

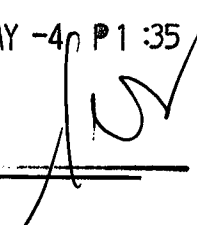
EIGHTEENTH CONGRESS OF THE)
REPUBLIC OF THE PHILIPPINES)
First Regular Session)



Senate
Office of the Secretary

SENATE
S. B. No. 1470

20 MAY -4 P 1 :35

RECEIVED BY: 

Introduced by SENATOR SONNY ANGARA

**AN ACT
PROVIDING FOR A NATIONAL DIGITAL TRANSFORMATION POLICY AND
FOR OTHER PURPOSES**

EXPLANATORY NOTE

In recent years, the Philippines has been recognized as one of the top internet users in the world, with Filipinos averaging 10 hours and two minutes of screen time every day.¹ The Digital 2019 report of social media firms Hootsuite and We Are Social showed that Filipinos spent an average of four hours and 12 minutes on social media platforms, almost double of the global average of two hours and 16 minutes.²

And with more mobile subscriptions than there are people in the country—109.2 for every 100 inhabitants, according to the *Measuring the Information Society Report 2017* of the International Telecommunications Union (ITU)—the foundations are there for the Philippines to blossom into a truly digital society. But just as the experience with the COVID-19 outbreak and the subsequent Luzon-wide enhanced community quarantine has demonstrated, several gaps and institutional deficiencies persist—underscoring the need for a comprehensive digital transformation policy to be rolled out and implemented, one that is especially focused on digital skills and competencies.

¹ <https://www.theguardian.com/technology/2019/feb/01/world-internet-usage-index-philippines-10-hours-a-day>

² <https://www.philstar.com/business/technology/2019/01/31/1889736/filipinos-are-worlds-heaviest-internet-users-2018-report-says>

Leveraging on the Filipinos' interest and presence in the digital space and in order to foster digital competency in support of the country's economic and social development goals, this bill seeks to create a national framework for digital competency with focus on information and data literacy, communication and collaboration, digital content creation, safety and problem solving. The proposed digital competency framework is patterned after the European Commission's DigComp 2.0³, which identified the five key components of digital competence.

Among the key provisions in the bill is the adoption of information and communication technology (ICT) competency for teachers, since building digital competency should encompass all forms of learning. The proposed provisions were adapted from the 2011 United Nations Educational, Scientific and Cultural Organization (UNESCO) ICT Competency for Teachers, aimed at helping countries develop comprehensive national teacher ICT competency policies and standards and integrate these in overarching ICT in education plans.⁴ A 2019 United Nations Conference on Trade and Development (UNCTAD) Report highlights that traditional teaching curricula and training programs contribute to the enhancement of digital skills and at the same time, digital technologies facilitates learning by providing education access to those who might not be able to benefit from formal education.⁵

The bill also seeks to establish and institutionalize a national digital transformation strategy, and a national digital skills development strategy to ensure that every citizen is given the opportunity to understand ICT and develop the necessary skills and ability to apply ICT in their everyday lives.

Finally, the bill also creates the National Digital Transformation Council who will oversee policy formulation for the national digital competency framework and facilitate the development and implementation of the proposed strategies under the bill.

³ <https://milunesco.unaoc.org/mil-resources/digital-competence-framework-for-citizens/>

⁴ <https://en.unesco.org/themes/ict-education/competency-framework-teachers>

⁵ https://unctad.org/en/PublicationsLibrary/dt1stict2019d3_en.pdf

This measure falls under our broad effort towards the formulation and sustained implementation of a "Tatak Pinoy" industrialization campaign and policy that helps Filipino enterprises move up the value chain, Filipino entrepreneurs to produce better quality products, and Filipino professionals to render world-class services.

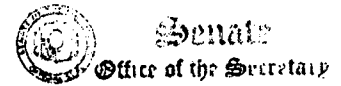
In view of the foregoing, the passage of this bill is earnestly sought.

