. These enterprises are at the forefront of innovation, setting benchmarks and leading the way in their respective industries.

**2.
Strong Innovator**

Score range: 60 - 79

Enterprises classified as Strong Innovators show substantial engagement in innovation activities. They have a solid foundation in R&D investment, active innovation processes and effective collaboration strategies. While they are not yet leaders, their consistent efforts and results indicate a strong potential to advance to higher innovation levels with continued focus and improvement.

**3.
Moderate Innovator**

Score range: 40 - 59

Moderate Innovators are in the early stages of building their innovation capabilities. They demonstrate moderate engagement in innovation activities and have begun to establish the necessary resources and competencies. These enterprises are developing their innovation culture and networks but require more structured efforts and investments to move up the innovation ladder.

**4.
Emerging Innovator**

Score range: 0 - 39

Enterprises in the Emerging Innovators category have limited engagement in innovation activities. They may lack substantial investment in R&D, structured innovation processes and collaborative networks. These enterprises have significant room for

growth and should prioritise foundational aspects of innovation, such as building a dedicated innovation team, fostering an innovation-friendly culture and increasing their investment in R&D and innovation activities.

4.3. Alternative Classification

In practice, classification will rely on data from surveys and innovation scores of enterprises across all levels and sizes. To identify top innovators and support those with lower innovation scores, the scoring range will be adjusted after each CEII survey. However, enterprises can always use standard classification methods to assess and enhance their performance, regardless of the CEII survey results.

5. Implementation Plan

The implementation plan for the CEII is a comprehensive roadmap that outlines the steps and strategies needed to execute the CEII effectively. This plan covers project timelines and milestones, roles and responsibilities, stakeholder engagement, resource allocation, testing and M&E.

5.1. Project Timeline and Milestones

The implementation of the CEII is structured around a clear project timeline with well-defined milestones. The timeline includes the initial planning phase, where the conceptual framework and survey instrument are developed. This is followed by a pilot testing phase to ensure the survey's robustness and effectiveness. Key milestones include the launch of the survey, the data collection period, the analysis of collected data and the publication of results. Each phase is scheduled with specific timeframes, ensuring that the project stays on track and achieves its objectives within the designated timeframe.

5.2. Roles and Responsibilities

Successful implementation of the CEII requires clearly defined roles and responsibilities for all involved parties. The Ministry of Industry, Science, Technology & Innovation (MISTI) takes the lead role, overseeing the entire project and ensuring alignment with national innovation strategies. Relevant ministries and stakeholders, including industry associations, academic institutions and private sector representatives, play supportive roles in promoting the survey and encouraging participation. Additionally, a dedicated project team is established, consisting of project managers, data analysts and communication specialists, each with specific tasks and responsibilities.

5.3. Stakeholder Engagement and Consultation

Engaging stakeholders is a critical component of the CEII implementation plan. A comprehensive stakeholder engagement strategy is developed to ensure active participation and buy-in from all relevant parties. Regular communication channels are

established, including workshops, meetings and online platforms, to facilitate ongoing dialogue and collaboration. Stakeholders are kept informed about the project's progress, key milestones and expected outcomes. Their feedback is continuously sought and incorporated to ensure the survey instrument remains relevant and effective. Engagement efforts also include awareness campaigns to highlight the importance of the CEII and its potential impact on the national innovation ecosystem.

5.4. Monitoring and Evaluation

Monitoring and evaluation (M&E) are integral parts of the CEII implementation plan to ensure the project's success and sustainability. A robust M&E framework is developed, including key performance indicators (KPIs) to track progress and measure outcomes. Regular monitoring activities are conducted to assess the project's adherence to the timeline, budget and quality standards. Evaluation activities are carried out at key milestones to assess the impact and effectiveness of the CEII. This includes analysing the data collected, evaluating the survey's contribution to understanding the innovation landscape and assessing its alignment with national innovation strategies. The findings from the M&E activities are used to inform continuous improvement efforts and ensure the CEII remains relevant and impactful.

5.5. Report Preparation and Dissemination

An essential component of the CEII implementation plan is the preparation and dissemination of the final report. This phase includes defining the report structure and content, developing dissemination strategies and creating a stakeholder communication plan.

The final report on the CEII will be meticulously structured to ensure clarity and comprehensiveness. It will include an executive summary, detailed findings from the data analysis, interpretations of the results and policy recommendations. Each section will be crafted to provide insights into the innovation performance of enterprises in Cambodia, highlighting key trends, strengths and areas for improvement (See Appendix B).

6. Way Forward

Innovation landscapes are dynamic and continuously evolving. To stay relevant, the CEII must be adaptable to these changes. This involves regularly reviewing and updating the survey instrument to reflect new trends, technologies and practices in enterprise innovation. For instance, as digital transformation accelerates, new indicators related to digital capabilities and technology adoption may need to be incorporated. Additionally, the CEII should remain aligned with national and international innovation policies and frameworks, ensuring that it continues to provide valuable insights for policy development and decision-making. Periodic consultations with experts, stakeholders, and participants will help identify emerging trends and necessary adjustments.

To ensure the CEII remains a robust and reliable tool, continuous improvement mechanisms must be implemented. This includes establishing a regular review cycle for the survey methodology, data collection processes and analysis techniques. Feedback from stakeholders, including survey participants, policymakers and academic researchers, will be systematically collected and analysed to identify areas for enhancement. Benchmarking against international best practices and similar indices in other countries will also provide valuable insights for improvement. Furthermore, investing in capacity building for the project team and stakeholders will enhance the quality and effectiveness of the CEII over time.

The long-term success of the CEII depends heavily on sustained stakeholder engagement and support. This requires ongoing communication and collaboration with key stakeholders, including government agencies, industry associations, enterprises, and international partners. Regular updates on the progress and outcomes of the CEII, as well as opportunities for stakeholders to provide input and feedback, will foster a sense of ownership and commitment. Establishing formal partnerships and alliances with relevant organisations can also enhance the reach and impact of the CEII. Additionally, demonstrating the tangible benefits and value of the CEII through success stories, case studies and impact assessments will reinforce stakeholder confidence and support.

Financial sustainability is essential for the long-term viability of the CEII. This requires diversifying funding sources and securing long-term financial commitments from government, international organisations and private sector partners. Developing a comprehensive funding strategy that includes grant applications, sponsorships and

partnerships will help ensure a stable and predictable funding stream. Additionally, exploring innovative financing models, such as public-private partnerships or impact investment, can provide additional resources for the CEII.

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8. Appendices

8.1. Appendix A: CEII Questionnaire

ដែនគ្របដណ្តប់របស់ការអង្កេត (Survey Coverage)

ការអង្កេតនេះគ្របដណ្តប់លើគ្រឹះស្ថានខ្នាតតូច មធ្យម និង ធំ និងទៅលើផ្នែកកម្មន្តសាល ពាណិជ្ជកម្មនិងសេវាកម្ម និងកសិកម្ម។

This survey targets small, medium and large-sized establishments in the manufacturing, commercial and service and agricultural sectors.

និយមន័យរបស់គ្រឹះស្ថានខ្នាតតូច មធ្យម និងធំ (Definition of Small, Medium and Large-sized Establishments)

| វិស័យ Sectors | កម្មន្តសាល (Manufacturing) | សេវាកម្ម (Commercial and Service) | កសិកម្ម (Agriculture) |
|------------------|---|--|---|
| តូច Small | ការលក់ប្រចាំឆ្នាំចាប់ពី ៦២ ៥០០ - ៤០០ ០០០ ដុល្លារ និងបុគ្គលិកចាប់ពី ៥ នាក់ ដល់ ៤៩ នាក់។ | ការលក់ប្រចាំឆ្នាំចាប់ពី ៦២ ៥០០ - ២៥០ ០០០ ដុល្លារ និង បុគ្គលិកចាប់ពី ៥ នាក់ ដល់ ៤៩ នាក់។ | ការលក់ប្រចាំឆ្នាំចាប់ពី ៦២ ២៥០ - ២៥០ ០០០ ដុល្លារ និង បុគ្គលិកចាប់ពី ៥ នាក់ ដល់ ៤៩ នាក់។ |
| មធ្យម Medium | ការលក់ប្រចាំឆ្នាំចាប់ពី ៤០០ ០០១ - ២ ០០០ ០០០ ដុល្លារ និងបុគ្គលិកចាប់ពី ៥០ នាក់ ដល់ ១៩៩ នាក់។ | ការលក់ប្រចាំឆ្នាំចាប់ពី ២៥០ ០០១ - ១ ៥០០ ០០០ ដុល្លារ និងបុគ្គលិកចាប់ពី ៥០ នាក់ ដល់ ៩៩ នាក់។ | ការលក់ប្រចាំឆ្នាំចាប់ពី ២៥០ ០០១ - ១ ០០០ ០០០ ដុល្លារ និងបុគ្គលិកចាប់ពី ៥០ នាក់ ដល់ ១៩៩ នាក់។ |
| ធំ Large | ការលក់ប្រចាំឆ្នាំលើសពី ២ ០០០ ០០០ ដុល្លារ និងបុគ្គលិកសរុបច្រើនជាង ១៩៩ នាក់។ | ការលក់ប្រចាំឆ្នាំលើសពី ១ ៥០០ ០០០ ដុល្លារ និងបុគ្គលិកសរុបច្រើនជាង ៩៩ នាក់។ | ការលក់ប្រចាំឆ្នាំលើសពី ១ ០០០ ០០០ ដុល្លារ និងបុគ្គលិកសរុបច្រើនជាង ១៩៩ នាក់។ |

ឆ្នាំសារពើពន្ធ (Financial Year of Survey)

សូមរាយការណ៍ពីសកម្មភាពនវានុវត្តន៍របស់គ្រឹះស្ថានដែលបានធ្វើ និង/ឬបញ្ចប់ក្នុងរយៈពេល៖ ពីខែមករា ដល់ខែធ្នូ សម្រាប់ឆ្នាំ២០២១, ២០២២ និង២០២៣។

Please report your innovation activities that has been conducted and/or completed within: January-December 2021, 2022 and 2023.

និយមន័យនវានុវត្តន៍ (Definition of Innovation)

នវានុវត្តន៍គឺជាផលិតផល ឬដំណើរការថ្មី ឬប្រសើរឡើង (ឬការរួមបញ្ចូលគ្នា) ដែលខុសគ្នាយ៉ាងខ្លាំងពីផលិតផល ឬដំណើរការពីមុនរបស់អង្គភាព ហើយដែលត្រូវបានបង្កើតឡើងសម្រាប់អ្នកប្រើប្រាស់សក្តានុពល (ផលិតផល) ឬនាំយកមកប្រើប្រាស់ដោយអង្គភាព (ដំណើរការ) ។

An innovation is a new or improved product or process (or combination thereof) that differs significantly from the unit's previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process) .

ប្រភេទនវានុវត្តន៍ (Types of Innovation)

នវានុវត្តន៍ផលិតផល គឺជាទំនិញ ឬសេវាកម្មថ្មី ឬប្រសើរឡើង ដែលខុសគ្នាយ៉ាងខ្លាំងពីទំនិញ ឬសេវាកម្មពីមុន របស់គ្រឹះស្ថានហើយដែលត្រូវបានណែនាំនៅលើទីផ្សារ។ នវានុវត្តន៍ផលិតផលអាចរួមបញ្ចូលផលិតផលទូទៅ ពីប្រភេទ ៖ ទំនិញ និងសេវាកម្ម។

A product innovation is a new or improved good or service that differs significantly from the firm's previous goods or services and that has been introduced on the market. Product innovations can involve two generic types of products: goods and services.

- **ទំនិញ** រួមមានវត្ថុរូបី(ជាក់ស្តែង) និងផលិតផលចំណេះដឹងមួយចំនួន សិទ្ធិដែលទទួលបានកម្មសិទ្ធិ ហើយកម្មសិទ្ធិអាចផ្ទេរបានតាមរយៈប្រតិបត្តិការទីផ្សារ។
- **Goods** include tangible objects and some knowledge-capturing products over which ownership rights can be established and whose ownership can be transferred through market transactions.
- **សេវាកម្ម** គឺជាសកម្មភាពអរូបីដែលត្រូវបានបង្កើតឡើង និងប្រើប្រាស់ក្នុងពេលដំណាលគ្នា ហើយដែល ផ្លាស់ប្តូរលក្ខខណ្ឌ (ឧ. ផ្លូវកាយ ផ្លូវចិត្ត ។ល។) របស់អ្នកប្រើប្រាស់។ ការចូលរួមរបស់អ្នកប្រើប្រាស់ តាមរយៈពេលវេលា ភាពអាចរកបាន ការយកចិត្តទុកដាក់ ការបញ្ជូនព័ត៌មាន ឬការខិតខំប្រឹងប្រែង របស់ពួកគេ ជារឿយៗជាលក្ខខណ្ឌចាំបាច់ដែលនាំទៅដល់ការសហការផលិតសេវាកម្មដោយអ្នកប្រើ ប្រាស់និងគ្រឹះស្ថាន។ ដូច្នេះ គុណលក្ខណៈ ឬបទពិសោធន៍នៃសេវាកម្មអាចអាស្រ័យលើការបញ្ចូល (ធាតុចូល) របស់អ្នកប្រើប្រាស់។
- **Services** are intangible activities that are produced and consumed simultaneously and that change the conditions (e.g. physical, psychological, etc.) of users. The engagement of users through their time, availability, attention, transmission of information, or effort is often a necessary condition that leads to the co-production of services by users and the firm. The attributes or experience of a service can therefore depend on the input of users.
- សេវាកម្មក៏អាចរួមបញ្ចូលផលិតផលចំណេះដឹងមួយចំនួនផងដែរ។
- Services can also include some knowledge-capturing products.

