

9A

Expanding Economic Opportunities in Industry



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The country's vulnerabilities were put in sharper focus with the occurrence of natural disasters¹, water supply constraints², and the global health crisis caused by the COVID-19 pandemic at the beginning of 2020, requiring the government's urgent and strategic responses. This unprecedented period called on government to play a larger role in implementing appropriate stimuli to revive consumer and business confidence in the near-term and initiate measures that will enhance socioeconomic resilience in the medium-term. The refined Industry sector strategies are based on the need to operate under this new normal by leveraging Industry 4.0 technologies and ushering the growth of the digital economy.

To establish a healthy and resilient Philippines, the industry sector needs to rapidly operationalize the strategies under the Inclusive Innovation and Industrial Strategy (i3S, pronounced *eye-cube-s*). The i3S serves as a guide in setting a collaborative environment for and implementation of innovation-centered initiatives to boost the capacity of local enterprises. As a means to further improve consumer and business confidence in the medium-term, the i3S underscores the need to build up our human resource to utilize technologies, adopt inclusive business models to link smaller domestic-based firms to larger enterprises, strengthen the startup ecosystem to assist tech-based startups, particularly those inclined to develop health or industrial solutions in response to the current pandemic, and formulate business continuity plans (BCPs) for enhanced supply and value chain resilience. The urgent passage of structural reforms that cut across multiple sectors is needed to fast track a national digital transformation responsive to the current crisis.

Assessment and Challenges

Assessment: Over the past 3 years (2017 to 2019), the industry sector delivered tempered growth amid challenges in the external and domestic front. While industry gross value added (GVA) grew within the annual target range for 2019, the rest of the core industry-related indicators –

manufacturing GVA as a proportion of GDP, employment generated by the industry sector, and manufacturing employment as a proportion of total employment – missed their respective targets. In terms of employment, an average of 267,000 net employment has been created in 2019,

¹Taal volcanic eruption occurred in January 2020. In the quarter leading to this, periodic seismic activities have been recorded in Mindanao and select areas across Luzon and Visayas.

²Challenges in water resource management has put in doubt the water supply sufficiency of the country's capital.

higher than 110,000 employment generated in 2016. However, it failed to reach its 2019 plan target of 437,000. The construction sector (287,000) significantly accounted for the industry employment creation in 2019 while the manufacturing sector recorded employment losses (-4,000) mainly attributed to the weak external environment during the period.

The country's overall ranking in the World Bank-International Finance Corporation's (WB-IFC) Ease of Doing Business (EODB) Report exhibited a rapid decline in the past three years, amid the more aggressive stance of other economies in advancing reforms and facilitating ease of doing business. On a positive note, this trend was reversed in 2020, with the country jumping 29 notches up to 95th out of 190 economies in the EODB Report. This is made possible by the government's policy initiative in protecting minority investors and improving the process of granting construction permits. On the consumer front, Filipinos' level of awareness of their basic consumer rights remains low, exacerbated by the country's archipelagic geography, which provides access to information on basic consumer rights difficult for those in remote and rural areas.

Challenges: Recent decline in industry output reflected lower domestic demand exacerbated by supply chain disruptions. Further, policy uncertainty related to institutional delays in the passage of reforms (e.g., Corporate Recovery and Tax Incentives for Enterprises [CREATE] bill, etc.) contributes to halted investment decisions. High innovation cost has also been a hindrance for the industry sectors to adopt new technologies, thereby limiting their capacity and potential to upgrade to the production of higher-value goods. Attracting new foreign direct investments (FDIs) is hampered by existing policies limiting foreign participation in critical support services sectors, which also curtails industry growth. The COVID-19 pandemic highlights the gaps in healthcare services (*see Chapter 10 for strategies to strengthen the country's health care system*), which affect the country's competitiveness and ability to attract investors and locators. New opportunities and challenges are also created with shifts in consumer preference and production towards essential goods and services. Lastly, industries have limited flexibility to respond to the impact of the pandemic, particularly in instituting new work protocols including repurposing and reconfiguring business operations.³

Targets

The government faces significant obstacles in meeting its succeeding industry-related annual targets. Given this, the industry sector GVA growth has been adjusted downward, considering

new assumptions in the period, as recognized and approved by the Development Budget Coordination Committee (DBCC) in July 2020.⁴

³ Some businesses were able to promptly undertake repurposing and reconfiguring activities to take advantage of shifts in consumer demand. For instance, the garments, electronics, and other manufacturing companies responded immediately to the need to produce COVID-19 critical products. The CONWEP (Confederation of Wearable Exporters of the Philippines) group shifted to the manufacturing of coveralls, gowns, and shoe and head covers while electronics firms repurposed operations to manufacture surgical masks and infrared thermometers. Liquor companies manufactured isopropyl alcohol and plastics firms produced face shields.

