

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



SENATE
S. B. No. 625

Introduced by SENATOR SONNY ANGARA

AN ACT
ESTABLISHING A NATIONAL DIGITAL TRANSFORMATION POLICY AND
CREATING A NATIONAL DIGITAL TRANSFORMATION COUNCIL FOR THE
DEVELOPMENT AND IMPLEMENTATION THEREOF, 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 spending 10 hours and 56 minutes online per day or 166 days per year.¹ The Digital 2022 report of social media firms Hootsuite and We Are Social showed that Filipinos spent an average of four hours and six minutes on social media platforms, almost double of the global average of two hours and twenty seven minutes.²

And with more mobile subscriptions than there are people in the country— 137 subscriptions for every 100 inhabitants in 2020³—the foundations are there for the Philippines to blossom into a truly digital society. But just as the experience with the COVID-19 pandemic and the subsequent community quarantines nationwide have 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://businessmirror.com.ph/2022/01/31/pinoys-spend-most-time-online-on-social-media/>

² <https://newsinfo.inquirer.net/1589845/social-media-internet-craze-keep-ph-on-top-2-of-world-list>

³ [Trading Economics: Philippines - Mobile Cellular Subscriptions \(per 100 People\)](#)

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 2.0⁴, 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.⁵ 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.⁶

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.

⁴ <https://milunesco.unaoc.org/mil-resources/digital-competence-framework-for-citizens/>

⁵ <https://en.unesco.org/themes/ict-education/competency-framework-teachers>

⁶ https://unctad.org/en/PublicationsLibrary/dtlstict2019d3_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.



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

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

3 **SEC. 2. *Declaration of State Policy.*** – The State recognizes the potential of
4 digital technologies to greatly improve governance, socio-economic development, and
5 services to the people. It also recognizes that for such technologies to be integrated
6 well into the day-to-day operations of the government, all citizens will need to be
7 equipped with basic levels of digital competence and skills, and rudimentary know-
8 how on handling these same technologies. Hence, the State shall formulate a national
9 digital transformation policy that shall ensure every Filipino citizen has the adequate
10 skills, competencies, and know-how to meaningfully utilize digital technologies. Such
11 policy shall also aim to transform the government into a digital platform providing
12 transparent and accountable governance, efficient operations, direct citizen
13 engagement, and innovation.

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

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

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

1 inclusion aims to empower poor and marginalized people to take
2 advantage of burgeoning global opportunities. It ensures that people have
3 a voice in decisions which affect their lives and that they enjoy equal
4 access to markets, services and political, social and physical spaces;

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

11 **SEC. 4. *National Digital Transformation Strategy.*** – A National Digital
12 Transformation Strategy shall be developed and published by the government, with
13 the Department of Information and Communications Technology (DICT) acting as the
14 lead agency in this effort. The Strategy shall ensure that every citizen is afforded every
15 opportunity to understand ICT and develop skills and abilities to apply ICT in their
16 work, vocation, business, and life in society. It shall also outline the broad steps
17 needed for government agencies to integrate digital technologies in their operations.
18 The Strategy shall discuss but need not be limited to the following priority areas:

- 19 (a) *Affordable and clean energy and growth*, which includes plans and
20 programs to ensure competitive costs as well as lower adverse impact to
21 the environment;
- 22 (b) *Digital inclusion*, which includes plans and programs to spread growth
23 across the country, and identify potential areas for various industries to
24 unlock growth, increase skill levels, or promote local innovation;
- 25 (c) *Infrastructure*, which includes concrete plans and strategies to develop
26 and upgrade performance on digital, energy, and transport infrastructure,
27 to effectively align central government infrastructure investment with local
28 growth priorities;
- 29 (d) *Institutional framework*, which includes strategies and directions to
30 establish or improve existing institutions such as innovation councils, local
31 educational institutions, trade associations or financial networks;