នវានុវត្តន៍ដំណើរការធុរកិច្ច គឺជាដំណើរការធុរកិច្ច ថ្មី ឬប្រសើរឡើងសម្រាប់មុខងារធុរកិច្ច មួយ ឬច្រើន ដែលខុស គ្នាយ៉ាងខ្លាំងពីដំណើរការធុរកិច្ចពីមុនរបស់គ្រឹះស្ថាន ហើយដែលត្រូវបានប្រើប្រាស់ដោយគ្រឹះស្ថាន។ នវានុវត្តន៍ ដំណើរការធុរកិច្ច ទាក់ទងនឹងមុខងារផ្សេងៗរបស់គ្រឹះស្ថាន។

A business process innovation is a new or improved business process for one or more business functions that differs significantly from the firm's previous business processes and that has been brought into use by the firm. Business process innovations concern the different functions of a firm.

- **ការផលិតទំនិញ ឬសេវាកម្ម**៖ សកម្មភាពដែលបំប្លែងធាតុចូលទៅឱ្យជាទំនិញ ឬសេវាកម្ម រួមទាំងវិស្វកម្ម និងការធ្វើតេស្តបច្ចេកទេសពាក់ព័ន្ធ ការវិភាគ និងសកម្មភាពបញ្ជាក់ ដើម្បីគាំទ្រដល់ការផលិត។

- **Production of goods or services:** Activities that transform inputs into goods or services, including engineering and related technical testing, analysis and certification activities to support production.
- **ការចែកចាយ និងកសួងការ៖** មុខងារនេះរួមមាន
 - ក) ការដឹកជញ្ជូន និងការផ្តល់សេវា។
 - ខ) ឃ្នាំង។
 - គ) ដំណើរការការបញ្ជាទិញ។
- **Distribution and logistics:** This function includes
 - a) Transportation and service delivery.
 - b) Warehousing.
 - c) Order processing.
- **ទីផ្សារ និងការលក់៖** មុខងារនេះរួមមាន៖
 - ក) វិធីសាស្ត្រទីផ្សារ រួមមានការផ្សាយពាណិជ្ជកម្ម (ការផ្សព្វផ្សាយផលិតផល និងការដាក់តាំងការលក់ខ្ពស់ផលិតផល) ទីផ្សារផ្ទាល់ (ទីផ្សារពីចម្ងាយ) ការតាំងពិព័រណ៍ និងពិព័រណ៍ពាណិជ្ជកម្ម ការស្រាវជ្រាវទីផ្សារ និងសកម្មភាពផ្សេងទៀត ដើម្បីអភិវឌ្ឍទីផ្សារថ្មី។
 - ខ) យុទ្ធសាស្ត្រ និងវិធីសាស្ត្រកំណត់តម្លៃ។
 - គ) សកម្មភាពលក់ និងក្រោយពេលលក់រួមទាំងការិយាល័យផ្នែកជំនួយអតិថិជននិងសកម្មភាពទំនាក់ទំនងអតិថិជន។
- **Marketing and sales:** This function includes
 - a) Marketing methods including advertising (product promotion and placement, packaging of products), direct marketing (telemarketing), exhibitions and fairs, market research and other activities to develop new markets.
 - b) Pricing strategies and methods.
 - c) Sales and after-sales activities, including help desks other customer support and customer relationship activities.
- **ប្រព័ន្ធព័ត៌មាន និងទំនាក់ទំនង៖** ថែទាំ និងផ្តល់ព័ត៌មាន និងប្រព័ន្ធទំនាក់ទំនង រួមទាំង
 - ក) ផ្នែករឹង និងសូហ្វវែរ។
 - ខ) ដំណើរការទិន្នន័យ និងមូលដ្ឋានទិន្នន័យ database ។
 - គ) ថែទាំ និងជួសជុល។
 - ឃ) ការបង្ហាញគេហទំព័រ និងសកម្មភាពព័ត៌មានទាក់ទងនឹងកុំព្យូទ័រផ្សេងទៀត។
- **Information and communication systems:** The maintenance and provision of information and communication systems, including
 - a) Hardware and software.
 - b) Data processing and database.
 - c) Maintenance and repair.
 - d) web-hosting and other computer-related information activities.
- **ការគ្រប់គ្រង និងការគ្រប់គ្រង៖** មុខងារនេះរួមមាន

- ក) យុទ្ធសាស្ត្រ និងការគ្រប់គ្រងអាជីវកម្មទូទៅ(មុខងារការសម្រេចចិត្តធ្ងន់)រួមទាំងការរៀបចំការទំនួលខុសត្រូវការងារ
 - ខ) អភិបាលកិច្ចអាជីវកម្ម (ច្បាប់ ផែនការ និងទំនាក់ទំនងសាធារណៈ)។
 - គ) គណនេយ្យ bookkeeping សវនកម្ម ការទូទាត់ និងសកម្មភាពហិរញ្ញវត្ថុ ឬធានារ៉ាប់រងផ្សេងទៀត។
 - ឃ) ការគ្រប់គ្រងធនធានមនុស្ស (ការបណ្តុះបណ្តាល និងការអប់រំ ការជ្រើសរើសបុគ្គលិក កន្លែងធ្វើការ។ ការចាត់ចែង ការផ្តល់បុគ្គលិកបណ្តោះអាសន្ន ការគ្រប់គ្រងប្រាក់បៀវត្សរ៍ ការគាំទ្រផ្នែកសុខភាព និងវេជ្ជសាស្ត្រ)។
 - ង) លទ្ធកម្ម។
 - ច) ការគ្រប់គ្រងទំនាក់ទំនងខាងក្រៅជាមួយអ្នកផ្គត់ផ្គង់ សម្ព័ន្ធភាព។ល។
- **Administration and management:** This function includes
 - a) Strategic and general business management (cross-functional decision-making), including organising work responsibilities.
 - b) Corporate governance (legal, planning and public relations).
 - c) Accounting, bookkeeping, auditing, payments and other financial or insurance activities.
 - d) Human resources management (training and education, staff recruitment, workplace, organisation, provision of temporary personnel, payroll management, health and medical support).
 - e) Procurement. f) Managing external relationships with suppliers, alliances, etc.
 - **ការអភិវឌ្ឍផលិតផល និងដំណើរការអាជីវកម្ម៖** សកម្មភាពក្នុងវិសាលភាព កំណត់អត្តសញ្ញាណអភិវឌ្ឍ ឬសម្រប/កែប្រែទៅតាមផលិតផល ឬដំណើរការអាជីវកម្មរបស់ក្រុមហ៊ុន។ មុខងារនេះអាចត្រូវបានអនុវត្តជាលក្ខណៈប្រព័ន្ធ fashion ឬនៅលើមូលដ្ឋានពិសេស និងត្រូវបានធ្វើឡើងនៅក្នុងក្រុមហ៊ុនឬទទួលបានពីប្រភពខាងក្រៅ។ ទំនួលខុសត្រូវសម្រាប់សកម្មភាពទាំងនេះអាចស្ថិតនៅក្នុង division (ផ្នែកដាច់ដោយឡែក) ឬនៅក្នុងផ្នែកដែលទទួលខុសត្រូវចំពោះមុខងារផ្សេងទៀត ឧ.ការផលិតទំនិញឬសេវាកម្ម។
 - **Product and business process development:** Activities to scope, identify, develop, or adapt products or a firm's business processes. This function can be undertaken in a systematic fashion or on an ad hoc basis, and be conducted within the firm or obtained from external sources. Responsibility for these activities can lie within a separate division or in divisions responsible for other functions, e.g. production of goods or services.

កម្រិតថ្មីរបស់នវានុវត្តន៍ (Novelty Levels of Innovation)

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| ថ្មីក្នុងពិភពលោក New to the world | គ្រឹះស្ថានរបស់អ្នកបានអនុវត្តផលិតផល និងឬសេវាកម្មដែលថ្មី ឬប្រសើរជាងមុនគួរឱ្យកត់សម្គាល់មុនគេសម្រាប់ទីផ្សារនិងឧស្សាហកម្ម នៅក្នុងស្រុក និងក្រៅស្រុក (គ្មានគ្រឹះស្ថានណាមួយប្រើវាពីមុនទេ) (Your establishment introduced a new or significantly improved goods or service that is the first for all markets and |
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| | industries, domestic and international (none of establishment introduces it before)). |
| ថ្មីក្នុងទីផ្សារ New to your market | គ្រឹះស្ថានរបស់អ្នកបានអនុវត្តផលិតផល ឬសេវាកម្មថ្មី ឬប្រសើរជាងមុនគួរឱ្យកត់សម្គាល់ទៅកាន់ទីផ្សាររបស់អ្នកមុនគូប្រកួតប្រជែង (វាអាចមានរួចហើយនៅក្នុងទីផ្សារផ្សេងទៀត) (Your establishment introduced a new or significantly improved goods or service onto your market before your competitors (it may have already been available in other markets)). |
| ថ្មីសម្រាប់តែក្នុងគ្រឹះស្ថាន Only new to your establishment | គ្រឹះស្ថានរបស់អ្នកបានអនុវត្តផលិតផល ឬសេវាកម្មថ្មី ឬប្រសើរជាងមុនគួរឱ្យកត់សម្គាល់ ដែលមានរួចហើយពីគូប្រកួតប្រជែងនៅក្នុងទីផ្សាររបស់អ្នក (Your establishment introduced a new or significantly improved goods or service that was already available from your competitors in your market). |

និយមន័យការស្រាវជ្រាវនិងអភិវឌ្ឍន៍ (Definition of R&D)

គឺសំដៅដល់កិច្ចការមានលក្ខណៈច្នៃប្រឌិតថ្មី និងមានលក្ខណៈជា ប្រព័ន្ធហើយត្រូវបានអនុវត្តដើម្បីបង្កើនសន្និធិនៃចំណេះដឹង ដោយរួមទាំងចំណេះដឹងនៃមនុស្សជាតិ វប្បធម៌ និងសង្គមសំដៅដល់ការច្នៃប្រឌិត បង្កើតការប្រើប្រាស់ថ្មីនានាដោយផ្អែកលើចំណេះដឹងដែលមានស្រាប់។

Comprise of creative and systematic work undertaken in order to increase the stock of knowledge including knowledge of humankind, culture and society and to devise new applications of available knowledge.

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| ថ្មី Novel | លក្ខណៈច្នៃប្រឌិតថ្មី Creative | មានលក្ខណៈជាប្រព័ន្ធ Systematic | ការស្រាវជ្រាវមិនប្រាកដថាទទួលបានលទ្ធផលជោគជ័យទេ Uncertain in its outcomes | អាចផ្ទេរបាន និង/ឬ អាចផលិតឡើងវិញ Transferable and/or Reproducible |
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| <p>នវានុវត្តន៍ Innovation</p> <ul style="list-style-type: none"> - កម្រិតវិសាលភាពទូលំទូលាយជាង (Wider range) - ឆ្លងកាត់ខ្សែច្រវាក់ផលិតកម្ម (Happen across value chain) - មិនតម្រូវទាមទារឱ្យមានលក្ខណៈជាប្រព័ន្ធ (Need not be systematic) | <p>ការស្រាវជ្រាវនិងអភិវឌ្ឍន៍ R&D</p> <ul style="list-style-type: none"> - គឺជាទម្រង់មួយនៃនវានុវត្តន៍ (Is a form of innovation) - ជាញឹកញាប់សំដៅទៅរកលទ្ធផលដែលចង់បាន (Often directed to get the desired output) |
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និយមន័យបដិវត្តន៍ឧស្សាហកម្មជំនាន់ទី៤.០ (Definition of the 4th Industrial Revolution (4IR))

បដិវត្តន៍ឧស្សាហកម្ម៤.០ ត្រូវបានកំណត់លក្ខណៈដោយបច្ចេកវិទ្យាថ្មីៗ ជាច្រើនដែលត្រូវបានរួមបញ្ចូលគ្នារវាងពិភព រូបវន្ត ឌីជីថល និងជីវសាស្ត្រ ដែលជះឥទ្ធិពលលើគ្រប់វិញ្ញាសា សេដ្ឋកិច្ច និងឧស្សាហកម្ម ហើយថែមទាំងមានគំនិតប្រកួតប្រជែងអ្វីដែលមានប្រយោជន៍សម្រាប់មនុស្សជាតិ

Fourth Industrial Revolution is characterised by a range of new technologies that are fusing the physical, digital and biological worlds, impacting all disciplines, economies and industries, and even challenging ideas about what it means to be human.