⁴ The DBCC projects the country's Gross Domestic Product (GDP) to contract by 2.0% to 3.4% in 2020. (Department of Budget and Management (DBM), "DBCC Revisits Medium-Term Macroeconomic Assumptions and Fiscal Program Amid the COVID-19 Pandemic," Press Release, May 13, 2020.)

Table 9A.1 Updated Plan Targets to Expand Economic Opportunities in Industry

INDICATOR	BASELINE VALUE (YEAR)	TARGETS			
		2020	2021	2022	END OF PLAN
<i>Economic opportunities in industry across regions including the digital economy expanded</i>					
GVA growth rate in the industry sector improved (%) ^a	8.2 ^b (2016)	8.0-9.0	9.8-10.8	6.3-7.3	6.3-7.3
<i>Market production expanded</i>					
Manufacturing GVA as a proportion of GDP increased (%) ^c	19.1 (2016)	24.7-25.3	16.6-16.7	16.8-17.0	16.8-17.0
<i>Production capacities increased</i>					
Employment generated by the industry sector increased ('000s) ^d	180 (2015)	440	400-500	200	2,303-2,403
Manufacturing employment as a proportion to total employment increased (%) ^e	8.3 (2016)	10.9	8.0-8.6	8.3-8.6	8.3-8.6
<i>Competitiveness, innovativeness, and resilience increased</i>					
Philippine overall ranking in the WB-IFC Doing Business Report improved	Top 54% (103 out of 189 economies) (2016)	Top 40%	Top 40%	Top 33%	Top 33%
<i>Consumer access to safe and quality goods and services ensured</i>					
Level of consumer awareness of basic consumer rights increased (%) ^f	74 (2016)	78	75	78	78

^a GVA at constant 2018 prices. GVA growth rate in Industry for 2019 and 2020 are based on the original DBCC targets as of July 2019. Note that Industry GVA growth rate for 2021 and 2022/end of plan (EOP) are consistent with the DBCC-revised figures as of July 2020.

^b National Income Accounts (NIA) as of August 2020.

^c Baseline (2016) and targets (2021 and 2022/EOP) are in line with the revised DBCC-approved GDP estimates (see Chapter 15) in the same period and rebased at constant 2018 prices. These are also within the Department of Trade and Industry Board of Investments (DTI-BOI) proposed targets (16.4-19.8% in 2021 and 16.9%-20.2% in 2022/EOP).

^d Employment generated refers to additional employment generated from the preceding year. Annualized employment generation for 2014 and 2015 refer to the average of estimates for April, July, and October survey rounds which excluded data of Leyte province. Further note that revision of target employment generation in industry for 2021 and 2022 is consistent with the revision of target total employment generation (see Chapter 4) and revision of labor productivity in industry (see Chapter 10) in the same period.

^e Revised manufacturing employment as a proportion of total employment for 2021 and 2022 is in line with the revised labor productivity in Industry (see Chapter 10) in the same period. These are also somewhat within the DTI-BOI proposed targets of 8.0% in 2021 and 8.4% in 2022/EOP.

