MINISTRY OF POST AND TELECOMMUNICATIONS

DIGITAL, MEDIA AND INFORMATION LITERACY COMPETENCY FRAMEWORK (DMIL)

"Promoting Digital Citizenship for a Vibrant Digital Economy and Society"

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«Promoting digital citizenship for a vibrant digital economy and society»

2024

Preface

H.E. CHEA VANDETH

MINISTER OF POST AND TELECOMMUNICATIONS

The Royal Government of Cambodia of the Seventh Legislature of the National Assembly has established the Pentagonal Strategy – Phase I for socio-economic development, focusing on Growth, Employment, Equity, Efficiency, and Sustainability, and laying the groundwork for Cambodia to become a high-income country by 2050. This Strategy outlines five key priorities: **People, Roads, Water, Electricity, and Technology. Digital technology** is recognized as a powerful tool to address these challenges of the fourth industrial revolution and drive the digital transformation of Cambodia's economy and society. The use of technology is therefore indispensable in achieving the development goals set by the Royal Government.

In order to achieve this goal, the Ministry of Post and Telecommunications collaborated with relevant line ministries and stakeholders in the promotion of digital knowledge of students and citizens of all ages through various initiatives such as "Go Digital Cambodia", "Digital Talents" and building the Community Tech Center at public high schools starting first from the remote areas.

Every citizen needs basic knowledge and skills to become a "digital citizen" and fully utilize digital technology. Digital citizens are not only those who can use digital technology in their daily lives but also those who do so effectively, safely, and responsibly. These competencies empower citizens to contribute actively and confidently to building a digital economy and society, as well as to prevent and address potential online challenges.

Recognizing this need, the Ministry of Post and Telecommunications, with technical assistance from UNESCO in Cambodia, has developed "**Digital, Media and Information Literacy Competency Framework**". This framework sets the necessary competency standards that all Cambodian digital citizens should adhere to, taking into account the evolving digital and media landscape at the national, regional, and global levels. This framework will serve as a guiding document for designing digital literacy subjects, assessing competency levels, and strategically planning the promotion of digital literacy, media, and information at all levels.

I sincerely hope that all stakeholders will adopt and disseminate this framework to enhance the Digital, Media and Information Literacy as well as to build digital literate citizens in all forms to contribute to transforming the Cambodian economy and society into a vibrant digital economy and society.

Phnom Penh, March 7, 2024
Minister of Post and Telecommunications
(Signed and Stamped)
H.E. Minister Chea Vandeth

Abbreviations

MIL	Media and Information Literacy
DL	Digital Literacy
DMIL	Digital, Media and Information Literacy
5G	The Fifth Generation of Mobile Technologies
AI	Artificial Intelligence
AR	Augmented Reality
Cc	Creative Commons
DigComp	The European Digital Competence Framework for Citizens
DEQ	Digital Emotional Intelligence
IEC	Information, Education and Communication
IoT	Internet of Things
OPAC	Online Public Access Catalog
SDGs	Sustainable Development Goals
SMS	Short Message Service
VR	Virtual Reality

Content

INTRODUCTION

The Digital, Media and Information Literacy Competency Framework (DMIL) was developed to respond to the urgent need of the Royal Government of Cambodia in developing the "Digital Citizens" which is the integral part that supports the current social and economic development. This framework serves as a universal standard that can be employed to enhance individuals' capacity in responding to emerging opportunities and challenges brought about by the ever-evolving realm of technology. These challenges encompass issues like misinformation, the growing popularity of social media in tandem with the decline of traditional professional media, the impact of privacy and information security due to the use of emerging technologies such as the generative artificial intelligence, blockchain, cloud technology as well as the rise of negative online behaviors, and the surge in digital insecurity which have become new challenges that require multi-stakeholder solutions.

With the current rapid development of generative artificial intelligence and its associated challenges, such as misinformation, disinformation, surveillance, privacy violations and gender-based stereotypes, Digital, Media and Information Literacy is becoming increasingly necessary to equip individuals with pertinent knowledge, skills, attitudes and value to not only protect themselves from the risks but also empower them to benefit from the opportunities that artificial intelligence brings.

By adhering to this shared literacy standards, citizens will possess the ability to recognize potential risks, mitigate dangers, and effectively harness the benefits of technology for public participation, lifelong learning, and entrepreneurship development. Moreover, the framework can be utilized by institutions that promote Digital, Media and Information Literacy for assessing specific competencies and devising targeted strategies in the promotion of DMIL to address particular needs and situation of Cambodia.

1.1 Development of Digital Citizens

The Royal Government of Cambodia has established the Cambodia Digital Economy and Society Policy Framework 2021-2035 and the Digital Government Policy 2022-2035 that highlights the far-sighted vision in transforming Cambodia's economy and society into a vibrant digital economy society through the use of digital technologies to accelerate new economic growth, and promote social welfare and the better provision of public services.

In achieving these goals, the Cambodia Digital Economy and Society Policy Framework 2021-2035 focuses on five components based on two main fundamental elements: 1.) infrastructure development to support the digital transformation, and 2.) building trust and confidence in the digital system, and three pillars, including: 1.) building digital citizens, 2.) building digital government and 3.) promoting digital businesses (see Figure 1).

Meanwhile, the seventh strategy of the digital government policy emphasizes developing digital human capital. Promoting digital literacy among all social actors is a top priority to narrow the digital divide and encourage the use of digital government services.

Moreover, the Pentagonal Strategy-Phase I, endorsed by the Royal Government, identifies "Building a Digital Government and Digital Citizens" as the initial focus of the Fifth Pentagon. This highlights key tasks for implementation in the Seventh Legislature of the National Assembly (see Figure 2). This underscores the importance of digital citizenship as a crucial factor in optimizing public services and advancing Cambodia's digital economy and society.