ការណែនាំ (Instructions)

កម្រងសំណួរនេះ តម្រូវឱ្យបំពេញដោយអ្នកគ្រប់គ្រងប្រតិបត្តិការធុរកិច្ច ហិរញ្ញវត្ថុ ការស្រាវជ្រាវនិងអភិវឌ្ឍន៍ ឬផែនការអាជីវកម្មរបស់គ្រឹះស្ថាន។ សូមឆ្លើយតបគ្រប់សំណួរទាំងអស់លើកលែងតែមានការណែនាំផ្សេងៗ

The questionnaire should be completed by the top manager(s) responsible for business operation or financial operation/management or research and development or corporate planning. Please respond to all questions, unless otherwise instructed.

ផ្នែកទី១៖ អត្តសញ្ញាណសហគ្រាស

(Section1: Enterprise Identification)

| 1.1. ព័ត៌មានតំបន់អង្កេត (Area information) | |
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| រាជធានី/ខេត្ត (Municipality/Province): | |
| ក្រុង/ស្រុក/ខណ្ឌ (City/District/Khan): | |
| ឃុំ/សង្កាត់ (Commune/Sangkat): | |
| ភូមិ/មណ្ឌល (Village/Mondol): | |

| 1.2. ព័ត៌មានអំពីអ្នកផ្តល់ចម្លើយ (Interviewee Information) | |
|---|--|
| ឈ្មោះគ្រឹះស្ថាន (Name of Establishment) | |
| ឈ្មោះអ្នកផ្តល់ចម្លើយ (Name of interviewee): | |
| តួនាទីអ្នកផ្តល់ចម្លើយ (Job title): | |
| លេខទូរស័ព្ទ (Telephone number): | |
| សារអេឡិចត្រូនិក (Email address/Telegram): | |
| អាសយដ្ឋានបច្ចុប្បន្ន (Physical address): | |

| 1.3. ព័ត៌មានអំពីមន្ត្រីអង្កេត (Enumerator Information) | |
|--|--------------------------|
| ឈ្មោះមន្ត្រីសម្ភាសន៍ (Name of Enumerator): | លេខទូរស័ព្ទ (Tel. No.): |
| ហត្ថលេខា (Signature): | |

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| ថ្ងៃ ខែ ឆ្នាំសម្ភាសន៍ (Interview date) | លើកទី១ (First): | លើកទី២ (Second): | លើកទី៣ (Third): |
| ម៉ោងចាប់ផ្តើមសម្ភាសន៍ (Started Time): | | ម៉ោងបញ្ចប់សម្ភាសន៍ (Finished Time): | |
| កាលបរិច្ឆេទប្រគល់កម្រងសំណួរ (Delivery date): | | កាលបរិច្ឆេទប្រមូលកម្រងសំណួរ (Collection date): | |
| ឈ្មោះមន្ត្រីត្រួតពិនិត្យ (Supervisor's name): | ហត្ថលេខា (Signature): | ថ្ងៃ ខែ ឆ្នាំ (D/M/Y): | |
| ឈ្មោះមន្ត្រីកែច្នៃ និងដាក់លេខកូដ (Coders name): | ហត្ថលេខា (Signature): | ថ្ងៃ ខែ ឆ្នាំ (D/M/Y): | |
| ឈ្មោះមន្ត្រីបញ្ចូលទិន្នន័យ (Data entry personnel's name): | ហត្ថលេខា (Signature): | ថ្ងៃ ខែ ឆ្នាំ (D/M/Y): | |

| 1.4. ព័ត៌មានសហគ្រាស (Enterprise Profile) | | | | |
|--|---|--|--|---|
| សហគ្រាសបង្កើតឡើងនៅឆ្នាំណា? (Year of establishment) | | | | |
| តើសហគ្រាសរបស់អ្នកបានចុះបញ្ជីដែរឬទេ? (Is your enterprise registered?) | ចុះលេខកូដ 1 = បាទ; 2 = ទេ លេខកូដ (code) <input type="checkbox"/> | | | |
| លេខចុះបញ្ជីរបស់សហគ្រាស (Enterprise Reg. No.): | | | | |
| ភាពជាម្ចាស់ (Ownership): | ក្នុងស្រុក (Local) | | | % |
| | បរទេស (Foreign) | | | % |
| ចំនួនម្ចាស់សហគ្រាស (ទាំងមាន និងគ្មានប្រាក់ខែ) Number of owners (both paid and unpaid): | សរុប (Total) | | | នាក់ |
| | ស្រី (Female) | | | នាក់ |
| វិស័យ (Sector) | 1. កម្មន្តសាល/ផលិតកម្ម (Manufacturing) | | | លេខកូដ (code) <input type="checkbox"/> |
| | 2. ពាណិជ្ជកម្មនិងសេវាកម្ម (Commercial and Services) | | | |
| | 3. កសិកម្ម (Agriculture) | | | |
| ចំនួននិយោជិត (Number of employees) | | | | នាក់ |

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| 1.5. ប្រភេទសហគ្រាស (Type of Enterprise) | | |
| 1. សហគ្រាសអាជីវកម្មនិងស្រាវជ្រាវរដ្ឋ (Government and Research Institutes) | | លេខកូដ (code) <input type="text"/> |
| 2. សហគ្រាសសិក្សាជាន់ខ្ពស់ (Institutions of Higher Learning) | | |
| 3. សហគ្រាសអាជីវកម្ម (Business Enterprises) | | |
| 4. អង្គការមិនមែនរដ្ឋាភិបាល (NGOs) | | |
| 1.6. ភាពជាម្ចាស់នៃសហគ្រាស (Ownership of Enterprise (Legal status)) | | |
| 1. ក្រុមហ៊ុនឯកកម្មសិទ្ធិ(មិនបានចុះបញ្ជី) (Individual proprietor (with no registration)) | 2. ក្រុមហ៊ុនឯកកម្មសិទ្ធិ(បានចុះបញ្ជី) (Sole Proprietorship (with registration)) | លេខ កូដ (code) <input type="text"/> |
| 3. ក្រុមហ៊ុនសហកម្មសិទ្ធិទូទៅ (General Partnership) | 4. ក្រុមហ៊ុនសហកម្មសិទ្ធិមានកម្រិត (Limited Partnership) | |
| 5. ក្រុមហ៊ុនឯកជនទទួលខុសត្រូវមានកម្រិត (Private Limited Company) | 6. ក្រុមហ៊ុនមហាជនទទួលខុសមានកម្រិត (Public Limited Company) | |
| 7. បុត្រសម្ព័ន្ធក្រុមហ៊ុនពាណិជ្ជកម្មបរទេស (Subsidiary of Foreign Company) | 8. សាខាក្រុមហ៊ុនបរទេស (Branch of Foreign Company) | |
| 9. ការិយាល័យតំណាងពាណិជ្ជកម្មក្រុមហ៊ុន បរទេស (Commercial representative office foreign company) | 10. សហករណ៍ (Cooperative) | |
| 11. សហគ្រាសគ្រប់គ្រងដោយរដ្ឋ (State-owned organisation) <i>រួមទាំងស្វ័យ័ត (Including autonomy-owned organisation)</i> | 12. អង្គការមិនមែនរដ្ឋាភិបាល (NGO) | |
| 13. ផ្សេងទៀតសូមបញ្ជាក់៖ (If others, please specify:) | | |

ផ្នែកទី២៖ ព័ត៌មានទូទៅអំពីសហគ្រាស

(Section2: General Information About Your Enterprise)

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| 2.1. សកម្មភាពអាជីវកម្មចម្បង (Main Business Activity) |
| សូមអធិប្បាយពីសកម្មភាពចម្បងរបស់សហគ្រាសអ្នក (Please give a description of your main activities): |
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| 2.2. តើគ្រឹះស្ថានរបស់អ្នកគឺជាបុគ្គលម្ចាស់ ឬសាខា នៃស្នាក់ការកណ្តាល/ក្រុមហ៊ុនមេ ដែរឬទេ ? (Is your establishment part of a company group ?) | <input type="checkbox"/> |
| 1. បាទ Yes 2. ទេ No (បើ ទេ សូមរំលងទៅ Skip to 2.3) | |
| ប្រសិនបើ បាទ សូមប្រាប់ទីតាំងស្នាក់ការកណ្តាល ? If yes, please indicate the location of the head office. | |
| 1. ប្រទេសកម្ពុជា (Cambodia) | |
| 2. ក្រៅប្រទេសកម្ពុជា (Outside Cambodia) | កូដប្រទេស |
| (សូមបញ្ជាក់ប្រទេស (Country specify)) | <input type="text"/> <input type="text"/> <input type="text"/> |

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| 2.3. ប្រាក់ចំណូលដុល (Turnover) ក្នុងឆ្នាំ 2021: | | លានរៀល (Million riels) |
| ភាគរយបានមកពីការនាំចេញ (Percentage derived from exports): | | % |
| 2.4. ប្រាក់ចំណូលដុល (Turnover) ក្នុងឆ្នាំ 2022: | | លានរៀល (Million riels) |
| ភាគរយបានមកពីការនាំចេញ (Percentage derived from exports): | | % |
| 2.5. ប្រាក់ចំណូលដុល (Turnover) ក្នុងឆ្នាំ 2023: | | លានរៀល (Million riels) |
| ភាគរយបានមកពីការនាំចេញ (Percentage derived from exports): | | % |

ផ្នែកទី៣៖ សកម្មភាពស្រាវជ្រាវនិងអភិវឌ្ឍន៍

(Section3: Research and Development Activity)

ការស្រាវជ្រាវនិងអភិវឌ្ឍន៍៖ សំដៅដល់កិច្ចការមានលក្ខណៈច្នៃប្រឌិតថ្មី និងមានលក្ខណៈជាប្រព័ន្ធ ហើយត្រូវ បាន អនុវត្តដើម្បីបង្កើនសន្និធិនៃចំណេះដឹង ដោយរួមទាំងចំណេះដឹងនៃមនុស្សជាតិ វប្បធម៌ និងសង្គម សំដៅប្រឌិត តបង្កើត ការប្រើប្រាស់ថ្មីនានាដោយផ្អែកលើចំណេះដឹងដែលមានស្រាប់។

Research and Development (R&D): comprise of creative and systematic work undertaken in order to increase the stock of knowledge including knowledge of humankind, culture and society and to devise new applications of available knowledge.

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| 3.1. ក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) តើសហគ្រាសរបស់អ្នកបានធ្វើសកម្មភាព ឬអនុវត្តគម្រោងការស្រាវជ្រាវ និងអភិវឌ្ឍន៍ដើម្បីបង្កើតឬកែលម្អផលិតផលដែរឬទេ ? During the three -year period from 2021 to 2023, did your enterprise carry out any research and development (R&D) activities or projects ? | |
| <p style="text-align: center;">ចុះលេខកូដ 1 = បាទ; 2 = ទេ</p> <p style="text-align: center;">លេខកូដ (code) <input style="width: 40px; height: 20px;" type="text"/></p> | <p style="text-align: center;">បើ ទេ សូមរំលងទៅផ្នែកទី៤ (If no, skip to Section 4)</p> |
| 3.2 សូមអធិប្បាយពីសកម្មភាពស្រាវជ្រាវនិងអភិវឌ្ឍន៍របស់សហគ្រាសអ្នក (Please give a description of your research and development activities): | |
| <div style="border-top: 1px dotted black; height: 15px; margin-bottom: 5px;"></div> <div style="border-top: 1px dotted black; height: 15px; margin-bottom: 5px;"></div> <div style="border-top: 1px dotted black; height: 15px; margin-bottom: 5px;"></div> <div style="border-top: 1px dotted black; height: 15px; margin-bottom: 5px;"></div> <div style="border-top: 1px dotted black; height: 15px; margin-bottom: 5px;"></div> | |