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SONNY ANGARA

78

EIGHTEENTH CONGRESS OF THE)
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**AN ACT
PROVIDING FOR A NATIONAL DIGITAL TRANSFORMATION POLICY AND
FOR OTHER PURPOSES**

*Be it enacted by the Senate and the House of Representatives of the
Philippines in Congress assembled:*

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TITLE I

STATE POLICIES AND BASIC PRINCIPLES

CHAPTER I

State Policies

SECTION 1. *Short Title.* – This Act shall be known as the "*National Digital Transformation Act*".

SEC. 2. *Declaration of State Policy.* – It is hereby declared policy of the State to integrate digital technology into all areas of government that will greatly improve Philippine governance, socio-economic development and services to people. Consequently, the State shall create a plan that shall transform the government into a digital platform providing transparent and accountable governance, efficient operations, direct citizen engagement, and innovation.

CHAPTER II

Definitions of Terms

SEC. 3. *Definition of Terms.* – The following terms as used in this Act shall mean:

- (a) "*21st century skills*" refer to skills that are required by new jobs such as critical thinking, problem solving, good communication, collaboration,

- 1 information and technology literacy, flexibility and adaptability,
2 innovativeness and creativity.
- 3 (b) "*Automatic and Artificial Intelligence*" refers to combining technology
4 such as Robotics Process Automation or RPA, Artificial intelligence (AI)
5 and machine learning;
- 6 (c) "*Big Data and Analytics*" refers to data discovery process using
7 techniques and tools like mining useful information or insights from
8 huge sets of data either structure or unstructured. This is enabled
9 through exponential increase in both computing power and storage
10 capacity;
- 11 (d) "*Cloud Computing*" refers to the delivery of IT services hosted over the
12 internet to transform compute resources into a utility;
- 13 (e) "*Data*" refers to a sequence of one or more symbols given meaning by
14 specific act(s) of interpretation. Data can be analysed or used in an
15 effort to gain knowledge or make decisions. Digital data is represented
16 using the binary number system of ones (1) and zeros (0) as opposed to
17 its analogue representation;
- 18 (f) "*Digital Competence*" refers to the confident, critical, creative, relevant
19 and responsible use of, and engagement with, digital technologies for
20 learning or education, for work or occupation, and for participation in
21 society;
- 22 (g) "*Digital content*" refers to any type of content that exists in the form of
23 digital data that are encoded in a machine-readable format, and can be
24 created, viewed, distributed, modified and stored using computers and
25 digital technologies, e.g. the internet. The content can be either free or
26 pay content such as web pages and websites, social media, data and
27 databases, digital audio, such as mp3s, and e-books, digital imagery,
28 digital video, video games, computer programmes and software.
- 29 (h) "*Digital entrepreneurship*" refers to combining traditional
30 entrepreneurship with new digital technologies, thus creating digital
31 enterprises which are characterized by a high intensity of utilization of
32 novel digital technologies, particularly social media, big data analytics,

- 1 mobile and cloud solutions to improve business operations, invent new
2 business models, sharpen business intelligence, and engage with
3 customers and stakeholders;
- 4 (i) "*Digital services*" refer to public or private services that can be delivered
5 through digital communication, such as Internet, mobile phone network
6 that might include delivery of digital information, data or content or
7 transactional services;
- 8 (j) "*Digital skills*" refer to range of abilities, from basic to more advanced,
9 encompassing a combination of behaviors, expertise, know-how, work
10 habits, character traits, dispositions and critical understandings on the
11 use of digital devices, communication applications, and networks to
12 access and manage information;
- 13 (k) "*Digital technology*" refers to any product that can be used to create,
14 view, distribute, modify, store, retrieve, transmit and receive information
15 electronically in a digital form such as personal computers and devices
16 like desktop, laptop, netbook, tablet computer, smart phones, PDA with
17 mobile phone facilities, games consoles, media players, e-book readers,
18 as well as digital television, and robots;
- 19 (l) "*Digital tools*" refer to technologies used for a given purpose or for
20 carrying out a particular function of information processing,
21 communication, content creation, safety or problem solving;
- 22 (m) "*Digital Transformation*" refers to the total and overall societal effect of
23 digitalization;
- 24 (n) "*Digitization*" refers to the technical conversion from traditional to
25 digital;
- 26 (o) "*Innovation*" refers to the creation of new ideas using new or existing
27 technologies that results in the development of new or improved
28 products, processes, or services, which are then spread or transferred
29 across the market;
- 30 (p) "*Internet of Things (IoT)*" refers to everyday devices connected to the
31 internet through sensors and computing power to monitor and manage
32 actions, offering users greater influence over their environment;