Figure 1: Foundation and Pillar in Building a Digital Economy and Society (2021-2035)
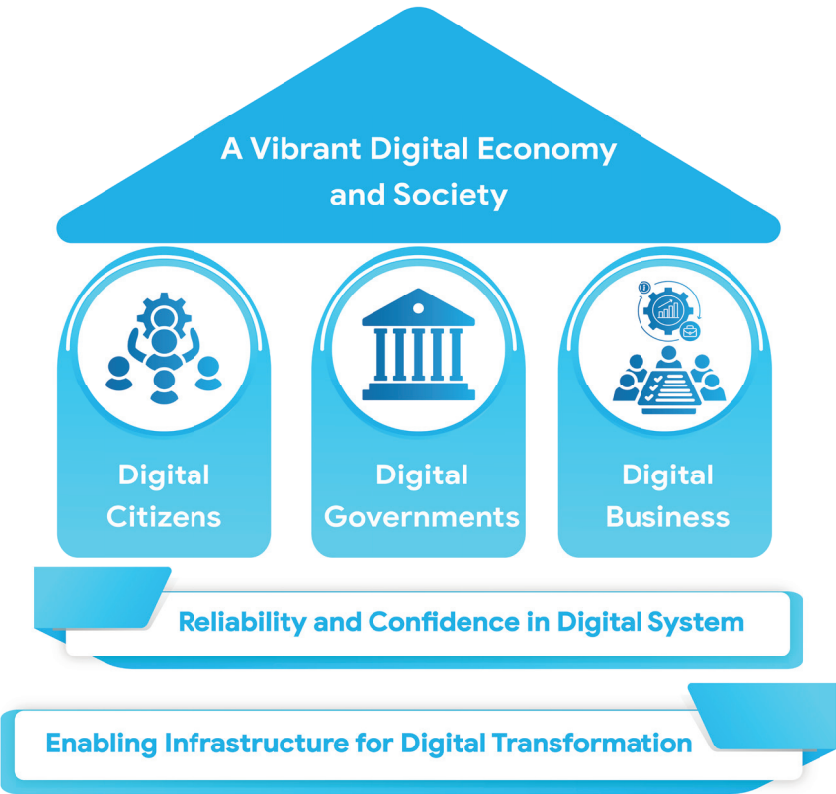
Figure 2: Illustration of "Pentagonal Strategy – Phase I"
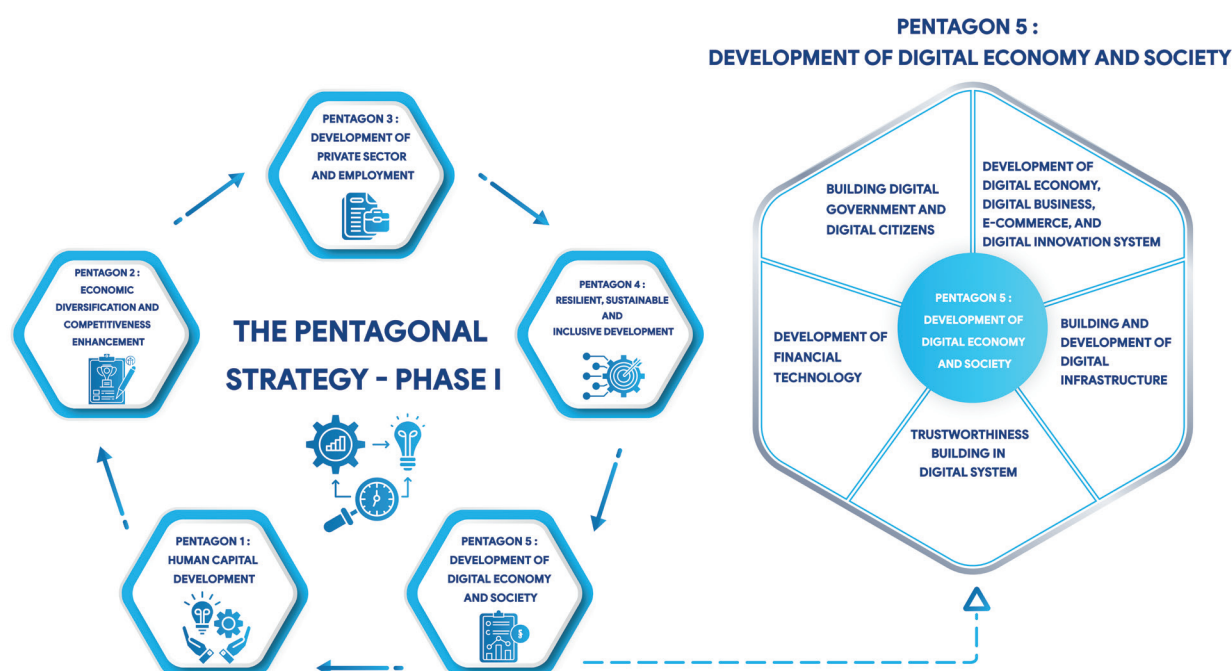
In 2020, as Cambodia started developing the policy framework for digital, economic, and social transformation, 32% of Cambodians had access to basic digital technology, 5% possessed intermediate skills, and 1% had advanced skills. Despite having several measures introduced to boost digital literacy and skills across various contexts, Cambodia still needs to enhance these areas to effectively implement digital transformation policies and increase its competitiveness in the regional market.

Transforming Cambodians into digital citizens requires the implementation of comprehensive policy measures that promote the DMIL at all levels through professional trainings in formal education, informal trainings, and sectoral support programs. In this sense, all stakeholders who organize trainings, strategies or plans to promote digital literacy and assess the level of DMIL of individuals need a common competency framework that reflects the DMIL competency requirements specifically in the current Cambodian society. Consequently, the establishment of DMIL competency framework becomes an essential and significant factor in advancing DMIL with a measurable set of competency standards. It ensures the effectiveness, harmonization and coherence of capacity-building programs related to DMIL conducted by relevant stakeholders.

1.2. Challenges Arising from Technological Advances

Although the digital literacy rate among Cambodians remains low, there is currently no clear measurement of media and information literacy levels. Nevertheless, Digital, Media and Information Literacy (DMIL) are crucial competencies that every citizen should possess in today's digital society. These competencies enable individuals to navigate the challenges presented by the online world, which can pose risks and negative impact on society. These issues include:

    a. The proliferation of disinformation that is accessible through information channels and rapidly shared on social media poses a significant challenge. Disinformation refers to intentionally misleading or harmful information created to cause confusion or misunderstanding. Accepting and believing such information can lead to erroneous decisions, actions, and harm. Since 2016, disinformation has been a global threat to the peace and stability of nations. In Singapore, a survey revealed that 77% of the population has encountered disinformation at least once through platforms like Facebook and WhatsApp, including false news such as public service disruptions due to train accident.[1] Despite Singaporeans having a relatively high level of Digital, Media and Information Literacy compared to other Southeast Asian countries, only around 50% of the population feels confident in identifying disinformation. In Cambodia, data from the Ministry of Information indicates that approximately 4,000 cases of disinformation have been created and disseminated in the past five years from 2017 to 2022.[2] This challenge is particularly pronounced in the realm of new media, posing significant economic, social, and political risks. The DMIL competency framework serves as a vital measure to address and effectively respond to this issue.

    b. The popularity and widespread use of social media as a quick source of diverse information, coupled with the increasing popularity of social media influencers, has resulted in a decline in the gradual disappearance of traditional media and professional journalists. These developments have created loopholes and vulnerabilities that allow disinformation to permeate through these channels.

    c. The growing adoption of emerging technologies, such as artificial intelligence (AI), and the utilization of algorithms to analyze and predict user behavior in the digital realm, present inherent risks, including misinformation, disinformation, surveillance, privacy violations and gender-based stereotypes. Users often find themselves unwittingly influenced by the underlying biases and orientations embedded in these technologies.