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|---|-------------------|--|--|--|--|--------------------|--|
| 3.3. ធនធានមនុស្សសម្រាប់ការស្រាវជ្រាវនិងអភិវឌ្ឍន៍ (Human resources for research and development): | | | | | | | |
| 3.3.1. ចំនួនអ្នកស្រាវជ្រាវ (Researchers) | សរុប (Total) | | | | | ស្រី (Female) | |
| 3.3.2. ចំនួនអ្នកបច្ចេកទេស (Technicians) | សរុប (Total) | | | | | ស្រី (Female) | |
| 3.3.3. ចំនួនបុគ្គលិកគាំទ្រផ្សេងទៀត (Other R&D support staff) | សរុប (Total) | | | | | ស្រី (Female) | |

| 3.4. ការចំណាយសរុបលើ ការស្រាវជ្រាវនិងអភិវឌ្ឍន៍ ក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) (Total research and development expenditure during the last three-year 2021 to 2023): | | |
|---|--|--|
| <i>(ថ្លៃដើមពលកម្មសរុប + ចំណាយចរន្តដទៃ + ចំណាយលើវិធានការ រោងចក្រ ម៉ាស៊ីន និងបរិក្ខារផ្សេងៗ + ចំណាយលើដី អគារ និងរចនាសម្ព័ន្ធផ្សេងៗ + ចំណាយកម្មវិធីកុំព្យូទ័រ) (Total labour cost + Other current expenditure + Vehicles, plant, machinery and equipment + Land buildings and other structures + Total programming computer)</i> | | |
| 3.4.1. ចំណាយសរុបលើការស្រាវជ្រាវនិងអភិវឌ្ឍន៍ ក្នុងឆ្នាំ2021 (Total R&D expenditure in 2021): | | លានរៀល (Million riels) |
| 3.4.2. ចំណាយសរុបលើការស្រាវជ្រាវនិងអភិវឌ្ឍន៍ ក្នុងឆ្នាំ2022 (Total R&D expenditure in 2022): | | លានរៀល (Million riels) |
| 3.4.3. ចំណាយសរុបលើការស្រាវជ្រាវនិងអភិវឌ្ឍន៍ ក្នុងឆ្នាំ2023 (Total R&D expenditure in 2023): | | លានរៀល (Million riels) |
| ប្រភព (SOURCE) | | ការស្រាវជ្រាវ និងអភិវឌ្ឍន៍ (R&D) |
| 1. ប្រភពធនធានខ្លួនឯង (Own Source) (រួមបញ្ចូលប្រាក់កម្ចី) | | <input type="text"/> <input type="text"/> <input type="text"/> % |
| 2. ប្រភពធនធានឯកជន (Private Source) ក្រុមហ៊ុនបុត្រសម្ព័ន្ធ គ្រឹះស្ថានដែលជាប់សម្ព័ន្ធ គ្រឹះស្ថានមិនមែនហិរញ្ញវត្ថុ ឯកជនផ្សេងទៀត (គ្រឹះស្ថានឯកជនផ្សេងទៀត) គ្រឹះស្ថានហិរញ្ញវត្ថុ (Subsidiaries, associated companies, other private non-financial enterprises, financial companies) | | <input type="text"/> <input type="text"/> <input type="text"/> % |
| 3. ប្រភពធនធានសាធារណៈ: (Public Source) រាជរដ្ឋាភិបាល (Government) | | <input type="text"/> <input type="text"/> <input type="text"/> % |
| 4. ប្រភពធនធានផ្សេងទៀត (Other Source) រួមទាំងស្ថាប័នជាតិ និងអន្តរជាតិ (Including national/international organisations) | | <input type="text"/> <input type="text"/> <input type="text"/> % |
| Total | | 100% |

ផ្នែកទី៤៖ នវានុវត្តន៍

(Section4: Innovation)

4.1 នវានុវត្តន៍ផលិតផល (Product Innovation)

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| <p>4.1.1. ក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) តើសហគ្រាសរបស់អ្នកបានណែនាំផលិតផល (ទំនិញឬសេវាកម្ម) ថ្មី ឬប្រសើរជាងមុនគួរឱ្យកត់សម្គាល់ដែរឬទេ ? During the three -year period from 2021 to 2023, did your enterprise introduce any new or significantly improved products (goods or services) ?</p> | |
| <p>ចុះលេខកូដ 1 = បាទ; 2 = ទេ</p> <p>លេខកូដ (code) <input type="checkbox"/></p> | <p>បើ ទេ សូមរំលងទៅ 4.2. (If no, skip to 4.2.)</p> |
| <p>សូមអធិប្បាយពីផលិតផល (ទំនិញឬសេវាកម្ម) ថ្មី ឬប្រសើរជាងមុនគួរឱ្យកត់សម្គាល់ របស់សហគ្រាសអ្នក (Please give a description of your new or significantly improved products (goods or services)):</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> | |

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| <p>4.1.2. ផលិតផល ឬសេវាកម្មថ្មី ឬប្រសើរជាងមុនគួរឱ្យកត់សម្គាល់ (New or Significantly Improved Products (Goods/Services)</p> <p>សូមដាក់លេខ (1) ប្រសិនបើមាន ឬ (2) ប្រសិនបើគ្មាន នៅក្នុងផលិតផល ឬសេវាកម្មដែលថ្មី ឬប្រសើរ ជាងមុនគួរឱ្យកត់សម្គាល់ដែលបានណែនាំទៅទីផ្សារតាមប្រភេទដូចខាងក្រោម៖ (Please put (1) if Yes or (2) if No in new or significantly improved products introduced to the market according to the following categories.)</p> | |
| <p>បង្កើតឡើងដោយ (Developed by)</p> | <p>ផលិតផល ឬសេវាកម្មថ្មីឬប្រសើរជាងមុនគួរឱ្យកត់សម្គាល់បង្កើតឡើងដោយ (New or significantly improved goods)</p> <p>(សម្រាប់តែសំណួរ 4.1.1. មានចម្លើយបាទ=1)</p> |
| <p>1. គ្រឹះស្ថានរបស់អ្នក ឬក្រុមហ៊ុនមេដែរឬទេ ? (Mainly your establishment or company group)</p> | <p><input type="checkbox"/></p> |

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| 2. គ្រឹះស្ថានរបស់អ្នករួមគ្នាជាមួយគ្រឹះស្ថានផ្សេង (Your establishment together with other establishments) | <input type="checkbox"/> |
| 3. គ្រឹះស្ថានរបស់អ្នករួមគ្នាជាមួយរាជរដ្ឋាភិបាលដែរឬទេ ? (Your establishment together with government) | <input type="checkbox"/> |
| 4. គ្រឹះស្ថានរបស់អ្នករួមគ្នាជាមួយគ្រឹះស្ថានអប់រំដែរឬទេ ? (Your establishment together with academia) | <input type="checkbox"/> |
| 5. គ្រឹះស្ថានរបស់អ្នករួមគ្នាជាមួយស្ថាប័នដែរឬទេ ? (Your establishment together with organisation/institution) | <input type="checkbox"/> |
| 6. ផ្សេងទៀត (សូមបញ្ជាក់) (Others. Please specify.) | <input type="checkbox"/> |

| 4.1.3. ក្នុងរយៈពេល៣ឆ្នាំ (២០២១-២០២៣) នវានុវត្តន៍ផលិតផល/សេវាកម្មថ្មី ឬផលិតផល/សេវាកម្មដែលប្រសើរជាងមុនគួរឱ្យកត់សម្គាល់របស់គ្រឹះស្ថានអ្នក៖ (Were any of your product (goods or services) innovations during the three-year period from 2021 to 2023) | | |
|--|---|--|
| 1. ថ្មីក្នុងពិភពលោកដែរឬទេ ? (New to the world) | គ្រឹះស្ថានរបស់អ្នកបានអនុវត្តផលិតផល និងឬសេវាកម្មដែលថ្មី ឬប្រសើរ ជាងមុនគួរឱ្យកត់សម្គាល់មុនគេសម្រាប់ទីផ្សារ និងឧស្សាហកម្ម នៅក្នុង ស្រុកនិងក្រៅស្រុក (គ្មានគ្រឹះស្ថានណាមួយប្រើវាពីមុនទេ) ។ Your establishment introduced a new or significantly improved goods or service that is the first for all markets and industries, domestic and international (none of establishment introduces it before). | 1. បាទ Yes 2. ទេ No <input type="checkbox"/> |
| 2. ថ្មីក្នុងទីផ្សាររបស់អ្នកដែរឬទេ ? (New to your market) | គ្រឹះស្ថានរបស់អ្នកបានអនុវត្តផលិតផល ឬសេវាកម្មថ្មី ឬប្រសើរជាងមុនគួរឱ្យកត់សម្គាល់ទៅកាន់ទីផ្សាររបស់អ្នកមុនគូប្រកួតប្រជែងរបស់អ្នក (វាអាចមានរួចហើយនៅក្នុងទីផ្សារផ្សេងទៀត) (Your establishment introduced a new or significantly improved goods or service onto your market before your competitors (it may have already been available in other markets). | <input type="checkbox"/> |

| | | |
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| <p>3. ថ្មីតែចំពោះគ្រឹះស្ថានរបស់អ្នកដែរឬទេ ? (Only new to your establishment)</p> | <p>គ្រឹះស្ថានរបស់អ្នកបានអនុវត្តផលិតផល ឬសេវាកម្មថ្មី ឬប្រសើរជាងមុនគួរឱ្យកត់សម្គាល់ដែលមានរួចហើយពីដៃគូប្រកួតប្រជែងនៅក្នុងទីផ្សាររបស់អ្នក (Your establishment introduced a new or significantly improved goods or service that was already available from your competitors in your market).</p> | <div style="text-align: center;"> <input type="checkbox"/> </div> |
|--|---|---|

| 4.1.4. សូមប៉ាន់ប្រមាណគិតជាភាគរយនៃចំណូលសរុបរបស់សហគ្រាសក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) ដោយបែងចែកដូចខាងក្រោម៖ (Please estimate how your total turnover in 2021-2023 was distributed between) | | | | |
|---|---|---|---|---|
| <p>1. ផលិតផលដែលបានធ្វើនវានុវត្តន៍ក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) ដែលថ្មីក្នុងពិភពលោក (Products introduced during the three-year period from 2021 to 2023: that was new to the world)</p> | | | | % |
| <p>2. ផលិតផលដែលបានធ្វើនវានុវត្តន៍ក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) ដែលថ្មីសម្រាប់ទីផ្សាររបស់អ្នក (Products introduced during the three-year period from 2021 to 2023: that was new to your market)</p> | | | | % |
| <p>3. ផលិតផលដែលបានធ្វើនវានុវត្តន៍ក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) ដែលថ្មីចំពោះសហគ្រាសរបស់អ្នក ប៉ុន្តែមិនថ្មីក្នុងទីផ្សាររបស់អ្នក (Products introduced during the three-year period from 2021 to 2023 that were new to your Enterprise but not new to the market)</p> | | | | % |
| <p>4. ផលិតផលដែលមិនត្រូវបានផ្លាស់ប្តូរ ឬក៏បានកែសម្រួលតិចតួចប៉ុណ្ណោះក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) (រួមមានការលក់ផលិតផល និងឬសេវាកម្មថ្មីដែលបានទិញពីសហគ្រាសផ្សេងទៀត) (Products that were unchanged or only marginally modified during the three-year period from 2021 to 2023(include the resale of new goods or services purchased from another Enterprise)</p> | | | | % |
| ចំណូលសរុប (Total Turnover): | 1 | 0 | 0 | % |

4.2 នវានុវត្តន៍ដំណើរការអាជីវកម្ម (Business Process Innovation)

ក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) តើសហគ្រាសរបស់អ្នកបានធ្វើនវានុវត្តន៍ដំណើរការអាជីវកម្មដូចខាងក្រោមដែរឬទេ ? During the three-year period from 2021 to 2023, did your Enterprise introduce any of the following types of business process innovations ?

| | |
|---|---|
| <p>4.2.1. វិធីសាស្ត្រថ្មី ឬប្រសើរជាងមុនគួរឱ្យកត់សម្គាល់ នៃការផលិតទំនិញ ឬផ្តល់សេវាកម្មដែរឬទេ ? (New or significantly improved methods for producing or developing goods or providing services ?)</p> | <p>1. បាទ Yes ; 2. ទេ No <input type="checkbox"/></p> |
| <p>4.2.2. វិធីសាស្ត្រនៃភស្តុភារ ការដឹកជញ្ជូន ឬការចែកចាយថ្មី ឬប្រសើរជាងមុនគួរឱ្យកត់សម្គាល់ដែរឬទេ ? (New or significantly improved logistics, delivery or distribution methods ?)</p> | <p>1. បាទ Yes ; 2. ទេ No <input type="checkbox"/></p> |
| <p>4.2.3. វិធីសាស្ត្រថ្មី ឬប្រសើរជាងមុនគួរឱ្យកត់សម្គាល់ សម្រាប់ប្រព្រឹត្តកម្មព័ត៌មាន ឬសារគមនាគមន៍ដែរឬទេ ? (New or significantly improved methods for information processing or communication ?)</p> | <p>1. បាទ Yes ; 2. ទេ No <input type="checkbox"/></p> |
| <p>4.2.4. វិធីសាស្ត្រថ្មី ឬប្រសើរជាងមុនគួរឱ្យកត់សម្គាល់ សម្រាប់ប្រតិបត្តិការគណនេយ្យ ឬរដ្ឋបាលផ្សេងទៀតដែរឬទេ ? (New or significantly improved methods for accounting or other administrative operations ?)</p> | <p>1. បាទ Yes ; 2. ទេ No <input type="checkbox"/></p> |
| <p>4.2.5. ការប្រតិបត្តិអាជីវកម្មថ្មី ឬប្រសើរជាងមុនគួរឱ្យកត់សម្គាល់ សម្រាប់ការរៀបចំនីតិវិធី ឬទំនាក់ទំនងខាងក្រៅដែរឬទេ ? (New or significantly improved business practices for organising procedures or external relations ?)</p> | <p>1. បាទ Yes ; 2. ទេ No <input type="checkbox"/></p> |
| <p>4.2.6. វិធីសាស្ត្រថ្មី ឬប្រសើរជាងមុនគួរឱ្យកត់សម្គាល់ សម្រាប់ការរៀបចំការទទួលខុសត្រូវការងារ ការសម្រេចចិត្ត ឬការគ្រប់គ្រងធនធានមនុស្សដែរឬទេ ? (New or significantly improved methods for organising work responsibility, decision making or human resource management ?)</p> | <p>1. បាទ Yes ; 2. ទេ No <input type="checkbox"/></p> |
| <p>4.2.7. វិធីសាស្ត្រទីផ្សារថ្មី ឬប្រសើរជាងមុនគួរឱ្យកត់សម្គាល់ សម្រាប់ការផ្សព្វផ្សាយ ការវេចខ្ចប់ ការកំណត់តម្លៃ ការដាក់លក់ផលិតផល ឬសេវាកម្មបន្ទាប់ពីការលក់ដែរឬទេ ? (New or significantly improved marketing methods for promotion, packaging, pricing, product placement or after sales services ?)</p> | <p>1. បាទ Yes ; 2. ទេ No <input type="checkbox"/></p> |

សូមអធិប្បាយពីនវានុវត្តន៍ដំណើរការដែលសំខាន់បំផុតរបស់សហគ្រាសអ្នក (Please give a short description of your most important process innovation):

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.....