- 1 (e) *Procurement policy, which includes* concrete and specific plans in the
2 government procurement in order to drive innovation and enable the
3 development of effective, efficient and transparent supply chains across
4 the country;
- 5 (f) *Science, research, and innovation*, which include concrete set of plans and
6 strategies to ensure a knowledge economy, create and commercialize
7 intellectual property that will promote and enhance the global brand of
8 the Philippines;
- 9 (g) *Sectoral engagement*, which includes plans, policies and strategies
10 programs to enhance areas of competitive advantage, and help new
11 sectors to grown;
- 12 (h) *Skills*, which include concrete plans and strategies to ensure that the
13 Filipino workforce is equipped with the relevant and necessary 21st century
14 skills for them to thrive in a modern economy and build learning
15 organizations and systems to benefit the everyone especially those who
16 are not able to attend or complete formal education, and enhance science,
17 technology, engineering, and math (STEM) skills and numeracy, and
18 raising skill levels especially in underprivileged areas;
- 19 (i) *Trade and inward investment* which includes plans and strategies to boost
20 productivity and growth across the economy by increasing competition
21 and helping to bring innovation and new ideas, systems and processes;
22 and
- 23 (j) *Supporting businesses to start and grow*, where ~~we~~ the government must
24 ensure that businesses across the country can access the finance and
25 management skills they need to grow; and create the conditions to enable
26 firms to invest for the long term.

27 **SEC. 5. National Digital Skills Development Strategy.** – To complement
28 the National Digital Transformation Strategy as described under Sec. 4, the State shall
29 also formulate a national digital skills development strategy that will:

- 30 (a) Identify the digital skills development goals for:
- 31 (i) Primary education
- 32 (ii) Secondary education

- 1 (iii) Tertiary education, for students, and digital technology
- 2 development and design experts
- 3 (iv) Work-related digital skills training programs for out-of-school
- 4 youth, including for freelancers and part-time workers;
- 5 (v) Work-related digital skills training programs for adults requiring
- 6 re-skilling;
- 7 (vi) Skills for life in the digital economy for all citizens; and,
- 8 (vii) Training programs both for life and work for under-represented
- 9 populations;
- 10 (b) Develop or plan for a digital entrepreneurship skills strategy;
- 11 (c) Inventory existing policies, plans and programs that support the
- 12 development of digital skills and analyze how they can be used to
- 13 support the goals of the digital skills strategy;
- 14 (d) Benchmark the goals against existing frameworks or countries with
- 15 similar goals as well as identify the existing priorities and challenges in
- 16 meeting the above goals as well as identify promising solutions for
- 17 providing digital skills that address the common challenges;
- 18 (e) Identify current and future trends in relation to demographic trends,
- 19 technological changes, business trends, trade, industrial policies, and the
- 20 shift to a greener, digital and knowledge-based economy;
- 21 (f) Identify available training programs, curriculum and providers that can
- 22 be leveraged to meet the strategy's goals and develop new curricula
- 23 where necessary as well as identify gaps in training programs and
- 24 curricula – and identify providers and strategies that will help fill them;
- 25 and,
- 26 (g) Identify and recommend new policies and programs that are needed and
- 27 conduct advocacy both using the existing policies and to build support
- 28 for new policies.

29 **SEC. 6. *Digital Competence Framework for Citizens.*** – A Digital
30 Competence Framework for Citizens is hereby created. It shall serve as a tool to
31 improve the digital competence of citizens and a guide in the formulation of policies
32 that support digital competence building, as outlined in the National Skills

1 Development Strategy described under Sec. 5. The framework shall include education
2 and training initiatives to improve the digital competence of various specific target
3 groups.

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

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

- 10 1. Browsing, searching and filtering data, information, and digital content
- 11 2. Evaluating data, information, and digital content
- 12 3. Managing data, information, and digital content

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

- 18 1. Interacting through digital technologies
- 19 2. Sharing through digital technologies
- 20 3. Engaging in citizenship through digital technologies
- 21 4. Collaborating through digital technologies
- 22 5. Netiquette
- 23 6. Managing digital identity

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

- 28 1. Developing digital content
- 29 2. Integrating and re-elaborating digital content
- 30 3. Copyright and licenses
- 31 4. Programming

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

- 6 1. Protecting devices
- 7 2. Protecting personal data and privacy
- 8 3. Protecting health and well-being
- 9 4. Protecting the environment

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

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

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

26 **SEC. 7. ICT Competency Framework for Teachers.** – An ICT-Competence
27 Framework for Teachers shall also be developed in tandem with the National Skills
28 Development Strategy discussed in Sec. 6. This framework shall be used to outline the
29 competencies that teachers, educators, and trainers need in order to integrate
30 Information and Communication Technologies (ICTs) into their professional practice.

31 The framework shall be used to compare the teachers' competencies in
32 different regions, provinces, cities, and municipalities in order to analyze and develop

1 educational programs and training courses for teacher professional development at
2 national or regional level.