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[1] https://www.gov.sg/article/singapores-fight-against-fake-news-what-you-can-do

[2] https://www.information.gov.kh/articles/85203

d. Imbalances arise from the excessive use of media and information primarily for entertainment purposes. This issue is exacerbated by the abundance of captivating content available on single communication platforms, leading users to struggle with maintaining focus on their actual information needs. To address these challenges, it is essential to examine attitudes and approaches towards the responsible and appropriate use of technology, which will be defined and addressed within the framework outlined.

e. The emergence of content users transitioning into content creators on digital platforms necessitates immediate attention to enhance the competencies and deepen the understanding of content production among the general user base. This includes addressing aspects such as safeguarding intellectual property, ensuring privacy protection, and preventing the creation and dissemination of disinformation or harmful content that may negatively impact individuals, society, and cultural traditions.

f. The prevalence of technology addiction, leading to psychological effects, is increasing among youth and the general population due to a lack of knowledge regarding its appropriate usage.

g. Identity, privacy, and digital security issues are widespread among consumers, necessitating a certain level of knowledge to effectively safeguard their privacy and security in the realm of technology.

h. Meanwhile, Digital, Media, and Information, Literacy (DMIL) will play a crucial role in mitigating the imbalance between new technological advancements and ethical decline. By promoting the responsible use of technology, DMIL fosters an environment of orderliness and cultivates mutual understanding and tolerance among individuals.

1.3. Fragmentation of DMIL Promotion Initiatives in Cambodia

While the promotion of DMIL is vital for Cambodia to attain the government's policy objectives, effectively tackle the challenges currently jeopardizing the digital landscape and enable the public to fully harness the opportunities derived from the use of new technologies, relevant stakeholders do not yet have a unified framework encompassing the realities and challenges mentioned above. DMIL promotion activities and training programs have been conducted separately, adhering to different DMIL frameworks. This disparity in frameworks hinders the comprehensive measurement of people's competencies, making it difficult to gain an overview of public awareness levels and impeding the implementation of effective promotion programs. Currently, Media and Information Literacy has been incorporated into the formal education system across three levels of curriculum: primary, secondary, and tertiary. These programs have the objective of guiding students in having knowledge, understanding the appropriate use, and behavioral aspects of communication and information technology within their academic pursuits, professional endeavors, and daily lives.[3] The curriculum design and lessons draw upon a diverse range of frameworks, including those from Singapore and other training programs.

On the other hand, in order to enhance the digital literacy of civil servants, the Cambodia Academy of Digital Technology has adopted the European Digital Literacy Framework (DigComp) as the foundation for its curriculum design. Although the DigComp framework is tailored to the circumstances of developed countries, which possess a certain level of knowledge base, it differs from the Cambodian context. In Cambodia, there are unique challenges such as the need to prioritize the public's basic understanding on information, publication, intellectual property, and privacy concerns which requires attention to solve in order to support the development of a better digital society.

Meanwhile, numerous non-governmental organizations and private sector entities have developed specialized training programs focusing on various aspects of Digital, Media and Information Literacy. These programs address specific topics, such as technological security and open data training[4] for journalists, digital literacy initiatives integrated into schools through the responsibility of telecom operators[5], and coding training programs for young children outside the formal education system.

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[3] កម្មវិធីសិក្សាលម្អិតមុខវិជ្ជាបច្ចេកវិទ្យាគមនាគមន៍និងព័ត៌មានសម្រាប់កម្រិតបឋមសិក្សា, កម្រិតមធ្យមសិក្សាបឋមភូមិ, កម្រិតមធ្យមសិក្សាទុតិយភូមិ, ក្រសួង អ.យ.ក. ២០១៨

[4] Hauswedell, C. (2014). DW Global Media Forum: Open data in Cambodia | DW | 03.07.2014.
   https://www.dw.com/en/dw-global-media-forum-open-data-in-cambodia/a-17755220

[5] Smart Axiata. (2020). Cambodia's Digital Literacy and Internet Safety Pilot Program Concludes. Smart.
   https://www.smart.com.kh/articles/190/cambodias-digital-literacy-and-internet-safety-pilot-program-concludes

The absence of a common framework tailored to Cambodia's perspectives and needs can result in ambiguity, ineffective program implementation, overlap in training initiatives, and most notably, the inability to comprehensively measure national literacy levels.

In response to the pressing need for supporting digital economy and society development, as well as the aforementioned challenges, the Ministry of Post and Telecommunications, with technical assistance from UNESCO, has formulated this common Digital, Media and Information Literacy Competency Framework to establish the standards of competencies required for individuals to become digital literate citizens. The necessary "Competency" and "Set of Competencies" were identified and selected by key relevant stakeholders from various sectors in Cambodia.

It encompasses definitions, components, and essential competencies that have been identified and selected based on the current situation in Cambodia, existing competency gaps, and social challenges. While the design process draws upon and adapts various international frameworks, its primary objective is to ensure that the framework addresses the evolving technological, regional, and global needs while accommodating the limited literacy competencies of the population and is in line with international standards.

2. METHODOLOGY

The development of the Digital, Media and Information Literacy Competency Framework begun by studying global and regional frameworks such as the EU Digital Citizenship Framework[6], UNESCO's Global Framework of Reference on Digital Literacy Skills for Indicator 4.4.2[7], and Singapore's Digital Media and Information Literacy Framework[8]. These frameworks serve as benchmarks for assessing the actual situation in Cambodia and defining the essential definitions, components, and competencies required for DMIL. Relevant key stakeholders actively participated in activities such as the DMIL validation workshop to provide inputs in validating the framework.

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[6] Vuorikari, R., Kluzer, S., & Punie, Y. (2022). DigComp 2.2: The Digital Competence Framework for Citizens - With new examples of knowledge, skills and attitudes. Publications Office of the European Union. https://publications.jrc.ec.europa.eu/repository/handle/JRC128415

[7] UNESCO. (2018). A global framework of reference on digital literacy skills for indicator 4.4.2. UNESCO Institute for Statistics. https://uis.unesco.org/sites/default/files/documents/ip51-global-framework-reference-digital-litera cy-skills-2018-en.pdf

[8] Ministry of Communications and Information. (2018). Digital Media and Information Literacy Framework. https://www.mci.gov.sg/files/mci%20dmil%20framework.pdf

2.1 Benchmarking DMIL Framework with Regional and Global Frameworks

The DigComp 2.2 competency framework focuses on digital competencies that are essential for lifelong learning, encompassing the knowledge, skills, and attitudes required to effectively utilize digital tools and technology. This framework primarily addresses the context of high-income and technologically developed European countries. Its purpose is to introduce digital competencies for EU citizens, enabling them to attain objectives related to employment, education, and social participation.

The framework categorizes competencies into five key areas:
1. Information and data literacy
2. Communication and collaboration
3. Digital content creation
4. Security
5. Problem-solving.

Within these areas, the framework defines 21 competencies across four proficiency levels: basic, intermediate, advanced, and specialized. This competency framework finds wide application within the European Union and in numerous other developed countries.

The UNESCO's Global Framework of Reference on Digital Literacy Skills for Indicator 4.4.2 aims to address the practical digital literacy needs in both developing and developed countries. Its purpose is to serve as a foundation for achieving the Sustainable Development Goal Indicator 4.4.2, which measures the percentage of youth/adults who have attained a minimum level of proficiency in digital literacy skills.