.....

ផ្នែកទី៥៖ សកម្មភាពនវានុវត្តន៍ និងការចំណាយ

(Section5: Innovation Activities and Expenditure)

| | | | | | | | | | |
|---|--|--|--|------|------------------|--|--|--|------|
| 5.1. ចំនួនបុគ្គលិកដែលបានចូលរួមយ៉ាងសកម្មជាមួយនឹងសកម្មភាពនវានុវត្តន៍នៅក្នុងសហគ្រាសរបស់អ្នក (Number of people actively involved in innovation activities in your Enterprise): | | | | | | | | | |
| សរុប (Total): | | | | នាក់ | ស្រី (Female): | | | | នាក់ |

5.2. ក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) តើសហគ្រាសរបស់អ្នកបានចូលរួមក្នុងសកម្មភាពនវានុវត្តន៍ដូចខាងក្រោមដែរឬទេ? ប្រសិនបើបានចូលរួម សូមបញ្ចូលចំនួនដែលបានប៉ាន់ស្មានយោងទៅតាមលំដាប់ដូចខាងក្រោម (During the three-year period from 2021 to 2023, did your enterprise engage in the following innovation activities? if yes, please insert estimation amount according the range given below).

1. ការស្រាវជ្រាវ និងអភិវឌ្ឍន៍នៅក្នុងកន្លែង (In-house research and development)
 ការងារច្នៃប្រឌិតដែលបានអនុវត្តនៅក្នុងសហគ្រាសរបស់អ្នកម្តងម្កាល ឬជា ប្រចាំដើម្បីបង្កើននូវសន្និដ្ឋានចំណេះដឹង ដើម្បីប្រើក្នុងការបង្កើតថ្មីនិងធ្វើឱ្យ ប្រសើរឡើងនូវទំនិញ សេវាកម្ម និងដំណើរការ។ (Creative work undertaken within your Enterprise on an occasional or regular basis to increase the stock of knowledge and its use to devise new and improved goods, services and processes).

| | | | | | |
|---|---|--|--|--|--------------------------|
| ចុះលេខកូដ 1 = បាទ; 2 = ទេ លេខកូដ (code) <input type="checkbox"/> | ប្រសិនបើ បាទ សូមប៉ាន់ស្មានការចំណាយ (If yes, please insert estimated expenditure): | | | | |
| | | | | | លានរៀល (Million Riels) |

2. ការទិញយកការស្រាវជ្រាវ និងអភិវឌ្ឍន៍ (Acquisition of research and development)
 ដូចគ្នានឹងសកម្មភាពខាងលើប៉ុន្តែត្រូវបានទិញដោយសហគ្រាសរបស់អ្នកនិងបានធ្វើដោយសហគ្រាសផ្សេងទៀត (រួមទាំងសហគ្រាសផ្សេងទៀតនៅក្នុងក្រុមហ៊ុនមេរបស់អ្នក) ឬដោយស្ថាប័នស្រាវជ្រាវសាធារណៈ ឬឯកជន។ (Same activities as above, but purchased by your Enterprise and performed by other Enterprise (including other companies within your group) or by public or private research organisations).

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|---|---|--|--|--|--------------------------|
| ចុះលេខកូដ 1 = បាទ; 2 = ទេ លេខកូដ (code) <input type="checkbox"/> | ប្រសិនបើ បាទ សូមប៉ាន់ស្មានការចំណាយ (If yes, please insert estimated expenditure): | | | | |
| | | | | | លានរៀល (Million Riels) |

3. ការទិញយកគ្រឿងម៉ាស៊ីន ឧបករណ៍ និងកម្មវិធី Software (Acquisition of machinery, equipment and software)
 ការទិញគ្រឿងម៉ាស៊ីន បរិក្ខារ កម្មវិធីកុំព្យូទ័រ hardware ឬ software ដើម្បីផលិតនូវទំនិញ សេវាកម្ម ដំណើរការ ផលិតកម្ម ឬវិធីសាស្ត្រក្នុងការ ចែកចាយដែលថ្មី ឬប្រសើរជាងមុនគួរឱ្យកត់សម្គាល់។ (Purchase of advanced machinery, equipment and computer hardware or software to produce new or significantly improved goods, services, production processes, or delivery methods).

| | | | | | | | |
|---|---|--|--|--|--|--|--|
| <p>ចុះលេខកូដ 1 = បាទ; 2 = ទេ</p> <p>លេខកូដ (code) <input type="checkbox"/></p> | <p>ប្រសិនបើ បាទ សូមប៉ាន់ស្មានការចំណាយ (If yes, please insert estimated expenditure):</p> <table border="1" data-bbox="738 293 1082 349"> <tr> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table> <p>លានរៀល (Million Riels)</p> | | | | | | |
| | | | | | | | |
| <p>4. ការទិញយកចំណេះដឹងពីខាងក្រៅ (Acquisition of external knowledge)</p> <p>ការទិញឬទទួលបានអាជ្ញាប័ណ្ណពីការបង្កើតថ្មីដែលមានប្រកាសនីយបត្រភក្តកម្ម និងមិនមានប្រកាសនីយបត្រភក្តកម្ម ចំណេះធ្វើ និងប្រភេទចំណេះដឹងផ្សេងៗ ពីសហគ្រាសផ្សេងទៀត។ (Purchase or licensing of patents and non-patented inventions, know-how and other types of knowledge from other Enterprises or organisations).</p> | | | | | | | |
| <p>ចុះលេខកូដ 1 = បាទ; 2 = ទេ</p> <p>លេខកូដ (code) <input type="checkbox"/></p> | <p>ប្រសិនបើ បាទ សូមប៉ាន់ស្មានការចំណាយ (If yes, please insert estimated expenditure):</p> <table border="1" data-bbox="738 696 1082 750"> <tr> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table> <p>លានរៀល (Million Riels)</p> | | | | | | |
| | | | | | | | |
| <p>5. ការបណ្តុះបណ្តាល (Training)</p> <p>ការបណ្តុះបណ្តាលខាងក្នុង ឬខាងក្រៅអង្គការសម្រាប់បុគ្គលិករបស់ សហគ្រាសអ្នកក្នុងគោលបំណងក្នុងការអភិវឌ្ឍ និងឬការណែនាំអំពី នវានុវត្តន៍ដោយផ្ទាល់។ (Internal or external training for your personnel directly aimed at the development and/or introduction of innovations).</p> | | | | | | | |
| <p>ចុះលេខកូដ 1 = បាទ; 2 = ទេ</p> <p>លេខកូដ (code) <input type="checkbox"/></p> | <p>ប្រសិនបើ បាទ សូមប៉ាន់ស្មានការចំណាយ (If yes, please insert estimated expenditure):</p> <table border="1" data-bbox="738 1046 1082 1102"> <tr> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table> <p>លានរៀល (Million Riels)</p> | | | | | | |
| | | | | | | | |
| <p>6. ការបង្ហាញនវានុវត្តន៍នៅលើទីផ្សារ (Market introduction of Innovations)</p> <p>សកម្មភាពសម្រាប់ការរៀបចំទីផ្សារ និងដាក់បង្ហាញទំនិញ និងសេវាកម្មដែលថ្មី ឬប្រសើរជាងមុនគួរឱ្យកត់សម្គាល់ក្នុងនោះ រួមទាំងការស្រាវជ្រាវទីផ្សារ និងការចាប់ផ្តើមដោយផ្សាយពាណិជ្ជកម្ម។ (Activities for the market preparation and introduction of new or significantly improved goods and services, including market research and launch advertising).</p> | | | | | | | |
| <p>ចុះលេខកូដ 1 = បាទ; 2 = ទេ</p> <p>លេខកូដ (code) <input type="checkbox"/></p> | <p>ប្រសិនបើ បាទ សូមប៉ាន់ស្មានការចំណាយ (If yes, please insert estimated expenditure):</p> <table border="1" data-bbox="738 1444 1082 1500"> <tr> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table> <p>លានរៀល (Million Riels)</p> | | | | | | |
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| <p>7. គ្រប់ទម្រង់នៃការរចនាកែលម្អ (All forms of design)</p> <p>សកម្មភាពសម្រាប់ការរៀបចំទីផ្សារ និងដាក់បង្ហាញទំនិញ និងសេវាកម្មដែលថ្មី ឬប្រសើរជាងមុនគួរឱ្យកត់សម្គាល់ក្នុងនោះ រួមទាំងការស្រាវជ្រាវទីផ្សារ និងការចាប់ផ្តើមដោយផ្សាយពាណិជ្ជកម្ម។ (Activities for the market preparation and introduction of new or significantly improved goods and services, including market research and launch advertising).</p> | | | | | | | |
| <p>ចុះលេខកូដ 1 = បាទ; 2 = ទេ</p> <p>លេខកូដ (code) <input type="checkbox"/></p> | <p>ប្រសិនបើ បាទ សូមប៉ាន់ស្មានការចំណាយ (If yes, please insert estimated expenditure):</p> <table border="1" data-bbox="738 1843 1082 1899"> <tr> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table> <p>លានរៀល (Million Riels)</p> | | | | | | |
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| <p>8. ការរៀបចំនវានុវត្តន៍ទីផ្សារ (Preparation for marketing innovation)</p> | | | | | | | |

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| <p>សកម្មភាពដែលពាក់ព័ន្ធការអភិវឌ្ឍ និងការអនុវត្តវិធីសាស្ត្រទីផ្សារថ្មីរួមទាំង ការទិញចំណេះដឹងពីខាងក្រៅ និង ទំនិញជាទុនផ្សេងទៀតដែលទាក់ទងនឹង សកម្មភាពទីផ្សារ (Activities related to the development and implementation of new marketing method including acquisition of other external knowledge and other capital goods that is specifically related to marketing activities).</p> | | | | | |
| <p>ចុះលេខកូដ 1 = បាទ; 2 = ទេ</p> <p>លេខកូដ <input type="checkbox"/> (code)</p> | | <p>ប្រសិនបើ បាទ សូមប៉ាន់ស្មានការចំណាយ (If yes, please insert estimated expenditure):</p> | | | |
| | | | | | លានរៀល (Million Riels) |
| <p>9. ការរៀបចំវិនិយោគ គ្រប់គ្រង (Preparation for organisational innovation)</p> <p>សកម្មភាពដែលពាក់ព័ន្ធការអភិវឌ្ឍ និងការអនុវត្តវិធីសាស្ត្រគ្រប់គ្រងដែល ថ្មីរួមទាំងការទទួលបានចំណេះដឹងពីខាងក្រៅ និងទំនិញជាទុនផ្សេងទៀត ដែលទាក់ទងនឹងសកម្មភាពគ្រប់គ្រង។ (Activities related to the development and implementation of new organisational method including acquisition of other external knowledge and other capital goods that is specifically related to organisational activities).</p> | | | | | |
| <p>ចុះលេខកូដ 1 = បាទ; 2 = ទេ</p> <p>លេខកូដ <input type="checkbox"/> (code)</p> | | <p>ប្រសិនបើ បាទ សូមប៉ាន់ស្មានការចំណាយ (If yes, please insert estimated expenditure):</p> | | | |
| | | | | | លានរៀល (Million Riels) |

ផ្នែកទី៦: ប្រភពធនធាន

(Section 6: Funding)