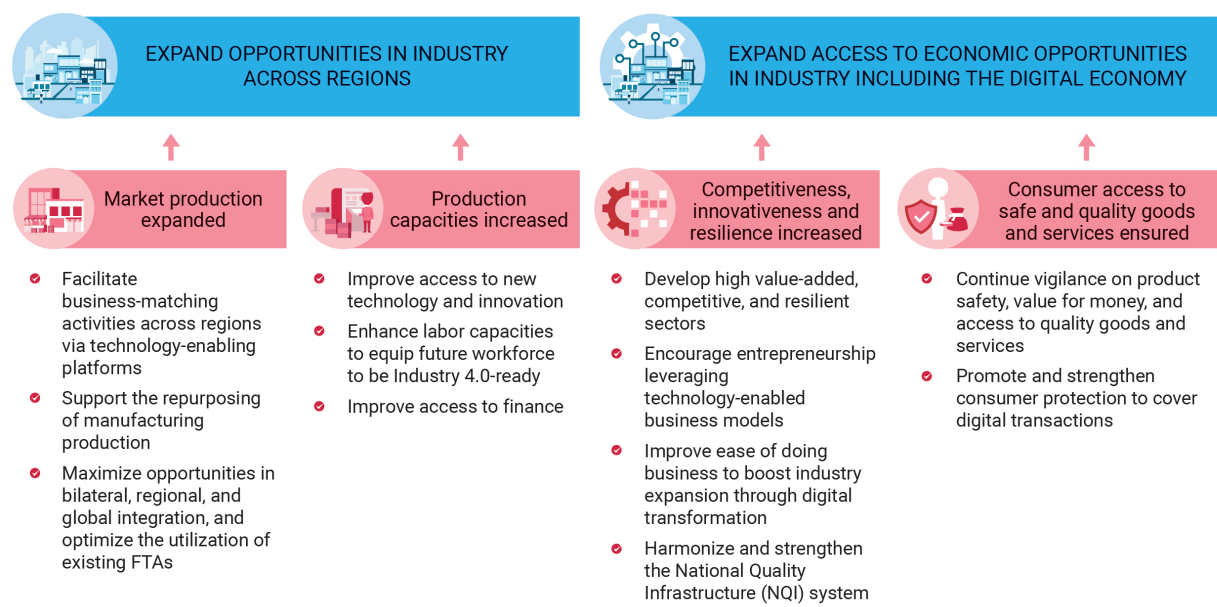
^f Revised downward targets in 2021 to 2022/EOP is due to operational constraints faced by the DTI-Consumer Protection and Advocacy Bureau (CPAB) in carrying out consumer advocacy efforts.

Strategic Framework

Under the new normal, the focus will be to revive business and consumer confidence in the immediate term. In the manufacturing sector, production of merchandise goods will favor necessities such as food, beverages, medicine, pharmaceutical and other chemical products, and other essential and complementary goods. Construction will now include building quarantine and other health facilities and rehabilitating existing ones to increase the capacity of the health care system. There may even be increased construction demand in the rural areas, as urban dwellers realize the advantages of less dense areas.⁵

As the economy further adjusts, reformulated strategies in the medium-term will harness the ability of the academe, the private sector, and the government to maximize the opportunities of the digital economy. This will require accessing new technology and innovation, building innovative talent, and encouraging entrepreneurship that uses technology-enabled business models to leverage opportunities and growth of budding small-scale enterprises.

Figure 9A.1 Strategic Framework to Expand Economic Opportunities in Industry



⁵ Inter-Agency Task Force for the Management of Emerging Infectious Diseases – Technical Working Group for Anticipatory and Forward Planning (IATF-TWG), We Recover As One (WRAO), National Economic and Development Authority (NEDA), 2020.

Strategies

Expanding economic opportunities in industry across regions

Expanding market production

Facilitate business-matching activities across regions via technology-enabling platforms.

- **Ensure efficient supply chain distribution and network across regions.** Support services will be provided to farmers, agro-processors, manufacturers, and exporters to facilitate the movement of goods in the domestic and external markets. The Supply Chain Regulatory Impact Assessments and Supply Chain Analysis (SCAN) Dashboard or other supply chain modeling system or framework for agricultural commodities will be utilized to monitor and address supply bottlenecks across the country coupled with close coordination among the implementing authorities, local government units (LGUs), and the private sector⁶ (see Chapter 8).
- **Provide technical assistance in mapping out value chains across primary, secondary, and tertiary industries to determine alternative suppliers and address production bottlenecks.** To complement the formulation of BCPs, the government will facilitate partnerships between micro, small, and medium enterprises (MSMEs) and large enterprises (LEs) in the process of identifying alternative domestic suppliers in lieu of external ones for enhanced value chain resilience.⁷ Utilizing digital platforms will

reduce transaction costs as it enables farmers, manufacturers, and suppliers to also gain access to domestic and external markets (see Chapters 8 and 9C).