The framework proposes to categorize competencies into seven broad areas, which include:
1. Devices and software operations,
2. Information and data literacy
3. Communication and collaboration
4. Digital content creation
5. Security
6. Problem-solving
7. Career-related competencies.

Within these areas, the framework defines 26 competency components. It is important to note that this framework does not prescribe a specific categorization of competencies, as the composition and emphasis of competencies may vary from country to country.

The Singapore Digital Media and Information Literacy Framework (DMIL) aims to offer a comprehensive guide for public educational institutions in augmenting the competency of Singaporeans to responsibly utilize information and discern the risks and advantages technology presents.

This framework centers on five desired outcomes:
1. Recognizing the benefits, risks, and potential offered by technology.
2. Understanding the operations of online and digital platforms.
3. Comprehending the responsible usage of information.
4. Acquiring knowledge on safeguarding oneself online.
5. Gaining proficiency in the safe and responsible use of digital technology.

Table 1: The comparison of Regional and Global Digital Literacy Frameworks

DigComp 2.2	UNESCO's Global Framework of Reference on Digital Literacy Skills for Indicator 4.4.2	Singapore's DMIL
The framework categorizes competencies into five key areas: 1. Information and data literacy 2. Communication and collaboration 3. Digital content creation 4. Security 5. Problem-solving.	The framework proposes to categorize competencies into seven broad areas, which include: 1. Devices and software operations 2. Information and data literacy 3. Communication and collaboration 4. Digital content creation 5. Security 6. Problem-solving 7. Career-related competencies.	This framework centers on five desired outcomes: 1. Recognizing the benefits, risks, and potential offered by technology. 2. Understanding the operations of online and digital platforms. 3. Comprehending the responsible usage of information. 4. Acquiring knowledge on safeguarding oneself online. 5. Gaining proficiency in the safe and responsible use of digital technology.

2.2 Rapid Assessment, Desk Research and Validation

In addition to reviewing regional and global digital literacy frameworks, the development of the Digital, Media and Information Literacy Competency Framework involved conducting a rapid assessment survey comprising both qualitative and quantitative methods. Furthermore, a validation workshop was organized to confirm the survey findings and gather feedback. These activities aimed to gain a comprehensive understanding of the current state of DMIL in Cambodia, identify competency gaps, assess competency requirements, and address specific challenges within the country. Approximately 57 stakeholders actively participated in promoting DMIL, representing ministries, government agencies, civil society organizations, academia, digital technology companies, indigenous groups, organizations of persons with disabilities, and youth groups. Their input and perspectives played a crucial role in shaping the framework.

To conduct the survey, the UNESCO Media and Information Literacy Framework and the European Digital Literacy Framework (DigComp 2.2) served as the foundation. A questionnaire was developed based on these frameworks, focusing on the competencies and attitudes that Cambodians should possess. The survey also included competency components related to emerging technologies like artificial intelligence. Participants were asked to rate the necessity of each DMIL competency component on a scale of 1 to 5. The survey results were carefully analyzed and compiled to identify the highest-priority DMIL competencies. These competencies were then consolidated into a comprehensive list. For example, in the section on the use of digital tools and software, stakeholders emphasized the importance of organization-specific digital tools and software over popular market offerings. They also prioritized ethics in selecting licensed software rather than resorting to knowledge of hacking software to reduce costs.

The DMIL competency framework was reviewed and validated during the validation workshop to clarify and agree on the essential competencies to be included into the framework. The workshop provided a platform for stakeholders to define the concept of DMIL within the Cambodian context, aligning it with the Digital Economy and Social Policy Framework. Additionally, it facilitated an overall assessment of the DMIL ecosystem, identified key stakeholders and service providers involved in promoting DMIL, and established principles and values for the DMIL competency framework.

UNESCO defines **Media and Information Literacy (MIL)** as a set of competencies that empowers citizens to access, use, select evaluate, organize, share, and create content from various media and information sources in a critical, ethical manner to engage with others for various localized and inclusive purposes. It is also about critically understanding media functions and information issues towards responsible civic participation.

While **Digital Literacy** is the competency to use digital tools in an effective, safe, responsible, and positive manner to locate, understand, evaluate, create, and share digital content for multiple purposes. It is also about understanding how the digital system works to promote inclusive growth and reduce risks.

Meanwhile, **the Cambodian Digital Economy and Society Policy Framework 2021-2035** defines **Digital Literacy** as the ability to use digital tools and technology systems to connect, manage, explore, communicate, evaluate, or create information. The definitions outlined in Part 3 of the DMIL Competency Framework align with the definitions of UNESCO and the Cambodia Digital Economy and Society Policy Framework. However, they also place particular emphasis on addressing pressing issues in Cambodia that require urgent solutions. These issues include critical thinking, safety, ethics, inclusion, and responsibility. These key points were further recommended by relevant stakeholders during the consultation process.

Although the definitions of DMIL are discussed and determined separately, it is crucial not to separate the competency framework of these two systems due to the following reasons:

1. The integration of media, information technology, and digital systems has evolved, making information and digital content inseparable from each other.
2. The need for problem-solving, efficiency, ethics, responsibility, and citizen participation align coherently when utilizing both MIL and DL systems simultaneously for the development of the digital economy and society.

Therefore, the development of a framework for Digital, Media and Information Literacy combines MIL and DL to create a comprehensive and consistent response to the actual technological advancements. This framework aims to facilitate effective utilization of these tools. In addition to defining DMIL and validating the competencies, relevant stakeholders have also agreed upon the principles and values that underpin this national framework.
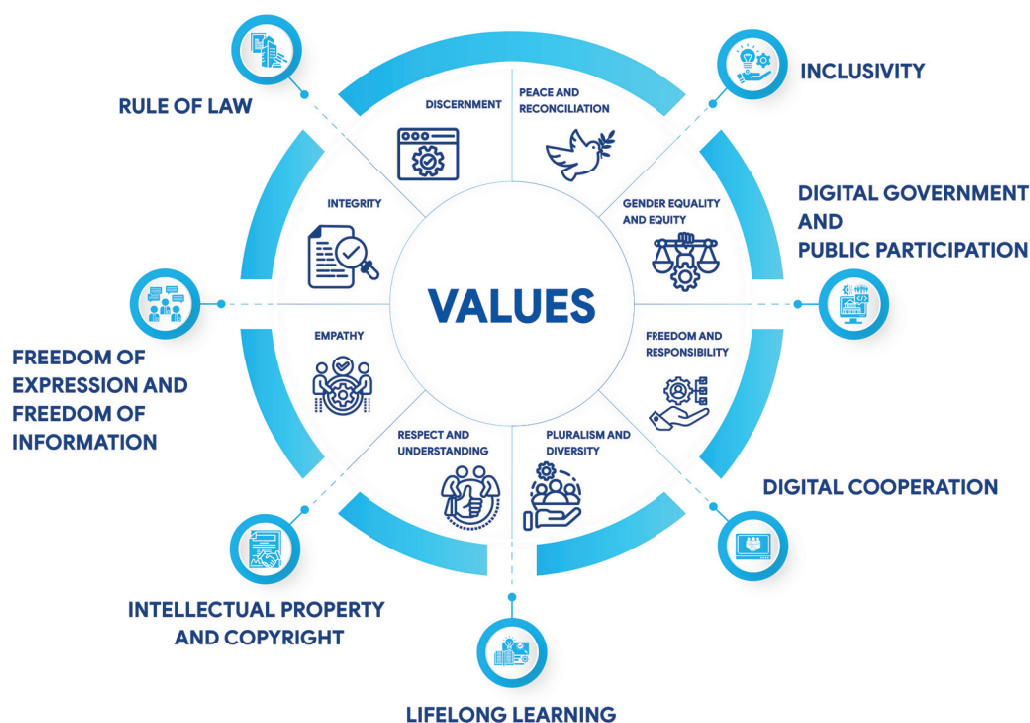
2.3 Principles and Values of the DMIL Competency Framework