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| <p>6.1. ក្នុងរយៈពេល៣ឆ្នាំ (២០២១-២០២៣) តើសកម្មភាពវិនិយោគរបស់សហគ្រាសអ្នកបានប្រភពធនធាន មកពីណាខ្លះ? (What is your source to finance your innovation activities during the three-year period from 2021 to 2023?)</p> | | |
| <p>ប្រភពធនធាន (Funding Source)</p> | <p>ប្រភេទវិនិយោគ (Types of Innovation)</p> | |
| | <p>វិនិយោគផលិតផល (Product Innovation)</p> | <p>វិនិយោគដំណើរការអាជីវកម្ម (Business Process Innovation)</p> |
| <p>1. ប្រភពធនធានខ្លួនឯង (Own Source) (រួមបញ្ចូលប្រាក់កម្ចី)</p> | <input type="checkbox"/> | <input type="checkbox"/> |
| <p>2. ប្រភពធនធានឯកជន (Private Source) ក្រុមហ៊ុនបុត្រសម្ព័ន្ធ សហគ្រាសដែលជាប់សម្ព័ន្ធ សហគ្រាសមិនមែនហិរញ្ញវត្ថុឯកជនផ្សេងទៀត (សហគ្រាសឯកជនផ្សេងទៀត) សហគ្រាសហិរញ្ញវត្ថុ (Subsidiaries,</p> | <input type="checkbox"/> | <input type="checkbox"/> |

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| <i>associated companies, other private non-financial enterprises, financial companies)</i> | | |
| 3. ប្រភពធនធានសាធារណៈ (Public Source) <i>រាជរដ្ឋាភិបាល (Government)</i> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. ប្រភពធនធានផ្សេងទៀត (Other Source) <i>រួមទាំងស្ថាប័នជាតិ និងអន្តរជាតិ (Including national/international organisations)</i> | <input type="checkbox"/> | <input type="checkbox"/> |

ផ្នែកទី៧៖ ប្រភពព័ត៌មានសម្រាប់នវានុវត្តន៍

(Section7: Sources of Information for Innovation)

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| 7.1. ប្រភពព័ត៌មានសម្រាប់នវានុវត្តន៍ ក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) (Sources of information for innovation during the three-year period from 2021 to 2023.) សូមដាក់លេខកម្រិតនៃសារៈសំខាន់សម្រាប់អំណះអំណាងនីមួយៗខាងក្រោម៖ (Please indicate the degree of importance for each statement below:) | | | | |
| ប្រភពព័ត៌មាន (Sources of Information) | កម្រិតនៃសារៈសំខាន់ (Degree of Importance) | | | |
| | 0. មិនពាក់ព័ន្ធ (Not Relevant) | 1. តិចតួច (Low) | 2. មធ្យម (Medium) | 3. ខ្ពស់ (High) |
| 1. ផ្ទៃក្នុង (Internal) | | | | |
| 1.1. នៅក្នុងសហគ្រាស (Within the Enterprise) | | <input type="checkbox"/> | | |
| 1.2. សហគ្រាសផ្សេងទៀតនៅក្នុងក្រុមហ៊ុនមេ (Other enterprises within the company group) | | <input type="checkbox"/> | | |
| 2. ទីផ្សារ (Market) | | | | |
| 2.1. អ្នកផ្គត់ផ្គង់ឧបករណ៍ សម្ភារៈ បរិក្ខារ សេវាកម្ម ឬកម្មវិធី software (Suppliers of equipment, materials, services or software) | | <input type="checkbox"/> | | |
| 2.2. ភ្ញៀវ ឬអតិថិជន (Clients or customers) | | <input type="checkbox"/> | | |

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| 2.3. គូប្រកួតប្រជែងនិងសហគ្រាសដទៃទៀតនៅក្នុង ឧស្សាហកម្មរបស់អ្នក (Competitors and other Enterprise in your industry) | <input type="checkbox"/> |
| 3. ប្រភពស្ថាប័ន (Institutional Sources) | |
| 3.1. អ្នកប្រឹក្សាយោបល់ (Consultants) | <input type="checkbox"/> |
| 3.2. មន្ទីរពិសោធន៍អាជីព និងសហគ្រាសស្រាវជ្រាវ និងអភិវឌ្ឍន៍ឯកជន (Commercial laboratories and private R&D institutes) | <input type="checkbox"/> |
| 3.3. សាកលវិទ្យាល័យ ឬសហគ្រាសខ្ពស់សិក្សាផ្សេង ៗទៀត (Universities or other higher education institutes) | <input type="checkbox"/> |
| 3.4. សហគ្រាសស្រាវជ្រាវសាធារណៈ ឬរាជរដ្ឋាភិបាល (Government or public research institutes) | <input type="checkbox"/> |
| 4. ប្រភពដទៃទៀត (Other Sources) | |
| 4.1. សន្និសីទ ពិព័រណ៍ពាណិជ្ជកម្ម និងការតាំង ពិព័រណ៍ (Conferences, trade fairs, exhibitions) | <input type="checkbox"/> |
| 4.2. ការបោះពុម្ពផ្សាយអំពីទិន្នន័យវិទ្យាសាស្ត្រ ពាណិជ្ជកម្ម និងបច្ចេកទេស (Scientific journals and trade /technical publications) | <input type="checkbox"/> |
| 4.3. សមាគមវិជ្ជាជីវៈ និងឧស្សាហកម្ម (Professional and industry associations) | <input type="checkbox"/> |
| 4.4. ស្តង់ដារបច្ចេកទេស ឧស្សាហកម្ម ឬសេវាកម្ម (Technical, industry or service standards) | <input type="checkbox"/> |
| 4.5. ផ្សេងទៀត (សូមបញ្ជាក់)៖ (please specify) :..... | <input type="checkbox"/> |

ផ្នែកទី៨៖ កិច្ចសហប្រតិបត្តិការនវានុវត្តន៍

(Section8: Innovation Co-operation)

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| <p>8.1. ក្នុងរយៈពេល៣ឆ្នាំ (២០២១-២០២៣) តើសហគ្រាសរបស់អ្នកមានការរៀបចំកិច្ចសហប្រតិបត្តិការណាមួយលើសកម្មភាពនវានុវត្តន៍ជាមួយសហគ្រាសដទៃទៀតដែរឬទេ ? Did your Enterprise have any co-operation arrangements on innovation activities with other companies or institutions during the three-year period from 2021 to 2023 ?</p> | |
| <p>ចុះលេខកូដ 1 = បាទ; 2 = ទេ</p> <p>លេខកូដ <input type="checkbox"/> (code)</p> | <p>បើ បាទ សូមគូស (✓) ប្រភេទនៃដៃគូសហការរបស់អ្នក (Please indicate by ticking the type of organisation of your co-operation partner)</p> |
| <p>1. សហគ្រាសផ្សេងទៀតនៅក្នុងក្រុមហ៊ុនមេរបស់អ្នក (Other Enterprise within your company group)</p> | <input type="checkbox"/> |
| <p>2. អ្នកផ្គត់ផ្គង់ឧបករណ៍ សម្ភារៈ បរិក្ខារ សេវាកម្ម ឬ កម្មវិធី software (Suppliers of equipment, materials, components, services or software)</p> | <input type="checkbox"/> |
| <p>3. ភ្ញៀវ ឬអតិថិជន (Clients or customers)</p> | <input type="checkbox"/> |
| <p>4. គូប្រកួតប្រជែង និងសហគ្រាសដទៃទៀតនៅក្នុងឧស្សាហកម្មរបស់អ្នក (Competitors and other enterprises in your industry)</p> | <input type="checkbox"/> |
| <p>5. អ្នកប្រឹក្សាយោបល់ (Consultants)</p> | <input type="checkbox"/> |
| <p>6. មន្ទីរពិសោធន៍អាជីព និងសហគ្រាសស្រាវជ្រាវ និងអភិវឌ្ឍន៍ឯកជន (Commercial laboratories and private R&D Enterprise)</p> | <input type="checkbox"/> |
| <p>7. សាកលវិទ្យាល័យ ឬសហគ្រាសឧត្តមសិក្សាផ្សេងៗទៀត (Universities or other higher education institutes)</p> | <input type="checkbox"/> |
| <p>8. សហគ្រាសស្រាវជ្រាវសាធារណៈ ឬរាជរដ្ឋាភិបាល (Government or public research institutes)</p> | <input type="checkbox"/> |
| <p>9. ផ្សេងទៀត (សូមបញ្ជាក់) ៖ (please specify):</p> <p>.....</p> <p>.....</p> | <input type="checkbox"/> |

| 8.2. សូមបង្ហាញពីសារៈសំខាន់នៃដៃគូរបស់អ្នក (Please indicate the importance of your partners) | | | | |
|--|---|--------------------------|---------------------|-------------------|
| ប្រភេទដៃគូ (Type of partner) | កម្រិតនៃសារៈសំខាន់ (Degree of Importance) | | | |
| | 0.មិនពាក់ព័ន្ធ (Not Relevant) | 1. តិចតួច (Low) | 2.មធ្យម (Medium) | 3.ខ្ពស់ (High) |
| 1. គ្រឹះស្ថានផ្សេងទៀតនៅក្នុងក្រុមហ៊ុនរបស់អ្នក (Other establishment within your company group) | | <input type="checkbox"/> | | |
| 2. អ្នកផ្គត់ផ្គង់ឧបករណ៍ សម្ភារៈ បរិក្ខារ សេវាកម្ម ឬកម្មវិធី Software (Suppliers of equipment, materials, components, services or software) | | <input type="checkbox"/> | | |
| 3. ភ្ញៀវ ឬអតិថិជន (Clients or customers) | | <input type="checkbox"/> | | |
| 4. គូប្រកួតប្រជែង និងគ្រឹះស្ថានដទៃទៀតនៅក្នុងឧស្សាហកម្មរបស់អ្នក (Competitors and other establishments in your industry) | | <input type="checkbox"/> | | |
| 5. អ្នកប្រឹក្សាយោបល់ (Consultants) | | <input type="checkbox"/> | | |
| 6. មន្ទីរពិសោធន៍អាជីព និងគ្រឹះស្ថានស្រាវជ្រាវ និងអភិវឌ្ឍន៍ឯកជន (Commercial laboratories and private R&D establishment) | | <input type="checkbox"/> | | |
| 7. សាកលវិទ្យាល័យ ឬគ្រឹះស្ថានខ្ពស់សិក្សាផ្សេងៗទៀត (Universities or other higher education institutes) | | <input type="checkbox"/> | | |
| 8. គ្រឹះស្ថានស្រាវជ្រាវសាធារណៈ ឬ រាជរដ្ឋាភិបាល (Government or public research institutes) | | <input type="checkbox"/> | | |
| ផ្សេងទៀត (សូមបញ្ជាក់) ៖ (please specify): | | <input type="checkbox"/> | | |

| 8.3. យុទ្ធសាស្ត្រជួយសម្រួលដល់ការសហការខាងក្នុង (Strategies to facilitate internal collaboration) | |
|--|---------------------------|
| យុទ្ធសាស្ត្រ (Strategies) | ចុះលេខកូដ 1 = ៣១ ; 2 = 1១ |
| 1. ផ្សព្វផ្សាយការចែករំលែកផ្ទៃក្នុងនៅទូទាំងនាយកដ្ឋានផ្សេងៗ (Promote internal sharing across different departments) | <input type="checkbox"/> |
| 2. ដោះស្រាយបញ្ហានានារវាងនាយកដ្ឋានឬក្រុមការងារផ្សេងៗ ដើម្បីជំរុញការងារ ឬគម្រោងទៅមុខ (Address problems among departments to move the project forward) | <input type="checkbox"/> |
| 3. សហការផ្ទៃក្នុងដើម្បីបង្កើតផលវិជ្ជមាន (Collaborate internally to co-create positive impacts) | <input type="checkbox"/> |
| 4. លើកទឹកចិត្តឱ្យមានទំនាក់ទំនងផ្ទៃក្នុងប្រកបដោយតម្លាភាព និងបើកចំហនៅគ្រប់កម្រិតនៃសហគ្រាស (Encourage transparent and open communication across all levels of the Enterprise) | <input type="checkbox"/> |
| 5. ផ្សេងទៀត (សូមបញ្ជាក់) ៖ (please specify): | <input type="checkbox"/> |

| 8.4. យុទ្ធសាស្ត្រជួយសម្រួលដល់ការសហការខាងក្រៅ (Strategies to facilitate external collaboration) | |
|---|---------------------------|
| យុទ្ធសាស្ត្រ (Strategies) | ចុះលេខកូដ 1 = ៣១ ; 2 = 1១ |
| 1. សហការជាមួយដៃគូខាងក្រៅដើម្បីដោះស្រាយបញ្ហា (Collaborate with external partners to solve problems) | <input type="checkbox"/> |
| 2. សហការជាមួយដៃគូខាងក្រៅដើម្បីបង្កើតផលវិជ្ជមាន (Collaborate with external partners to co-create positive impacts) | <input type="checkbox"/> |
| 3. ផ្លាស់ប្តូរចំណេះដឹង និងព័ត៌មានចាំបាច់ជាមួយដៃគូខាងក្រៅសម្រាប់គោលបំណងនវានុវត្តន៍ (Exchange necessary knowledge and information with external partners for innovation purposes) | <input type="checkbox"/> |
| 4. យុទ្ធសាស្ត្រទាក់ទាញការសហការពីខាងក្រៅសហគ្រាស (Strategies to attract external collaboration) | <input type="checkbox"/> |
| 5. ផ្សេងទៀត (សូមបញ្ជាក់) ៖ (please specify): | <input type="checkbox"/> |