- **Strengthen domestic investment promotion and support business-matching activities at the local level.** Investment Promotion services⁸ offered under Full Service *Negosyo* Centers will be scaled-up.⁹ Coordination between the LGUs and relevant national government agencies (NGAs) and its regional line agencies will also be enhanced to conduct business-matching initiatives (e.g., procurement matching) to link MSMEs to LEs in the region (see Chapter 9C).
- **Encourage the LGUs to adopt and implement their Local Investment and Incentives Code (LIIC)** (see Chapter 9C)

Support the repurposing of manufacturing production.

Prolonged uncertainty will sustain a shift in consumer preference towards essentials. While demand is likely to decline for traditional major export products, there are new opportunities for the country to be part of the production network for essential products (e.g., medical testing kits, personal protective equipment, surgical masks, etc.) (see Chapter 15 on Trade).

- **Establish a registry of firms that are or will be engaged in the manufacture of essential goods.** This will ensure that targeted support and assistance will be provided and will not overlap or duplicate with interventions being provided by various NGAs.¹⁰

⁶ IATF-TWG, WRAO.

⁷ The implementation of the Supplier Development Program (SDP) of the DTI-BOI and World Bank-IFC for the automotive, electronics, and aerospace sectors is a concrete example of how government can facilitate partnerships between local auto parts and electronics suppliers and the automotive and aerospace industry. The SDP links and capacitates the upstream segments to supply and comply with the technical requirements of the downstream industries.

⁸ On investment promotion, the following requires close coordination of the DTI-BOI and various IPAs with the LGU: (a) identify investment opportunities; (b) invite local investors to participate in investment-related activities; (c) disseminate investment-related information; and (d) invite local proponents to participate in the organized missions and matching.

⁹ Investment Promotion service only accounts for 0.03% of the total services rendered under *Negosyo* Centers.

¹⁰ The DTI Consumer Protection and Advocacy Bureau (CPAB) already has a registry of manufacturers of basic necessities and prime commodities which can be expanded.

- ***Provide assistance in re-configuration of production areas, taking into consideration minimum public health standards for COVID-19 mitigation.*** Across industries, reconfiguring work protocols in observance of proper sanitation, disinfection, and social distancing will be a challenge for sectors with higher concentration of employees per work area, such as in manufacturing and construction. The government will regularly conduct dialogues with the private sector to understand and respond to industry needs. It will also facilitate businesses' adoption of health protocols in the workplace to regain business normalcy while trying to flatten the infection curve. Adequate investments to enhance the country's information and communications technology (ICT) capabilities (*see Chapter 19*) and strengthen the country's healthcare system (*see Chapter 10*) will also be prioritized.
- ***Reduce transaction costs by streamlining complex rules and regulations affecting business operations of companies that are repurposing.*** Streamlining procedures for firms that will be repurposing their activities towards the production of essential goods and delivery of critical services will be prioritized. Clear and transparent rules and guidelines will be drafted and implemented in the process of obtaining licenses and certificates. In addition, a regulatory framework for the production of these essential goods (e.g., PPEs) will also be formulated and enforced.

Maximize opportunities in bilateral, regional,¹¹ and global integration and optimize the utilization of existing FTAs (*see Chapter 15*).

Increasing production capacities

Improve access to new technology and innovation.

- ***Support research and development (R&D) applications in the manufacturing sector as part of the shift in business processes.*** Recent studies point out that high fixed capital and licensing costs are the biggest barrier to technology upgrading for producers in the electronic and electrical (E&E) subsector.¹² However, the current environment underscores the urgency of technology upgrading in the manufacturing sector.¹³ As part of government support, an array of technical and financing options will be made available, particularly for those inclined to develop health or industrial solutions in response to the current pandemic. Technical support will include refocusing public-funded R&D to the application of innovative industrial solutions. Targeted fiscal incentives (e.g., tax credits for R&D activities) will also be considered in line with the provision of the CREATE bill. The patent search services¹⁴ of the Intellectual Property Office of the Philippines (IPOPHL) will also be promoted to connect with the R&D units of enterprises.
- ***Address constraints in the energy and water sectors by leveraging innovation.*** As the rapid pace of urbanization continues, the country's major cities will keep facing constraints in the use and management of basic resources (i.e., electricity, gas, and water). Public-private partnerships (PPP) will be encouraged to invest ahead using available technologies. While long-term water supply and resource management is being improved,

¹¹ Startups from the Philippines may reach out to the ASEAN Business Incubator Network (ABINet) which enables startups to network with other startups in ASEAN, and even provides potential contact with venture capitalists.