The Digital, Media and Information Literacy Competency Framework was developed and will be implemented based on the following principles:

1. Rule of Law
2. Inclusivity
3. Digital Government and Public Participation
4. Digital Cooperation
5. Lifelong Learning
6. Intellectual Property and Copyright
7. Freedom of Expression and Freedom of Information

The Digital, Media and Information Literacy Competency Framework was developed based on the following key communication values:

1. Peace and Reconciliation
2. Gender Equality and Equity
3. Freedom and Responsibility
4. Pluralism and Diversity
5. Respect and Understanding
6. Empathy
7. Integrity
8. Discernment

3. DIGITAL, MEDIA AND INFORMATION LITERACY COMPETENCY FRAMEWORK

The DMIL competency framework has been designed in accordance with the aforementioned principles, values, and methodology. As a result, the definitions and set of competencies have been determined as follows:

3.1 Definition of Digital, Media and Information Literacy

Digital Literacy is the positive, responsible, effective, and safe application of digital tools to locate, understand, evaluate, create and share digital content within and ecosystem of interactions for multiple purposes. It is also about understanding how the digital system works to promote inclusive growth and reduce online risks.
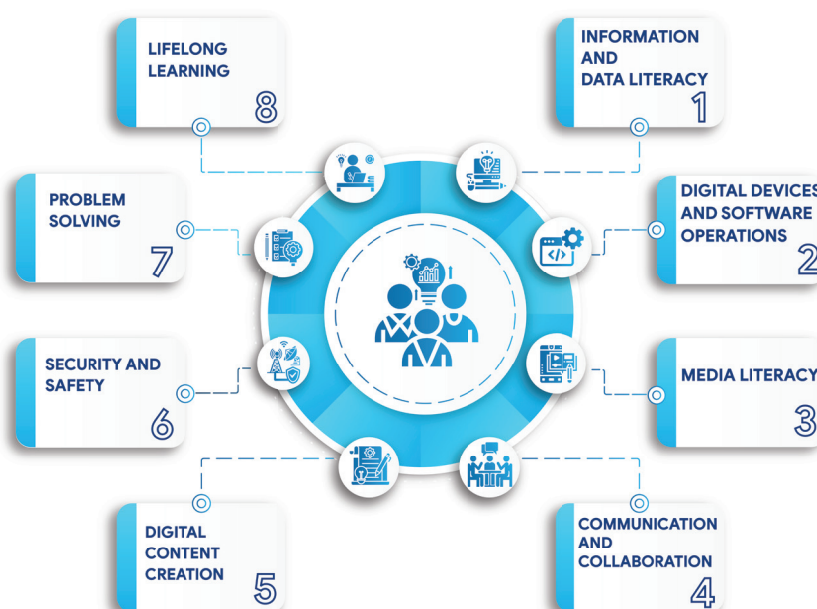
Media and Information Literacy is a set of competencies that empowers citizens to access, use, select evaluate, organize, share, and create content from various media and information sources in a critical, ethical manner to engage with others for various localized and inclusive purposes. It is also about critically understanding media functions and information issues towards responsible civic participation.

Overall, **Digital, Media and Information Literacy (DMIL)** is a set of competencies that empower individuals to effectively use digital tools, access, use, choose, evaluate, organize, create and share digital contents in their professional and daily lives and engage with media, and information from various sources with a positive attitude, critical thinking, ethics, efficiency and responsibility.

3.2. Inventory of Cambodia's Digital, Media and Information Literacy Competencies

The inventory outlines 8 DMIL competency domains with a total of 114 competencies and 3 proficiency levels (basic, intermediate, advanced). The inventory of DMIL competencies was compiled based on global and regional benchmarks, rapid assessment, consultation and validation workshops. This inventory list of competencies can be further enhanced depending on the evaluation of the initial rollouts of training programs or the effects of advances in digital media, emerging needs and global trends.

The Eight DMIL Competency Domains

Table 2: Inventory of Digital, Media and Information Literacy Competencies

1. Information and Data Literacy

Information and Data Literacy is the ability to effectively find, evaluate, use, and communicate information and data in a digital world. It encompasses skills like critical thinking, research, source evaluation, data analysis, and responsible information sharing.

Basic	Intermediate	Advanced
• Articulate information needs • Browse, search, and filter information and digital content. • Know how to access information from appropriate, accurate, credible information sources • Organize, save, and retrieve data from hard drives, cloud storage, and other digital repositories • Know national laws related to information sourcing, production, and dissemination (e.g., access to information, privacy, copyright) and international standards related to these laws • Invoke right to information • Detect scams, phishing sent through mobile SMS, emails • Cross-check content through credible sources to help fight disinformation	• Organize data according to themes or patterns (e.g., chronological, cause-effect, problem solution, etc.) • Decipher the motivations or interests of individuals or organizations producing content. • Manage references used using digital tools (e.g., Zotero, Mendeley, Endnote, etc) to collect, organize, cite sources • Understand principles such as: o Data minimization, o Purpose limitation o Storage limitation o Accuracy, transparency, and other principles of data protection • Interpret visualizations and other digital data • Navigate the Online Public Access Catalog (OPAC)	• Distinguish the different types of information disorder and how these are perpetuated in media • Demand accountability and transparency from big technology companies about how my data footprints are used • Distinguish between public domain information and proprietary information (copyright, trademarks) • Analyze data using software (e.g., SPSS, NVivo, QDA Miner, etc.) • Apply fact-checking tools and techniques • Monitor and analyze how audiences respond to information received and the effects/impact

2. Digital Devices and Software Operations

Digital Devices and Software Operations refers to the ability to effectively utilize digital tools and software, including knowledge in the latest technological advancements such as artificial intelligence, blockchain, etc., to operate and manage information and communication technology systems.