ផ្នែកទី៩៖ គោលបំណង និងលទ្ធផលនៃនវានុវត្តន៍

(Section9: Objectives and Effects of Innovation)

| 9.1. គោលបំណងនៃការអនុវត្តសកម្មភាពនវានុវត្តន៍រវាង ឆ្នាំ២០២១-២០២៣ (Objective of undertaking innovation activities between 2021 and 2023.) <i>សូមដាក់លេខកូដិកម្រិតនៃសារៈខាន់សម្រាប់អំណះអំណាងខាងក្រោម៖ (Please indicate the degree of importance for each statement below:)</i> | | | | |
|--|---|--------------------------|---------------------------|--------------------------|
| គោលបំណង (Objectives) | កម្រិតនៃសារៈសំខាន់ (Degree of Importance) | | | |
| | 0. មិនពាក់ព័ន្ធ (Not Relevant) | 1. តិចតួច (Low) | 2. មធ្យម (Medium) | 3. ខ្ពស់ (High) |
| 1. ដើម្បីជំនួសផលិតផលដែលត្រូវបានលុបចោល (To replace products being phased out) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. ដើម្បីបង្កើនគុណភាពផលិតផល (To improve product quality) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. ដើម្បីពង្រីកបន្ថែមមុខទំនិញ (To extend product range) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. ដើម្បីបើកទីផ្សារថ្មី ឬបង្កើនចំណែកទីផ្សារ (To open up new markets or increase market share) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. ដើម្បីបំពេញតាមបទប្បញ្ញត្តិ និងបទដ្ឋាន (To fulfill regulation and standard) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. ដើម្បីកាត់បន្ថយចំណាយពលកម្ម (To reduce labor costs) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. ដើម្បីកាត់បន្ថយការប្រើប្រាស់វត្ថុធាតុដើម (To reduce materials consumption) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. ដើម្បីកាត់បន្ថយការប្រើប្រាស់ថាមពល (To reduce energy consumption) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. ដើម្បីកាត់បន្ថយការប៉ះពាល់បរិស្ថាន (To reduce environmental damage) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. ដើម្បីប្រើប្រាស់ការលើកទឹកចិត្ត ជំនួយ ឥណទាន ។ល។ (To utilise incentives, grants, loan, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. ផ្សេងទៀត (សូមបញ្ជាក់) ៖ (please specify) : | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| 9.2. ក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) សូមកំណត់កម្រិតនៃផលប៉ះពាល់របស់វានូវគ្រួសារផលិតផល (ទំនិញ ឬសេវាកម្ម) និងប្រសិទ្ធភាពដំណើរការអាជីវកម្មទៅលើចំណុចដូចខាងក្រោម៖ (What is the degree of impact for each of the following effects of your product (goods or services) and/or business process innovations introduced during the three-year period from 2021 to 2023) | | | | |
|---|---|--------------------------|-------------------------|-----------------------|
| គោលបំណង (Objectives) | កម្រិតនៃសារៈសំខាន់ (Degree of Importance) | | | |
| | 0. មិនពាក់ព័ន្ធ (Not Relevant) | 1. តិចតួច (Low) | 2. មធ្យម (Medium) | 3. ខ្ពស់ (High) |
| 1. បានកើននូវមុខទំនិញផលិតផល (Increased range of products) | | <input type="checkbox"/> | | |
| 2. បានចូលទីផ្សារថ្មី ឬកើនចំណែកទីផ្សារ (Entered new markets or increased market share) | | <input type="checkbox"/> | | |
| 3. បានកែលម្អគុណភាពនៃទំនិញ ឬសេវាកម្ម (Improved quality of goods or services) | | <input type="checkbox"/> | | |
| 4. បានធ្វើឱ្យប្រសើរឡើងនូវភាពបត់បែននៃផលិតកម្ម ឬសេវាកម្ម (Improved flexibility of production or service provision) | | <input type="checkbox"/> | | |
| 5. បានបង្កើនសមត្ថភាពសម្រាប់ផលិតកម្ម ឬសេវាកម្ម (Increased capacity for production or service provision) | | <input type="checkbox"/> | | |
| 6. បានកាត់បន្ថយតម្លៃពលកម្មក្នុងមួយឯកតានៃការផលិត ឬបានផ្តល់ (Reduced labour costs per unit produced or provided) | | <input type="checkbox"/> | | |
| 7. បានកាត់បន្ថយសម្ភារៈ និងថាមពលក្នុងមួយឯកតានៃការផលិត ឬ បានផ្តល់ (Reduced materials and energy per unit produced or provided) | | <input type="checkbox"/> | | |
| 8. បានកាត់បន្ថយផលប៉ះពាល់បរិស្ថាន ឬបង្កើនសុខភាព និងសុវត្ថិភាព (Reduced environmental impacts or improved health and safety) | | <input type="checkbox"/> | | |
| 9. បានគោរពតាមបទប្បញ្ញត្តិ និងប្រទេស (Met regulations and/or standards) | | <input type="checkbox"/> | | |
| 10. បង្កើនតម្លៃបន្ថែម (Increased value added) | | <input type="checkbox"/> | | |
| 11. ផ្សេងទៀត (សូមបញ្ជាក់)៖ (please specify): | | <input type="checkbox"/> | | |

ផ្នែកទី១០៖ ការគាំទ្ររបស់រាជរដ្ឋាភិបាលទៅលើនវានុវត្តន៍
 (Section10: Government Support for Innovation)

| 10.1. ក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) តើសហគ្រាសរបស់អ្នកបានទទួលការគាំទ្រពីរាជរដ្ឋាភិបាលដូចខាងក្រោមនេះសម្រាប់ធ្វើនវានុវត្តន៍ដែរឬទេ ? (Did your enterprise receive the following support for innovation from the government during the three-year period from 2021 to 2023 ?) | |
|---|----------------------------|
| ការគាំទ្រ (Support) | ចុះលេខកូដ 1 = បាទ ; 2 = ទេ |
| 1. សេវាកម្មប្រឹក្សាយោបល់ផ្នែកបច្ចេកទេស (ជំនួយដែលពាក់ព័ន្ធនឹងបច្ចេកវិទ្យាថ្មីៗតាមរយៈការផ្ទេរបច្ចេកវិទ្យា) (Technical consultancy services, e.g. assistance related to new technologies through technology transfer) | <input type="checkbox"/> |
| 2. សេវាកម្មគាំទ្រផ្នែកបច្ចេកទេស (ការវាយតម្លៃឧបករណ៍ ការអនុវត្តនៃការបង្កើនផលិតភាព ការចុះបញ្ជីប្រកាសនីយបត្រតក្កកម្ម) (Technical support service, e.g. evaluation of equipment, implementation of productivity improvements, registration of patents) | <input type="checkbox"/> |
| 3. ការនាំចូលដោយអត់គិតពន្ធលើគ្រឿងម៉ាស៊ីន ឬបរិក្ខារ (Duty free importation of machinery or equipment) | <input type="checkbox"/> |
| 4. ការធ្វើពាណិជ្ជកម្មនៃមូលនិធិការស្រាវជ្រាវនិងអភិវឌ្ឍន៍ (Commercialisation of research and development Fund) | <input type="checkbox"/> |
| 5. ការអនុគ្រោះពន្ធ (Tax incentive) | <input type="checkbox"/> |
| 6. ជំនួយលើការស្រាវជ្រាវនិងអភិវឌ្ឍន៍ (research and development grant) | <input type="checkbox"/> |
| 7. ជំនួយសម្រាប់នវានុវត្តន៍ (Innovation grant) | <input type="checkbox"/> |
| 8. ផ្សេងទៀត (សូមបញ្ជាក់) ៖ (please specify): | <input type="checkbox"/> |

| 10.2. ជាទូទៅ សូមវាយតម្លៃការគាំទ្ររបស់រាជរដ្ឋាភិបាលចំពោះសកម្មភាពនវានុវត្តន៍របស់គ្រឹះស្ថានអ្នក៖ Overall, how would you rate the usefulness of government support for your innovative activities ? | | | | |
|--|--|---|---------------------------------|--------------------------|
| 0.មិនសំខាន់ (Not relevant) | 1.មានសារៈសំខាន់តិចតួច (Slightly important) | 2.មានសារៈសំខាន់មធ្យម (Moderately important) | 3.សំខាន់ណាស់ (Very important) | <input type="checkbox"/> |

10.3. តើរាជរដ្ឋាភិបាលគួរមានការលើកទឹកចិត្តអ្វីខ្លះបន្ថែមទៀត ដើម្បីបង្កើនវិនិយោគនៅក្នុងប្រទេសកម្ពុជា ?
 How could the government encourage innovation further in Cambodia ?

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ផ្នែកទី ១១ ៖ វប្បធម៌វិនិយោគ
 (Section11: Innovation Culture)

| វប្បធម៌វិនិយោគ (Innovation Culture) | ចុះលេខកូដ 1 = បាទ ; 2 = ទេ |
|---|----------------------------|
| 11.1. ក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) តើគ្រឹះស្ថានអ្នកធ្លាប់មានផែនការណាមួយដើម្បីលើកកម្ពស់វិនិយោគដែរឬទេ ? (During the three-year period from 2021-2023, did you have any plans to promote innovation ?) | <input type="checkbox"/> |
| 11.2. ក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) តើសហគ្រាសអ្នកមានយន្តការតាមដាន និងវាយតម្លៃគម្រោងវិនិយោគដែរឬទេ ? (During the three-year period from 2021-2023, did you have mechanisms in place to monitor and evaluate innovation projects or activities ?) | <input type="checkbox"/> |
| 11.3. ក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) តើសហគ្រាសរបស់អ្នកមានយុទ្ធសាស្ត្រសម្រាប់ឆ្ពោះទៅរកការបរិក្ខណៈឌីជីថលដែរឬទេ ? (During the three-year period from 2021-2023, did your Enterprise have strategies for moving towards digital transformation ?) | <input type="checkbox"/> |

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| <p>11.4. ក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) តើសហគ្រាសរបស់អ្នក បានប្រមូលទិន្នន័យអំពីការពេញចិត្តរបស់អតិថិជនទៀងទាត់ដែរឬទេ ? (During the three-year period from 2021-2023, did your Enterprise have collected data about customer satisfaction regularly ?)</p> | <input type="checkbox"/> |
| <p>11.5. ក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) តើដំណើរការរបស់ សហគ្រាសអ្នក ត្រូវបានជំរុញ ឬផ្អែកលើទិន្នន័យឬទេ ? (During the three-year period from 2021-2023, was your Enterprise driven by data ?)</p> | <input type="checkbox"/> |
| <p>11.6. ក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) តើសហគ្រាសរបស់អ្នក ប្រើប្រាស់ទិន្នន័យដើម្បីជួយដល់ការសម្រេចចិត្តសំខាន់ៗផ្សេងៗឬទេ ? (During the three-year period from 2021-2023, did your Enterprise use data for decision-making ?)</p> | <input type="checkbox"/> |

| <p>11.7. ការរួមចំណែកសម្រាប់គំនិតផ្តួចផ្តើមផ្នែកនវានុវត្តន៍ និងបច្ចេកវិទ្យានៅក្នុងប្រទេសកម្ពុជា (Contributions provided for innovation and technology initiatives in Cambodia)</p> | |
|--|-----------------------------------|
| <p>ការរួមចំណែក (Contribution)</p> | <p>ចុះលេខកូដ 1 = បាទ ; 2 = ទេ</p> |
| <p>1. បានរៀបចំ ឬសហការរៀបចំកម្មវិធីនវានុវត្តន៍ (ឧ. ការប្រកួត, hackathons, incubations, accelerator ។ល។ (Organised or co-organised innovation programs (e.g., contest, hackathons, incubations, accelerator, etc.)</p> | <input type="checkbox"/> |
| <p>2. បានផ្តល់អាហារូបករណ៍ ឬការឧបត្ថម្ភដល់កម្មវិធីដែលទាក់ទងនឹងនវានុវត្តន៍ (Provided scholarship or sponsorship to innovation-related programs)</p> | <input type="checkbox"/> |
| <p>3. បានផ្តល់យោបល់ដល់អ្នកបង្កើតគោលនយោបាយ (Provided suggestions to policy makers)</p> | <input type="checkbox"/> |
| <p>4. ផ្សេងទៀត (សូមបញ្ជាក់) ៖ (please specify):</p> | <input type="checkbox"/> |

ផ្នែកទី១២៖ កម្មសិទ្ធិបញ្ញា និងវិធីសាស្ត្រការពារផ្សេងៗ

(Section12: Intellectual Property and Other Protection Methods)