¹² World Bank (WB), *Philippines Digital Economy Report 2020: A Better Normal Under COVID-19 - Digitalizing the Philippine Economy Now*, World Bank, 2020.

¹³ For instance, R&D support is needed by semiconductor firms to be able to customize electronic components in order to supply automobile spare parts needed by domestic producers of e-vehicles.

¹⁴ IPOPHL's patent analytics and landscaping efforts, and patent information search initiatives are means of assisting innovative enterprises and research and development institutions as well as government agencies that create policies and grant science and technology funding. IPOPHL will scale up the capacity of business enterprises and other R&D institutions to conduct search while it innovates on its processes and modes of delivery of patent search services.

real-time water quality monitoring as well as small-scale water recycling systems in the interim will be explored to effectively service households and businesses in major urban areas. As regards energy, the government will ensure continuous supply of power through increasing the country's dependable capacity (in megawatt) (*see Chapters 9C and 19*).

- ***Reduce online participation costs for businesses and consumers.*** Adopting technology-enabled business models offers significant opportunities for manufacturing firms, particularly MSMEs, as it offers an alternative means to access markets (*see Chapter 9B*). Foremost, digital connectivity and infrastructure will be improved to reduce the cost of broadband and internet services¹⁵ (*see Chapters 9B, 9C, and 19*). Consumer rights protection in e-commerce and cybersecurity enforcement activities will also be strengthened to build consumer and business confidence in these platforms.¹⁶ Lastly, investment in the country's logistics system will be scaled up (*see Chapter 9B*) and the security of digital payment platforms will be ensured.

Strengthen industry-academe linkage by prioritizing market-driven research, development, and innovation (RD&I) activities and accelerating commercialization of R&D investments. Public sector funded R&D will be redirected towards industrial innovations, especially for those in response to COVID-19. In addition, the procurement conditions set in the Government Procurement Reform Act (GPRA) will be streamlined to fast-track procurement

of laboratory equipment needed for RD&I activities of state universities and colleges (SUCs) and research and development institutions (RDIs). Technology managers from the public sector will be capacitated to promote, negotiate transfer of technologies particularly for government-funded R&Ds, and spot anti-competitive clauses in technology transfer agreements (TTA).¹⁷ The innovation and technology support offices (ITSOs) within the universities, other higher education institutes, and research and development institutes under the ITSO 2.0 program¹⁸ of the IPOPHL will also be scaled up. Further, the IPOPHL's designation as an international authority under the Patent Cooperation Treaty (PCT) will facilitate the entry of Filipino innovations to the global patent system (*see Chapter 14*).

Monitor and scale-up efforts to support innovation capacities of startups and MSMEs in the regions by expanding the Regional Inclusive Innovation Center (RIIC) pilot areas. The RIICs, as part of the Philippine i3S strategy, will promote the adoption of appropriate technologies in existing industry clusters. The RIICs aim to improve supply chain, value-adding and agro-processing, access to technologies, financing, regulating, and certifying high-value crops such as rubber, mangoes, coffee, cacao, and coconut. Currently, RIICs are being piloted in Cebu, Davao, Bicol, and Cagayan de Oro, for possible replication in other regions.

- ***Facilitate industry adoption of appropriate technologies including local R&D solutions and technology-enabled business models*** (*see Chapter 9C*).

¹⁵ Department of Information and Communications Technology (DICT) has ongoing policies and programs that aim to reduce costs of broadband and internet services: roll-out of the third telecommunication player's program and Common Tower Policy.

¹⁶ DICT has a Cybersecurity Bureau that develops cybersecurity policies and coordinates with other agencies on consumer right's protection of citizens.

¹⁷ Technology Transfer Arrangement, by definition, is the process by which one party systematically transfers to another party the knowledge for the manufacture of a product, the application of a process, or rendering of a service, which may involve the transfer, assignment or licensing of intellectual property rights as defined in the Philippine Technology Transfer Act of 2009 (RA 10055). The law covers all institutions that implement government-funded R&Ds and intends to promote and facilitate the transfer, dissemination and effective use, management, and commercialization of intellectual property, technology and knowledge resulting from R&D funded by the government.