Basic	Intermediate	Advanced
• Identify and use the functions of hardware tools and technologies. • Know the information and digital content that are necessary to operate software and hardware. • Know how to use video-conferencing platforms (Zoom, MS Team, Google Meet, etc.) • Use digital solutions for transactions (e.g., e-commerce, online booking, etc.)	• Know how to install software as required • Know where or how to troubleshoot technical problems in using digital media. • Learn how to do coding • Know indications that a digital device is infected with a computer virus and know basic troubleshooting interventions • Understand and participate in Industry 4.0 using frontier technologies (AI, Robotic, Cloud, VR, Blockchain, IoT, Big Data,..etc)	• Create mobile/web apps • Do programming using open-source tools • Develop frontier technologies (AI, Robotic, Cloud, VR, Blockchain, IoT, Big Data,..)

3. Media Literacy

Media literacy is the ability to understand and critically analyze media messages. It is essential for informed citizenship and participation in a democratic society. Media literacy include understanding the role of media in society, evaluating media content, and producing and sharing counter-narratives.

Basic	Intermediate	Advanced
• Understand the important role of media in promoting and preserving democratic discourse (e.g., checks and balances, transparency, platform for people's self-expression	• Recognize that journalists are professionally trained to report news that is expectedly accurate, factual, objective, and balanced	• Evaluate critically media content by assessing its accuracy, sensitivity (e.g., culture and religion), creativity, technical quality (e.g., quality of writing, editing, design, production) etc.

• Know constitutionally enshrined individual freedoms (e.g., speech, religion, association, information) • Practice openness, to and respect, and tolerance for differences among diverse groups/sectors (culture, religion, gender, socioeconomic class) • Identify the trustworthiness and credibility of media sources	• Understand that media content is influenced by an interplay of political, commercial, and social factors • Understand the international Human Rights standards especially the freedoms of expression and information and how these relate to healthy civic participation • Learn how to call out media outlets' violations pertaining to hate speech, intolerance, radicalism, and extremism • Develop sensitivity to help unserved and underserved communities/sectors that have limited or zero media access • Engage in citizen journalism • Assess the authenticity of photos, videos (including deepfakes) • Discern types of censoring news content • Know Cambodia laws pertaining to media, internet, and telecommunications and their compliance with international standards	• Detect media's stereotypes/ prejudices in its portrayals of reality to inform actions that will address these stereotypes • Produce and share counter and alternative media narratives (of peace, inclusion, equality, and intercultural dialogue) • Know how algorithm works and its impact on news dissemination and sourcing including echo chambers

4. Communication and Collaboration

Communication and Collaboration Literacy is the ability to effectively and ethically communicate and initiate online work collaborations in accordance with digital system terms and conditions, while encouraging input from others in a digital environment.

Basic	Intermediate	Advanced
• Read and consent to the terms and conditions of Community Standards in using digital media, especially social media. • Follow code of ethics and freedom of expression during discussions • Work with people/digital media users from diverse backgrounds and identities • Treat co-workers in shared digital spaces as co-equals • Observe the ethics of creative commons • Recognize that the users/audience of digital technologies have the power to accept, reject, or adjust content according to their own interests and needs. • Identify and play age-appropriate online games (i.e., topics, themes, language, visuals)	• Interact with other users through appropriate digital media (e.g., social media, messaging apps, education technologies, etc.) to share content, socialize, exchange ideas and opinions. • Work with others using collaborative digital tools (e.g., Google Drive, One Drive, Stormboard, etc.) to create content. • Practice healthy feedback • Join chat groups for special interests and mentoring programs • Respect rights of other online users to be anonymous • Exhibit social skills in collaborative online games • Join special groups to boost interests (e.g., advocacy, productivity). • Respect user confidentiality	• Find common grounds among opposing ideas to promote unity, respect for diversity, and social good • Launch online advocacies to address social issues, including crowdfunding to help the needy • Manage toxic conversations online, including dealing with trolls • Gamify group dynamics to practice creativity and healthy competition while using digital tools • Adapt to various types of audience and digital media

5. Digital Content Creation

Digital content creation is the ability to create and share digital content ethically and responsibly, such as respecting intellectual property rights, and understanding on the use of other creative licenses.

Basic	Intermediate	Advanced
• Acknowledge sources to respect the original authors, the resources they invested to create the content, and their intellectual property rights	• Create content in different formats (e.g., photo, video, text) using different digital media tools and applications.	• Understand metaverse as a space for content creation and audience engagement

• Understand that some digital content (e.g., photo, music) have copyrights and licenses before these can be used. • Respect proprietary information (copyright, trademarks) • Distinguish what content can be made public, private, and only shared with authorities • Understand fair use of digital copyrighted materials • Create social media posts that do not contain harmful content (e.g., hate speech, sexism, intolerance, racism, discrimination, victim-blaming, violence, etc.) • Understand the background of online audiences as one basis of content creation • Upload content that respects the subjects' rights to privacy, anonymity, confidentiality	• Edit or give comments on content created by other users to improve the content or create a new one • Understand that all content posted on digital media, especially social media, become part of digital footprints traceable to content creators	• Discern whether social media content promotes international war crimes such as torture and cruel, inhumane, or degrading punishment, aggression, crimes against humanity and war crimes which occur in the context of an armed conflict as specified in Article 8(2) of the Rome Statute of the International Criminal Court

6. Security and Safety

Security and safety refer to a competency that empowers individuals to be active participants in shaping a safe and responsible digital environment. By mastering these skills, individuals can navigate the online world with confidence, protect themselves and others from harm, and contribute to a more positive and inclusive digital experience for everyone.

Basic	Intermediate	Advanced
• Know how to manage a secure social media account, including basic interventions in case of hacking	• Practice digital emotional intelligence (e.g., reduce the risks to physical and mental wellbeing) through regulated use of digital media	• Protect devices, digital content, and other online activities against unauthorized access, accidental sharing of content, and illegal electronic surveillance.

• Understand the risks of using digital media • Understand how digital media companies collect and protect personal and sensitive information • Report violators of community standards of social media to create a safe and nurturing digital media environment • Invoke right to erasure/be forgotten	• Understand and flag social media content that endangers the social wellbeing of vulnerable sectors (e.g., children, teens, older adults, persons with disabilities, indigenous people, etc.) • Know how to report breach of data privacy and security • Understand cyber-bullying and how to avoid it	• Practice self-regulation before sharing any personal information with any digital platform

7. Problem Solving

Problem-solving competency is the ability to identify, analyze, and address challenges effectively and creatively. It highlights the importance of understanding online risks, engaging with diverse perspectives, using technology strategically, and utilizing digital skills to create a more inclusive and equitable digital world for all.

Basic	Intermediate	Advanced
• Acknowledge possible risks in using digital media and know where to seek help to manage these risks. • Participate in public debate related to social, economic, cultural issues that affect members of the community, especially from vulnerable sectors, to help develop an understanding of alternative views and to promote social consciousness	• Acknowledge personal digital competence gaps and know where to seek help for improvement • Transfer digital skills with other enthusiasts, especially those with limited access to resources	• Use data mining (e.g., analytics, algorithms) as inputs for evidence-based decision-making, considering equal and equitable access to opportunities • Create apps/digital solutions for social good

• Recognize that social media and the Internet are shared spaces where conflicts are inevitable • Gamify social media algorithms by adjusting account settings or expanding the content options beamed by the algorithm		• Develop a social consciousness that threats to universally accepted freedoms will have long-term repercussions on personal freedoms

8. Lifelong Learning

Lifelong learning is the ability to ongoing acquisition of knowledge, skills, and experiences throughout an individual's life. It involves continuous study and personal development to enhance one's abilities and professional skills, enabling them to adapt quickly to changing situations and the evolving landscape of technology.