1 (q) "Social inclusion" refers to the process of improving the terms for
2 individuals and groups to take part in society (World Bank). Social
3 inclusion aims to empower poor and marginalized people to take
4 advantage of burgeoning global opportunities. It ensures that people
5 have a voice in decisions which affect their lives and that they enjoy
6 equal access to markets, services and political, social and physical
7 spaces;

8 (r) "Well-being" is related to the World Health Organization definition of
9 good health as a state of complete physical, social and mental well-
10 being, and not merely the absence of disease or infirmity. Social well-
11 being refers to the sense of involvement with others and with the
12 communities such as access and use of social capital, social trust, social
13 connectedness and social networks;

14 **TITLE II**

15 **DIGITAL COMPETENCE FRAMEWORK FOR CITIZENS**

16 **CHAPTER I**

17 **Functions**

18 **SEC. 4.** *Digital Competence Framework for Citizens.* – A Digital Competence
19 Framework for Citizens is hereby created. It shall serve as a tool to improve the
20 digital competence of citizens and a guide in the formulation of policies that support
21 digital competence building. The framework shall include education and training
22 initiatives to improve the digital competence of various specific target groups.

23 The essential knowledge, skills, and attitudes that comprise digital
24 competence are, generally classified as follows:

25 (a) *Information and Data Literacy.* – The ability to articulate information
26 needs, to locate and retrieve digital data, information and content, to judge the
27 relevance of the source and its content and to store, manage, and organize digital
28 data, information and content. The skills are as follows:

- 29 1. Browsing, searching and filtering data, information, and digital content
- 30 2. Evaluating data, information, and digital content
- 31 3. Managing data, information, and digital content

1 (b) *Communication and collaboration.* – The ability to interact, communicate
2 and collaborate through digital technologies while being aware of cultural and
3 generational diversity, to participate in society through public and private digital
4 services and participatory citizenship and to manage one’s digital identity and
5 reputation. The skills are as follows:

- 6 1. Interacting through digital technologies
- 7 2. Sharing through digital technologies
- 8 3. Engaging in citizenship through digital technologies
- 9 4. Collaborating through digital technologies
- 10 5. Netiquette
- 11 6. Managing digital identity

12 (c) *Digital Content Creation.* – The ability to create and edit digital content, to
13 improve and integrate information and content into an existing body of knowledge
14 while understanding how copyright and licenses are to be applied, and to know how
15 to give understandable instructions for a computer system. The skills are as follows:

- 16 1. Developing digital content
- 17 2. Integrating and re-elaborating digital content
- 18 3. Copyright and licenses
- 19 4. Programming

20 (d) *Safety.* – The ability to protect devices, content, personal data and privacy
21 in digital environments, to protect physical and psychological health, and to be
22 aware of digital technologies for social well-being and social inclusion, as well as to
23 be aware of the environmental impact of digital technologies and their use. The skills
24 are as follows:

- 25 1. Protecting devices
- 26 2. Protecting personal data and privacy
- 27 3. Protecting health and well-being
- 28 4. Protecting the environment

29 (e) *Problem Solving.* – The ability to identify needs and problems, and to
30 resolve conceptual problems and problem situations in digital environments, to use
31 digital tools to innovate processes and products and to be updated with the digital
32 evolution. The skills are as follows:

- 1 1. Solving technical problems
- 2 2. Identifying needs & technological responses
- 3 3. Creatively using digital technologies
- 4 4. Identifying digital competence gaps

5 The Department of Information and Communications Technology (DICT) and
6 the Department of Education (DepEd) in collaboration with the Commission on
7 Higher Education (CHED), and the Technical Education and Skills Development
8 Authority (TESDA) shall design and develop an instrument to measure and certify
9 citizens' digital competence based on the framework. These agencies shall consult
10 experts in the field of various technologies necessary for digital transformation, such
11 as but not limited to cloud computing, automatic and artificial intelligence, robotics,
12 big data and other disruptive technologies.