¹⁸ IPOPHL, in recent years, developed a network of 100 ITSOs composed of higher education and research development institutions. This program seeks to foster creation of intellectual property in the academe and research sectors, particularly in invention and utility models, to increase the national innovative output and to push the presence of Filipino inventions in the international patent system. It is set up to also strengthen support for MSMEs as the ITSOs extend technical assistance to MSMEs and local inventors as regards trademark and patent searches as well as drafting of patents, utility models, and industrial design documents.

- **Conduct an inventory of existing DOST-approved or government-funded production technologies for possible scale-up** (see Chapter 14).
- **Promote linking startups and MSMEs to cooperatives and LEs to enhance value and supply chain resilience and spur innovation** (see Chapter 9C).
- **Integrate sustainable consumption and production (SCP) processes.** A sustainable consumption and production approach through the adoption of clean, renewable energy, and smart technologies in industry operations is supported (see Chapter 20 for detailed SCP strategies). Adherence to SCP is a unique opportunity for strategic marketing and branding that will set apart the country's products and services offering in the global market. In the construction sector, the Sustainability Incentive Program will be promoted to reduce greenhouse gas emissions in built environments, and for construction of disaster-resilient infrastructure. Particularly for public infrastructure programs and projects, applying the Comprehensive and Integrated Strategic Environmental Assessment will be advocated. R&D, in the use of alternative sustainable materials in the construction sector, will also be pursued (see Chapter 19).
- **Encourage the local development, manufacturing, and distribution of farm machinery through the government's Farm Mechanization Program (FMP).** The program will encourage the local development, manufacturing, and distribution of farm machinery. The implementation of this program will also hasten the commercialization and utilization of existing farm machinery technologies already developed by the Department of Agriculture (DA) Philippine Center for Postharvest Development and Mechanization's (PhilMech) local accredited partners (see Chapter 8).
- **Strengthen cybersecurity and data privacy measures in the public sector and build efficient digital infrastructure (hard and soft).** To mitigate potential risks and threats, cybersecurity and data protection will be interwoven in the government's policies and programmatic areas of intervention.¹⁹ Ramping up investment on efficient digital infrastructure and pushing for structural reforms to allow greater competition in these key sectors will also be prioritized (see Chapters 9B, 16, and 19).
- **Strongly enforce intellectual property (IP) rights to encourage firm innovation.** The enforcement of IP rights is necessary to guarantee that inventors and firms would be able to reap the benefits of their inventions and creations.²⁰ Moreover, strong IP enforcement will attract foreign industries that utilize sophisticated technologies to relocate their production hubs in the country (see Chapter 9C).

Enhance labor capacities to equip the future workforce to be Industry 4.0-ready.

- **Develop human resource development (HRD) blueprint to equip future workforce to be Industry 4.0-ready.** The HRD strategy for the entire country will be formulated starting with priority sectors.²¹ The crafting of a Human Capital Development and Skills Training Cooperation Roadmap consistent with the Philippine i3S and its Inclusive Filipinnovation and Entrepreneurship Roadmap will lay a unified blueprint, incorporating various initiatives on human resource development and capacity-building.

¹⁹ A unified platform with which the DICT and its cybersecurity partners from the private sector may be able to assist government agencies with cybersecurity threats, attacks, and other issues.

²⁰ WB, *Philippines Digital Economy Report 2020*.

²¹ The HRD blueprint can take off from the 12 priority sectors under the Philippine i3S, broadly aligned with the *AmBisyon Natin 2040* priority sectors: housing and urban development (construction), manufacturing, connectivity (ICT, transport and logistics), education services, tourism and allied services, agriculture, health and wellness services, and financial services. (NEDA, "About *AmBisyon Natin 2040*," *AmBisyon Natin 2040* Website.)

- **Build innovative talent focusing on the acquisition of soft and hard skills with focus on science, technology, engineering, arts, and mathematics (STEAM), ICT, and digital-related competencies.** Digital transformation requires the reinvention of businesses' workforce and necessitates investment in digital education. In the immediate term, the Technical Education and Skills Development Authority (TESDA) and other relevant government agencies, including LGUs, will proactively collaborate with the private sector to design remote on-the-job trainings and apprenticeship programs to support the creation of digital careers. For the future workforce, critical support in the early stages of childhood development through the acquisition of essential life skills and foundational abilities with a focus on lifelong learning will be prioritized (see Chapter 10).
- **Improve ease of labor mobility.** COVID-19 compelled countries to restrict travel and people mobility as part of efforts to flatten the infection curve. Once infection is managed, labor mobility within Southeast Asia, as part of the Association of Southeast Asian Nations (ASEAN) Community Vision 2025, will be pursued. Mutual Recognition Arrangements (MRAs) will help Filipino professionals acquire new knowledge and experience overseas and create new networks for professional growth.