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

5 (a) *Technology literacy approach* shall enable students to use ICT in order to
6 learn more efficiently and increase the extent to which new technology is
7 used by students, citizens and the workforce by incorporating technology
8 skill into the school curriculum. The goal of the technology literacy approach
9 is to enable learners, citizens, and the workforce to use ICT to support social
10 development and improve economic productivity.

11 (b) *Knowledge deepening approach* shall enable students to acquire in-depth
12 knowledge of their school subjects and apply it to complex, real-world
13 problems; and increase the ability of students, citizens, and the workforce
14 to use knowledge to add value to society and the economy by applying it to
15 solve complex, real-world problems. The aim of the knowledge deepening
16 approach is to increase the ability of students, citizens, and the workforce
17 to add value to society and to the economy by applying the knowledge
18 gained in school subjects to solve complex, high priority problems
19 encountered in real world situations of work, society and in life generally.

20 (c) *Knowledge creation approach* shall enable students, citizens and the
21 workforce they become, to create the new knowledge required for more
22 harmonious, fulfilling and prosperous societies; and increase the ability of
23 students, citizens, and the workforce to innovate, produce new knowledge,
24 and benefit from this new knowledge. The aim of the knowledge creation
25 approach is to increase productivity by creating students, citizens, and a
26 workforce that is continually engaged in, and benefits from, knowledge
27 creation, innovation and life-long learning. The six aspects of a teacher's
28 work, under the framework are as follows:

- 29 1. Understanding ICT in education
- 30 2. Curriculum assessment
- 31 3. Pedagogy
- 32 4. ICT

1 5. Organization and administration

2 6. Teacher professional learning

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

6 **SEC. 8. *Digital Inclusion.*** – The DICT shall enable all citizens, irrespective of
7 age, gender, physical ability, ethnicity, health conditions, or socio-economic status to
8 access the opportunities of the internet. Citizens, businesses and public services must
9 take full advantage of the transformational benefits of the digital revolution. The
10 Department must identify the root causes of digital exclusion in all sectors and regions
11 for the purpose of increasing their digital competence.

12 The DICT shall identify and develop the full range of digital skills that individuals
13 and companies across the country need to address the requirements of a digital
14 economy and instill measures and programs for citizens to continuously upskill and re-
15 skill throughout their working lives. It shall also develop a strong collaboration
16 between the public, private, and educational sector to address the digital skills gap in
17 a coherent and holistic way.

18 **SEC. 9. *Digital Libraries and Learning Hubs.*** - The DICT and the National
19 Library of the Philippines shall work to enhance and promote the role of libraries in
20 improving digital communication, increasing citizen’s digital footprint, and promoting
21 digital inclusion. The DICT and the National Library of the Philippines, in coordination
22 with the appropriate local government units, shall collaborate transform these libraries
23 as providers of digital access, training and support for local communities.

24 **SEC. 10. *Digital Entrepreneurship.*** – The Department of Trade and
25 Industry (DTI) and the DICT shall strongly promote the digitization of businesses
26 according to their own specific digital needs, mainly focused on these four core digital
27 activities, namely maintaining a web presence, selling online, using the cloud, and
28 digitizing back-office functions such as payroll and human resource management, in
29 order to become or remain competitive. The DTI shall ensure that entrepreneurs
30 undertake the certification under the digital competence framework for citizens to
31 identify areas the need training and intervention.

1 **SEC. 11. *Digital Civil Service.*** – To ensure the highest standards of public
2 service, the DICT and the Civil Service Commission shall identify and consolidate all
3 the skills and competencies of public employees in the career service and recommend
4 and cause the conduct of digital skills training under an annual digital skills mapping
5 activity. All public employees shall be covered under a mandatory basis of certification
6 under the digital competence framework for citizens to identify areas the need training
7 and intervention.

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

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

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

15 (a) DICT

16 (b) Department of Science and Technology (DOST)

17 (c) DTI

18 (d) DOLE

19 (e) DEPED

20 (f) CHED

21 (g) TESDA

22 (h) Four (4) members coming from the private sector that is involved in digital
23 skills development, digital industries and jobs, or digital systems and
24 products.

25 **SEC. 15. *Functions of the Council.*** – The following are the functions of the
26 Council:

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

29 (b) Oversee the development and implement the National Digital
30 Transformation Strategy, the ICT Teachers Competency Framework, and
31 National Digital Skills Development Strategy;

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

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

7 **SEC. 16. Council Secretariat.** – The DICT shall provide secretariat support
8 to the Council.

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

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

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

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

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

Approved,