13 **CHAPTER II**

14 **ICT Competency Framework For Teachers**

15 **SEC. 5.** *ICT Competency Framework for Teachers.* – An ICT-Competence
16 Framework for Teachers is hereby created. This shall be used to outline the
17 competencies that teachers, educators, and trainers need in order to integrate
18 Information and Communication Technologies (ICTs) into their professional practice.

19 The framework shall be used to compare the teachers' competencies in
20 different regions, provinces, cities, and municipalities in order to analyze and
21 develop educational programs and training courses for teacher professional
22 development at national or regional level.

23 The required competencies are defined as the intersections of the three
24 approaches to teaching, as follows:

25 (a) **Technology literacy approach** shall enable students to use ICT in order
26 to learn more efficiently and increase the extent to which new technology
27 is used by students, citizens and the workforce by incorporating
28 technology skill into the school curriculum. The goal of the technology
29 literacy approach is to enable learners, citizens, and the workforce to use
30 ICT to support social development and improve economic productivity.

31 (b) **Knowledge deepening approach** shall enable students to acquire in-
32 depth knowledge of their school subjects and apply it to complex, real-

1 world problems; and increase the ability of students, citizens, and the
2 workforce to use knowledge to add value to society and the economy by
3 applying it to solve complex, real-world problems. The aim of the
4 knowledge deepening approach is to increase the ability of students,
5 citizens, and the workforce to add value to society and to the economy by
6 applying the knowledge gained in school subjects to solve complex, high
7 priority problems encountered in real world situations of work, society and
8 in life generally.

9 (c) **Knowledge creation approach** shall enable students, citizens and the
10 workforce they become, to create the new knowledge required for more
11 harmonious, fulfilling and prosperous societies; and increase the ability of
12 students, citizens, and the workforce to innovate, produce new
13 knowledge, and benefit from this new knowledge. The aim of the
14 knowledge creation approach is to increase productivity by creating
15 students, citizens, and a workforce that is continually engaged in, and
16 benefits from, knowledge creation, innovation and life-long learning. The
17 six aspects of a teacher’s work, under the framework are as follows:

- 18 1. Understanding ICT in education
- 19 2. Curriculum assessment
- 20 3. Pedagogy
- 21 4. ICT
- 22 5. Organization and administration
- 23 6. Teacher professional learning

24 The modular structure of learning shall be encouraged. Teacher-education
25 institutions and providers of professional learning shall design offerings that address
26 and is aligned to the overall goals and rationale of the Framework.

27 **PART III**

28 **NATIONAL DIGITAL SKILLS STRATEGY**

29 **CHAPTER I**

30 **Definitions**

31 **SEC. 6. *National Digital Transformation Strategy.*** – A National Digital
32 Transformation Strategy shall be created. The Strategy shall ensure that every

1 citizen shall have the opportunity to understand ICT and develop skills and ability to
2 apply the ICT in their work, vocation, business, and life in society. The Strategy shall
3 include, but not limited to:

- 4 (a) *Affordable and clean energy and growth*, which includes plans and
5 programs to ensure competitive costs as well as lower adverse impact to
6 the environment;
- 7 (b) *Digital inclusion*, which includes plans and programs to spread growth
8 across the country, and identify potential areas for various industries to
9 unlock growth, increase skill levels, or promote local innovation;
- 10 (c) *Infrastructure*, which includes concrete plans and strategies to develop
11 and upgrade performance on digital, energy, and transport
12 infrastructure, to effectively align central government infrastructure
13 investment with local growth priorities;
- 14 (d) *Institutional framework*, which includes strategies and directions to
15 establish or improve existing institutions such as innovation councils,
16 local educational institutions, trade associations or financial networks;
- 17 (e) *Procurement policy*, which includes concrete and specific plans in the
18 government procurement in order to drive innovation and enable the
19 development of effective, efficient and transparent supply chains across
20 the country;
- 21 (f) *Science, research, and innovation*, which include concrete set of plans
22 and strategies to ensure a knowledge economy, create and
23 commercialize intellectual property that will promote and enhance the
24 global brand of the Philippines;
- 25 (g) *Sectoral engagement*, which includes plans, policies and strategies
26 programs to enhance areas of competitive advantage, and help new
27 sectors to grown;
- 28 (h) *Skills*, which include concrete plans and strategies to ensure that the
29 Filipino workforce is equipped with the relevant and necessary 21st
30 century skills for them to thrive in a modern economy and build learning
31 organizations and systems to benefit the everyone especially those who
32 are not able to attend or complete formal education, and enhance

1 science, technology, engineering, and math (STEM) skills and numeracy,
2 and raising skill levels especially in underprivileged areas;

3 (i) *Trade and inward investment* which includes plans and strategies to
4 boost productivity and growth across the economy by increasing
5 competition and helping to bring innovation and new ideas, systems and
6 processes; and

7 (j) *Supporting businesses to start and grow*, where we the government
8 must ensure that businesses across the country can access the finance
9 and management skills they need to grow; and create the conditions to
10 enable firms to invest for the long term.

11 **SEC. 7. *Digital Inclusion.*** – The DICT shall enable all citizens, irrespective of
12 age, gender, physical ability, ethnicity, health conditions, or socio-economic status to
13 access the opportunities of the internet. Citizens, businesses and public services
14 must take full advantage of the transformational benefits of the digital revolution.
15 The Department must identify the root causes of digital exclusion in all sectors and
16 regions for the purpose of increase their digital competence.

17 The DICT shall identify and develop the full range of digital skills that
18 individuals and companies across the country need to address the requirements of a
19 digital economy and instill measures and programs for citizens to continuously up-
20 skill and re-skill throughout their working lives.

21 It shall also develop a strong collaboration between the public, private, and
22 educational sector to address the digital skills gap in a coherent and holistic way.

23 **SEC. 8. *Digital Libraries and Learning Hubs.*** - The DICT and the National
24 Library of the Philippines shall enhance and promote the role of libraries in improving
25 digital communication, increasing citizen’s digital footprint, promoting digital
26 inclusion and transform these libraries as providers of digital access, training and
27 support for local communities.

28 **SEC. 9. *Digital Entrepreneurship.*** – The Department of Trade and Industry
29 (DTI) and the DICT shall strongly promote the digitization of businesses according to
30 their own specific digital needs, mainly focused on these four core digital activities,
31 namely maintaining a web presence, selling online, using the cloud, and digitizing
32 back-office functions such as payroll and human resource management, in order to

1 become or remain competitive. The DTI shall ensure that entrepreneurs undertake
2 the certification under the digital competence framework for citizens to identify areas
3 the need training and intervention.

4 **SEC. 10. *Digital Civil Service.*** – To ensure the highest standards of public
5 service, the DICT and the Civil Service Commission shall identify and consolidate all
6 the skills and competencies of public employees in the career service and
7 recommend and cause the conduct of digital skills training under an annual digital
8 skills mapping activity. All public employees shall be covered under a mandatory
9 basis of certification under the digital competence framework for citizens to identify
10 areas the need training and intervention.

11 **CHAPTER II**

12 **National Digital Skills Development Strategy**

13 **SEC. 11. *National Digital Skills Development Strategy.*** – The State shall
14 create digital skills development strategy that will:

15 (a) Identify the digital skills development goals for:

- 16 1. Primary education
- 17 2. Secondary education
- 18 3. Tertiary education, for students, and digital technology development and
19 design experts
- 20 4. Work-related digital skills training programs for out-of-school youth,
21 including for freelancers and part-time workers;
- 22 5. Work-related digital skills training programs for adults requiring re-skilling;
- 23 6. Skills for life in the digital economy for all citizens;
- 24 7. Training programs both for life and work for under-represented
25 populations;
- 26 8. Develop or plan for a digital entrepreneurship skills strategy.