Basic	Intermediate	Advanced
• Use appropriate digital technologies/tools and applications to improve work efficiency • Complete free online courses • Manage and protect data owned by the organization (e.g., government, private corporations, etc.) • Use digital media for social marketing	• Manage the physical workspace and shared digital spaces as part of digital-ready and borderless workplaces • Protect the proprietary information of the organization to promote a productive relationship with the organization. • Participate in/design online mentoring programs • Manage online-offline work-life balance • Practice paperless or more digital transactions to promote efficiency, transparency, and environmental conservation. • Develop skills in effective storytelling for presentations and digital campaigns	• Use data mining to make sense of Big Data • Monetize own content using available digital platforms

4. THE APPLICATION OF THE DMIL COMPETENCY FRAMEWORK

This framework presents a common overview of a set of competencies of Digital, Media and Information Literacy in Cambodia. It was developed based on a survey that identifies the actual needs in society, considering the rapid developments and emerging issues. The framework serves as a foundation for organizing training courses within the formal education system, training programs for civil servants, sector-specific training, and various other beneficial applications as following:

4.1. The Integration of DMIL into Formal and Non-Formal Education

The Digital, Media and Information Literacy competency framework can be used for the review and development of formal education programs and as a basis for the development of MIL subjects for students and for the development of interdisciplinary teacher capacity. Outside of the formal education system, this framework can also be used for the review of existing training programs or/and the development of new training programs of all relevant institutions that are currently underway, such as curriculum development and capacity building of civil servants through various training centers of the Royal Government, Royal School of Administration, Institute Digital governance of Cambodia Academy of Digital and Technology (CADT), the Royal Academy of Police, trainings conducted by civil society, NGOs and private companies that are needed to train and enhance the capacity of the DMIL of their target group or staff.

The DMIL competency framework can be used to promote community participation by providing a shared understanding and demonstrating the necessary competencies for individuals and institutions to participate in discussions on DMIL-related topics. This activity fosters a sense of community spirit and common goals around DMIL, encouraging individuals to actively contribute to the promotion and enhancement of DMIL within their local communities.

4.2. Evaluation of Program or Existing MIL and DL Curriculum

The Digital, Media and Information Literacy Competency Framework functions as a shared tool with various applications. It can be used to evaluate and assess existing initiatives and programs related to digital competency development or evaluate the promotion of digital skills within governmental institutions to identify areas for improvement and expand the scope of existing programs.

On a broader scale, the competency framework can serve as a foundation for developing assessment tools that measure and monitor the competency levels of individuals, educators, government officials, or other target groups. Assessing the DMIL competencies of these target groups establishes a standardized model for measuring the progress of DMIL competency building programs over specific timeframes. It also enables the evaluation of the effectiveness of training programs, specific DMIL interventions, or DMIL-related initiatives.

4.3. Policy Development and Strategies

The Digital, Media and Information Literacy Competency Framework can be used to develop policies strategies or action plans based on comprehensive information at the national and sub-national levels, providing a clear understanding of the competencies that individuals and institutions must have in the digital age. By utilizing a set of competencies or the results of competency assessments within this framework, effective policies and actions can be formulated, including:

- Producing awareness-raising materials or information-education-communication (IEC) documents aligned with DMIL competencies;
- Developing measurable performance indicators based on the required DMIL competencies;
- Regularly updating and reinforcing foundational literacy and functional mapping at the national and sub-national levels (through incorporating indicators related to DMIL);
- Formulating a research plan for DMIL and identifying key issues to be addressed

5. CONCLUSION

Digital, Media and Information Literacy (DMIL) plays a vital role in fostering the growth of an inclusive digital economy and society. DMIL-literate citizens can actively engage with the Royal Government, the private sector, and other stakeholders through responsible, safe, and effective use of digital technology. These competencies build upon the core principles of the rule of law, environmental sustainability, digital governance, digital collaboration, lifelong learning, and intellectual property rights. Furthermore, DMIL upholds and reinforces the values and achievements of peace, stability, gender equality, freedom of expression, responsibility, pluralism, diversity, mutual respect, emotional intelligence, integrity, and discernment. These principles and values serve to guide Cambodians along their journey towards becoming "digital citizens". The DMIL Competency Framework serves as an essential tool in the development of digital citizens, ensuring consistency, efficiency, and inclusion aligned with the vision of the Royal Government of Cambodia and international standards.

APPENDIX

Glossary of Terms

N	Key Terms	Definitions
1	5G	The next generation of telecommunications technology, including standards, methods, procedures, software regulation, equipment and mobile networks that are connected to the Internet and can provide data transfer speeds of up to 10 gigabits per second.
2	Algorithm	The rules or the set of stages followed by computers to address a particular issue.
3	Alternative Media	Alternative media refers to an independent source of information that operates without the influence of any government, institution, or enterprise. It serves as a platform distinct from traditional mainstream media outlets.
4	Artificial Intelligence (AI)	The study, application, and production of machines and software that have some of the qualities that the human mind has, such as the ability to use natural language, study, analyze, decide and solve problems.
5	Augmented Reality (AR)	Incorporating additional digital information through the use of digital tools and applications to help users experience a real-world experience.
6	Big Data	A large set of data, many forms, many sources, many types, but generally no clear structure that requires special methods and technologies to manage and analyze that data to assist decision making and serve other interests.
7	Blockchain Technology	The distributed ledger technology infrastructure that records the digital asset unalterable; those data are copied and spread in a decentralized way across the network of mainframe computers.

N	Key Terms	Definitions
8	Cloud Technology	Technology that enables the use and sharing of resources, computing resources, network resources, data storage, software resources, and systematic software development nurseries. The Internet is efficient as needed, with users not having to manage those resources directly.
9	Community Standards	Community standards is a set of guidelines and rules established by the social media platforms to govern user behavior and content. These standards outline the acceptable and unacceptable types of content, interactions, and conduct within the platform's community. They are designed to create a safe, respectful, and inclusive online environment for users.
10	Competency	The ability of an individual to mobilize and use internal resources such as knowledge, skills and attitude, as well as external resources such as databases, colleagues, peers, libraries, instruments etc., in order to solve a specific problem efficiently in a real life situation.
11	Cybersecurity	Implementation of blocking, responding and protecting information technology systems, including network infrastructure, operating systems and applications, from all forms of intrusion and attack, especially on the Internet.
12	Data	Electronic numbers, letters, symbols, messages, images, audios, videos, information, or programs that are designed applicable in database or over the electronic system.
13	Data Mining	A process of studying and analyzing large datasets to define and retrieve information that is useful to users.
14	Database	Datasets that are created for the purpose of easy management and retrieval.