12.1. សូមដាក់ចំនួននៃប្រកាសនីយបត្រតក្កកម្ម គំនូរឧស្សាហកម្ម ពាណិជ្ជសញ្ញា(ម៉ាក) និងសិទ្ធិអ្នកនិពន្ធ ដែលគ្រឹះស្ថានរបស់អ្នកបានដាក់ពាក្យសុំ និងបានទទួល ក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣)៖ (Please put the number of patents, industrial designs, trademark and copyright that your Enterprise applied for and were granted during the three-year period from 2021 to 2023:)

| ប្រភេទ (Type) | ចំនួនបានស្នើសុំ (Applied) | ចំនួនបានទទួល (Granted) |
|--|-----------------------------|--------------------------|
| 1. ប្រកាសនីយបត្រតក្កកម្ម (Patents) | | |
| 2. ការចុះបញ្ជីគំនូរឧស្សាហកម្ម (Industrial Design) | | |
| 3. ពាណិជ្ជសញ្ញា (ម៉ាក) (Trademark) | | |
| 4. សិទ្ធិអ្នកនិពន្ធ (Copyright) | | |
| 5. ផ្សេងទៀត (សូមបញ្ជាក់) ៖ (please specify): | | |

12.2. សូមផ្តល់ចំណងជើងនៃប្រកាសនីយបត្រតក្កកម្ម គំនូរឧស្សាហកម្ម ពាណិជ្ជសញ្ញា(ម៉ាក) សិទ្ធិអ្នកនិពន្ធ ដែលបានស្នើសុំ និងទទួលបាន៖ (Please give the title of the Patents/Industrial Design/Mark/Copyright by Applied/Granted):

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| <p>12.3. តើភាគរយនៃចំណូលរបស់សហគ្រាសអ្នកក្នុងឆ្នាំ២០២៣ ដែលទាក់ទងនឹងកម្មសិទ្ធិបញ្ញា និងវិធីសាស្ត្រការពារផ្សេងៗ ដែលមានសុពលភាព (ដល់ចុងឆ្នាំ២០២៣) ហើយជាកម្មសិទ្ធិរបស់សហគ្រាស ឬក្រុមហ៊ុនមេរបស់អ្នកមានចំនួនប៉ុន្មាន? (What percentage of your turnover in 2023 is related to intellectual properties and other protection methods that are valid (at the end of 2023) and owned by your Enterprise or company group?)</p> <p><i>ភាគរយនៃចំណូលពីកម្មសិទ្ធិបញ្ញា និងវិធីសាស្ត្រការពារផ្សេងៗពីចំណូលសរុបដែលមានក្នុងសំណួរ 2.5. (Percent of turnover of owned intellectual properties and other protection methods from the Total of Turnover as listed in Question 2.5.)</i></p> | | | | % |
|--|--|--|--|---|

| <p>12.4. ក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) សូមបង្ហាញពីសារៈសំខាន់ចំពោះគ្រឹះស្ថានរបស់អ្នកសម្រាប់វិធីសាស្ត្រនីមួយៗខាងក្រោមដើម្បីការពារនូវវត្ថុដែលបង្កើតឡើងដោយគ្រឹះស្ថានរបស់អ្នក៖ (During the three-year period from 2021 to 2023, please indicate the importance to your establishment for each of the following method to protect innovations developed by your establishment):</p> | | | | |
|--|--|----------------------------|------------------------------|----------------------------|
| <p>វិធីសាស្ត្រការពារនូវវត្ថុ Method of Protecting Innovations</p> | <p>កម្រិតនៃសារៈសំខាន់ (Degree of Importance)</p> | | | |
| | <p>0. មិនពាក់ព័ន្ធ (Not Relevant)</p> | <p>1. តិចតួច (Low)</p> | <p>2. មធ្យម (Medium)</p> | <p>3. ខ្ពស់ (High)</p> |
| 1. ប្រកាសនីយបត្រតក្កកម្ម (Patents) | | <input type="checkbox"/> | | |
| 2. ការចុះបញ្ជីគំនូរឧស្សាហកម្ម (Registration of design) | | <input type="checkbox"/> | | |
| 3. ពាណិជ្ជសញ្ញា(ម៉ាក) (Trademark) | | <input type="checkbox"/> | | |
| 4. សិទ្ធិអ្នកនិពន្ធ (Copyright) | | <input type="checkbox"/> | | |
| 5. កិច្ចព្រមព្រៀងរក្សាការសម្ងាត់ផ្នែកពាណិជ្ជកម្ម (Confidentiality agreements of trade secret) | | <input type="checkbox"/> | | |
| 6. ភាពស្មុគស្មាញនៃការរចនា (Complexity of design) | | <input type="checkbox"/> | | |
| 7. ផ្សេងទៀត (សូមបញ្ជាក់)៖ (Please specify)..... | | <input type="checkbox"/> | | |

ផ្នែកទី១៣៖ កត្តារារាំង

(Section13: Hampering Factors)

| 13.1. ក្នុងរយៈពេល ៣ឆ្នាំ (២០២១-២០២៣) តើកត្តាខាងក្រោមនេះមានផលប៉ះពាល់សំខាន់ប៉ុណ្ណាក្នុងការរារាំង សកម្មភាព/គម្រោងនវានុវត្តន៍ ឬឥទ្ធិពលលើការសម្រេចចិត្តមិនធ្វើនវានុវត្តន៍ ? (During the three-year period 2021 to 2023, how important were the following factors for hampering your innovation activities or projects or influencing a decision not to innovate) ? | | | | |
|---|---|-------------------------|---------------------------|-------------------------|
| កត្តារារាំង (Barrier Factors) | កម្រិតនៃសារៈសំខាន់ (Degree of Importance) | | | |
| | 0. មិនពាក់ព័ន្ធ (Not Relevant) | 1. តិចតួច (Low) | 2. មធ្យម (Medium) | 3. ខ្ពស់ (High) |
| 1. កត្តាតម្លៃ (Cost factors) | | | | |
| 1.1. តម្លៃខ្ពស់ពេក (Cost too high) | | | <input type="checkbox"/> | |
| 1.2. កង្វះមូលនិធិនៅក្នុងសហគ្រាស (Lack of funds within the enterprise) | | | <input type="checkbox"/> | |
| 1.3. កង្វះខាតហិរញ្ញវត្ថុពីប្រភពសហគ្រាសខាងក្រៅ (Lack of finance from sources outside the Enterprise) | | | <input type="checkbox"/> | |
| 1.4. ហានិភ័យដែលមានកម្រិតខ្ពស់ (Excessive perceived risk) | | | <input type="checkbox"/> | |
| 2. កត្តាចំណេះដឹង (Knowledge factors) | | | | |
| 2.1. កង្វះបុគ្គលិកដែលមានសមត្ថភាព (Lack of qualified personnel) | | | <input type="checkbox"/> | |
| 2.2. កង្វះព័ត៌មានអំពីបច្ចេកវិទ្យា (Lack of information on technology) | | | <input type="checkbox"/> | |
| 2.3. កង្វះព័ត៌មានអំពីទីផ្សារ (Lack of information on markets) | | | <input type="checkbox"/> | |
| 2.4. ការលំបាកក្នុងការស្វែងរកដៃគូសហការសម្រាប់នវានុវត្តន៍ (Difficulties in finding cooperation partners for innovation) | | | <input type="checkbox"/> | |

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| 2.5. ភាពទន់ខ្សោយនៃចំណេះដឹងពីកម្មសិទ្ធិបញ្ញា និងការរក្សាសិទ្ធិ (Weakness of intellectual property knowledge and rights) | <input type="checkbox"/> |
| 3. កត្តាទីផ្សារ (Market factors) | |
| 3.1. ទីផ្សារត្រូវបានគ្របដណ្តប់ដោយសហគ្រាសដែលរឹងមាំ (Market dominated by established enterprise) | <input type="checkbox"/> |
| 3.2. តម្រូវការមិនប្រាកដប្រជាចំពោះផលិតផល និងសេវាកម្មសម្រាប់នវានុវត្តន៍ (Uncertain demand for innovative goods and services) | <input type="checkbox"/> |
| 3.3. នវានុវត្តន៍ គឺងាយស្រួលក្នុងការគ្រាប់តាម ឬចម្លងតាម (Innovation is easy to imitate) | <input type="checkbox"/> |
| 4. កត្តាគ្រប់គ្រង (Organisational factors) | |
| 4.1. ភាពម៉ឺងម៉ាត់នៃការគ្រប់គ្រងក្នុងសហគ្រាស (Organisational rigidities within the enterprise) | <input type="checkbox"/> |
| 4.2. ឥរិយាបថរបស់បុគ្គលិកឆ្ពោះទៅរកការផ្លាស់ប្តូរ (Attitude of personnel towards change) | <input type="checkbox"/> |
| 4.3. ឥរិយាបថរបស់អ្នកគ្រប់គ្រងឆ្ពោះទៅរកការផ្លាស់ប្តូរ (Attitude of managers toward change) | <input type="checkbox"/> |
| 4.4. រចនាសម្ព័ន្ធការគ្រប់គ្រងរបស់សហគ្រាស (Managerial structure of enterprise) | <input type="checkbox"/> |
| 4.5. អសមត្ថភាពក្នុងការប្រើបុគ្គលិកធ្វើនវានុវត្តន៍ដោយសារតម្រូវការផលិតកម្ម (Inability to devote staffs to innovation activities due to production requirement) | <input type="checkbox"/> |
| 4.6. កង្វះខាតនៃហេដ្ឋារចនាសម្ព័ន្ធ (ឧ. អគារ) (Lack of infrastructure) (e.g. building) | <input type="checkbox"/> |
| 4.7. កង្វះខាតនៃគ្រឿងបរិក្ខារ (ឧ. ម៉ាស៊ីន ឧបករណ៍) (Lack of facilities) (e.g. Machine, equipment) | <input type="checkbox"/> |
| 4.8. កង្វះនៃបណ្តាញទំនាក់ទំនងជាមួយសហគ្រាសស្រាវជ្រាវ (ឧ. សាកលវិទ្យាល័យ ITC, RUPP, CDRI, CARDI ជាដើម) (Lack of networking with research institutions (e.g. Universities, ITC, RUPP, CDRI, CARDI, etc.)) | <input type="checkbox"/> |

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| 5. កត្តាច្បាប់ គោលនយោបាយសាធារណៈ (Regulatory factors/ public policy) | |
| 5.1. ភាពបត់បែននៃបទប្បញ្ញត្តិ ឬបទដ្ឋានផ្សេងៗ មិនទាន់គ្រប់គ្រាន់ (Insufficient flexibilities of regulation or standards) | <input type="checkbox"/> |
| 5.2. គោលនយោបាយវិទ្យាសាស្ត្រនិងបច្ចេកវិទ្យា សាធារណៈផ្សេងៗ នៅមានកម្រិត (Limitation of science and technology public policies) | <input type="checkbox"/> |
| 6. កត្តាផ្សេងទៀត (Other factors) | |
| 6.1. មិនចាំបាច់ធ្វើនវានុវត្តន៍ទៀតទេ ដោយសារទើប តែមាននវានុវត្តន៍មុននេះ (No need to innovate due to earlier innovations.) | <input type="checkbox"/> |
| 6.2. ភាពមិនចាំបាច់ព្រោះកង្វះតម្រូវការនៃនវានុវត្តន៍ (No need because lack of demand for innovations) | <input type="checkbox"/> |
| 6.3. ផ្សេងទៀត (សូមបញ្ជាក់) ៖ (please specify): | <input type="checkbox"/> |

8.2. Appendix B: Report Structure and Content

| Content | Description |
|------------------------------------|---|
| 1. Preface | A statement from the leadership, providing context, background, and the importance of the CEII report in fostering innovation within Cambodia. |
| 2. Executive Summary | Summary of key findings, overall results and main conclusions of the CEII. |
| 3. Introduction | Background, objectives, scope and limitations and significance of the CEII. |
| 4. Methodology | A detailed explanation of the methods used to collect and analyse data, including the survey instrument, sampling techniques and index calculation methods. |
| 5. Overview of CEII Framework | Description of the conceptual framework, indicators and classification methods used in the CEII. |
| 6. Results and Analysis | In-depth presentation and analysis of the innovation index results, including: <ul style="list-style-type: none"> • Analysis of input indicators such as resource, competence, network, culture and environment. • Analysis of output indicators such as efficient production and creative knowledge. |
| 7. Innovation Level Classification | Categorisation of enterprises based on their innovation index scores and analysis of the distribution across different levels. |
| 8. Sectoral Analysis | Examination of innovation performance across different sectors and industries. |
| 9. Provincial Analysis | Analysis of innovation performance across different provinces within Cambodia. |
| 10. Case Studies | Highlighting specific examples of enterprises that excel in innovation, showcasing best practices. |
| 11. Policy Recommendations | Suggestions for policymakers to enhance the innovation ecosystem in Cambodia. |

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| 12. Conclusions | Summary of the main findings and their implications for enterprises and policymakers. |
| 13. Appendices | Additional resources, detailed tables, survey instruments and methodological notes. |



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