27 (d) Inventory existing policies, plans and programs that support the
28 development of digital skills and analyze how they can be used to support
29 the goals of the digital skills strategy

30 (e) Benchmark the goals against existing frameworks or countries with similar
31 goals as well as identify the existing priorities and challenges in meeting

- 1 the above goals as well as identify promising solutions for providing digital
2 skills that address the common challenges
- 3 (f) Identify current and future trends in relation to demographic trends,
4 technological changes, business trends, trade, industrial policies, and the
5 shift to a greener, digital and knowledge-based economy
- 6 (g) Identify available training programs, curriculum and providers that can be
7 leveraged to meet the strategy's goals and develop new curricula where
8 necessary as well as identify gaps in training programs and curricula – and
9 identify providers and strategies that will help fill them.
- 10 (h) Identify and recommend new policies and programs that are needed and
11 conduct advocacy both using the existing policies and to build support for
12 new policies.

13 **CHAPTER III**

14 **Digital Jobs**

15 **SEC. 12.** *Digital Jobs.* - The DICT in coordination with Department of Labor
16 (DOLE) and other concerned agencies shall provide jobs which are in line with
17 freelancing, virtual work, homebased digital activities, and the like.

18 **CHAPTER VII**

19 **National Digital Transformation Council**

20 **SEC. 13.** *National Digital Transformation Council.* – The National Digital
21 Transformation Council is hereby created to ensure the effective implementation of
22 this Act.

23 **SEC. 14.** *Composition of the Council.* – The Council shall be composed of:

- 24 (a) DICT
25 (b) Department of Science and Technology (DOST)
26 (c) DTI
27 (d) DOLE
28 (e) DEPED
29 (f) CHED
30 (g) TESDA

1 (h) At least ten (10) members coming from the private sector that is involved
2 in digital skills development, digital industries and jobs, or digital systems
3 and products.

4 **SEC. 15. *Functions of the Council.*** – The following are the functions of the
5 Council:

6 (a) Take the lead in the formulation and implementation of specific rules for
7 the National Digital Competence Framework for Citizens;

8 (b) Oversee the development and implement the National Digital
9 Transformation Strategy, the ICT Teachers Competency Framework, and
10 National Digital Skills Development Strategy;

11 (c) Recommend, propose or endorse any measure related to the above
12 functions to concerned line agencies for purposes of administrative
13 concerns, to the private sectors, schools or other business entities for
14 policy guidance, and to Congress for policy purposes

15 (d) Provide a report to Congress and to the Office of the President on the
16 progress of the implementation of this Act

17 **SEC. 16. *Council Secretariat.*** – The DICT shall provide secretariat support to the
18 Council.

19 **TITLE IV**

20 **COMMON PROVISIONS**

21 **SEC. 17. *Implementing Rules and Regulations.*** – Within sixty (60) days from
22 the effectivity of this Act, the DOLE and DICT together with relevant stakeholders
23 shall promulgate the necessary implementing rules and regulations (IRR) of this Act.

24 **SEC. 18. *Appropriations.*** – The amount necessary for the effective
25 implementation of the provisions of this Act shall be included in the General
26 Appropriations Act for the year following the approval of this Act.

27 **SEC. 19. *Repealing Clause.*** – All other laws, decrees, executive orders and
28 rules and regulations contrary to or inconsistent with the provisions of this Act are
29 hereby repealed or modified accordingly.

30 **SEC. 20. *Separability Clause*** – If any provision of this Act is held invalid or
31 unconstitutional, the same shall not affect the validity and effectivity of the other
32 provisions hereof.

1 **SEC. 21. Effectivity** – This Act shall take effect fifteen (15) days after its
2 publication in the *Official Gazette* or in any newspaper of general circulation.

Approved,