N	Key Terms	Definitions
15	Digital Citizen	Citizens who can use effectively digital technologies in daily activities with safety and responsibility.
16	Digital Content	Content or/and information in digital form, which can be seen, read, listened, or downloaded in the forms of text, audio, video file, and so on.
17	Digital Cooperation	Refers to joint efforts among stakeholders such as government, the private sector, civil society and the technical community to optimize the use of digital technology, including, achieving global connectivity, promoting digital public goods, digital environment and protection of human rights in the digital age.
18	Digital Footprint	Digital footprint refers to the distinctive collection of traceable digital activities and actions performed by an individual, such as using websites, emails, or engaging with other online information.
19	Digital Government	The process of modernizing government management systems and public services through the use of digital technologies such as computers, smart devices and the Internet to facilitate the management of state administration, decision making and the provision of services to citizens, the private sector and relevant institutions with effectiveness, transparency, accountability and inclusion.
20	Digital Identity	Information in digital form for identifying individuals or objects through automated work (evaluation and verification) by computer systems.
21	Digital Literacy	Digital Literacy is the positive, responsible, effective, and safe application of digital tools to locate, understand, evaluate, create and share digital content within and ecosystem of interactions for multiple purposes. It is also about understanding how the digital system works to promote inclusive growth and reduce online risks.

N	Key Terms	Definitions
22	Digital Space	Online realities or virtual environments created from digital technology.
23	Digital Transformation	The process of transforming business governance and work processes through digitalization to enhance efficiency and effectiveness in economy, social and institutions.
24	Digitalization	The process of streamlining business governance or work processes to be more efficient and effective through the use of digital technology and data in digital form.
25	Discernment	The process of utilizing wisdom, experience, and personal insight to make sound decisions and judgments.
26	Disinformation	False or dishonest information intentionally created to mislead and cause harm. It is typically crafted and disseminated with the support of individuals and technology aimed at amplifying its impact.
27	DMIL Ecosystem	A composite concept consisting of elements such as media literacy, information literacy, news literacy, ICT literacy, digital literacy, films/cinema literacy, advertising literacy, and library literacy among others. Together, these elements present a combined set of competencies necessary for life and work today.
28	DMIL Service Providers	Agencies and organizations engaged in DMIL work including capacity building (education and training), teaching-learning materials development, research, and advocacy. These agencies/organizations can be government, non-government organizations, academic institutions, civil society organizations, and media agencies.
29	DMIL Stakeholders	Individuals, groups or other sectors involved in capacity building for DMIL in order for them to be able to exercise their capacity needed to fulfill individual, family, community and social obligations.

N	Key Terms	Definitions
30	Empathy	The capacity that enables us to comprehend and adapt to the emotions and experiences of others, fostering understanding and adjustment.
31	Freedom and Responsibility	The freedom to choose and carry out any action, including the right to information and expression, with both ethical and legal responsibility.
32	Freedom of Expression and Freedom of Information	The right to seek, receive and impart information or ideas of any kind through any means, orally, in writing or in print, in any art form or through any media.
33	Gender Equality	The non-discrimination of any gender in the allocation of resources, interests, or in access to services. Gender equality can be measured by examining the equal opportunities or outcomes of women and men. It refers to equality in participation, access to control and decision-making between men and women on resources, wealth and activities in the public and private sectors.
34	Gender Equity	It is a process of fair treatment of women and men aimed at gender equality through policies, laws and measures to address social prejudices against women and men. It refers to specific measures or specific actions to create opportunities, motivate, and promote equality between men and women in social work and in the family (gender equality).
35	Hate Speech	Any type of communication in speech, writing, or behavior that attacks or uses insulting language or discriminates against any individual or group based on religion, race, color, race, gender, or other identifying factors.
36	Inclusion	The inclusion of all groups of people, regardless of gender, age, color, education, occupation, religion, fitness and nationality, into all socio-economic activities, and they have equal opportunities and rights.

N	Key Terms	Definitions
37	Information	Notes or messages in the form of text, images, sounds or videos that users can perceive and can use to help make decisions, study, research or entertain.
38	Information Disorder	Consists of disinformation, mal-information or misinformation that can cause harm or harm to any person, institution or nation as a whole.
39	Information Literacy	Ability to define and clarify information requirements, search and access information, evaluate and organize information, use information effectively, and use information to communicate in various forms.
40	Integrity	It is the three types of virtuous deeds: deeds of the body, known as righteous actions; deeds of speech, known as righteous words; and deeds of the heart, known as righteous intentions.
41	Intellectual Property	Intellectual property refers to the creation of ideas, including literary and artistic works, as well as symbols, names, images, and designs used in commerce.
42	Internet	The global system of computer networks that are interconnected through common communication protocols to share and provide information to work, do commerce, study and have entertainment.
43	Internet of Things	A network of objects connected by the Internet has a sensor function and can interact with other objects or external environments.
44	Lifelong Learning	Lifelong learning involves the continuous acquisition of knowledge, skills, and experience throughout an individual's life through ongoing study. It aims to develop personal abilities and professional expertise, enabling individuals to adapt to changing situations and the rapid evolution of technology.

N	Key Terms	Definitions
45	Machine Learning	An artificial intelligence technology that enables machines to study, recognize, and predict results more accurately and effectively and autonomously based on the data being treated without the need for clear programming to do so.
46	Media	Tools or means of disseminating and sharing information such as newspapers, magazines, radio, television, internet and social media.
47	Media and Information Literacy (MIL)	Media and Information Literacy is a set of competencies that empowers citizens to access, use, select evaluate, organize, share, and create content from various media and information sources in a critical, ethical manner to engage with others for various localized and inclusive purposes. It is also about critically understanding media functions and information issues towards responsible civic participation.
48	Media Literacy	Ability to access, analyze, evaluate, create and operate using all mass media (for example, television, radio, printing). It involves understanding and using the mass media, including a comprehensive and critical understanding of the media and the techniques they use and their effects.
49	Misinformation	Misinformation is created or disseminated without having intention to mislead.
50	News	Recent or important information that is disseminated through the media or the press.
51	Pluralism and Diversity	Refers to options for the public to access information and contribute to cultural, social and political views through a variety of media such as print, radio, television, online.
52	Proprietary Information	Private sector's information that is considered the secret information.
53	Public Domain Information	Information that can be published publicly.

N	Key Terms	Definitions
54	Public Participation	Refers to the participation of people in activities related to economic and social issues through the use of digital devices.
55	Respect and understanding	Refers to respect and understanding of differences in different groups or areas such as culture, religion, gender, caste in society.
56	Social Media	The use of online social media platforms to connect with friends, family, colleagues or clients.
57	Virtual Reality (VR)	A computer-generated virtual world environment of three-dimensional images that can be interacted in as real or physical by users using special electronic devices, such as helmets with screens inside or sensor gloves.

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