Improve access to finance (see Chapters 9C and 15 for detailed strategies).

Expanding access to economic opportunities in industry including the digital economy

Increasing competitiveness, innovativeness, and resilience

Develop high value-added, competitive, and resilient sectors.

- **Strengthen the implementation of the Philippine i3S.** The i3S aims to strengthen the linkages of agriculture, industry, and services through innovation and deepen forward and backward linkages across these major economic sectors and induce global value chain participation. The i3S prioritizes the growth and development of 15 major industries identified to benefit from closer integration of agriculture, industry, and services and from the adoption of innovative applications: (1) auto and auto parts; (2) chemicals; (3) agribusiness; (4) furniture, garments; (5) creative industry; (6) iron and steel, tool, and die; (7) electronic and electrical manufacturing services; (8) shipbuilding and ship repair; (9) aerospace parts and aircraft maintenance; (10) construction; (11) transport and logistics; (12) tourism; (13) information technology and business process management (IT-BPM); (14) e-commerce and digital economy; and (15) climate change products, mobility solutions, health, education, and smart cities.

Developing these priority sectors will increase the country's competitiveness amid global market uncertainties by operationalizing the Innovation Memorandum of Understanding (MOU) between relevant NGAs²² and closer coordination and collaboration with the academe and the private sector.

- **Provide assistance and facilitate funding for industries and enterprises as they create smart factories, adopt automation, and shift to Industry 4.0 technologies.** The application of new and smart technologies such as automation,

²² The DTI, Department of Science and Technology (DOST), DICT, NEDA, Department of Education (DepEd), DA, and Commission on Higher Education (CHED) signed the Memorandum of Understanding (MOU) on October 2, 2018, to further the Inclusive Filipinnovation and Entrepreneurship, a declaration of understanding by the agencies to collaborate and coordinate in formulating and implementing the Inclusive Filipinnovation & Entrepreneurship Roadmap, which aims to develop the country's innovation and entrepreneurial ecosystem via enhancing the linkages between academe/research community, industry, and government.

robotics, artificial intelligence (AI), industrial internet of things (IoTs), big data analytics, additive manufacturing, and cloud computing in the identified priority industries under the i3S, will enable firms to produce innovative goods and services. Support will be made available to firms that will invest in customization, scaling-up, and adoption of new production technologies to take advantage of opportunities under the new normal, in particular:

- Establishment of an Industry 4.0 pilot factory and Industry 4.0 Small and Medium Enterprise (SME) Academy that will serve as learning facilities providing Industry 4.0 training and technical support to companies transitioning to utilize Industry 4.0 technologies;
 - Allocation of funding programs (e.g., soft loans) and appropriate incentives to support companies' digital transformation plans and investments consistent with the CREATE provisions; and
 - Provision of technical support in conducting Industry 4.0 assessment through the Smart Industry Readiness Index (SIRI).²³
- ***Address industry value chain gaps by encouraging sustainable use of raw materials along with parts, components, and intermediate products and linking manufacturing with knowledge-intensive services.*** The lack of sustainability in production processes, inadequate processing (resulting in

non-conformance to standards prescribed by processors), challenges in logistics, warehouse and storage facilities (*see Chapter 9B*), and internal firm factors, such as lack of human resource capabilities (*see Chapter 10*) and low technology adoption have been identified as gaps in the country's manufacturing sector. Adequate investment in acquisition of technology licenses, adoption of innovative and sustainable manufacturing processes,²⁴ support for private sector investment in logistics through low-cost financing and upgrading of skill competencies related to manufacturing are critical requirements (*see Chapter 8 for related strategies on the agriculture, forestry, and fisheries [AFF] sector*). At the international level, the government will continuously dialogue with regional and global cooperation partners to ensure non-disruption of medical and food supplies including eliminating tariffs and other restrictions on essential goods²⁵ (*see Chapter 15*).

- ***Reduce the cost of logistics.*** The high costs of logistics account for 27 percent of revenues of manufacturing firms in the Philippines compared to Indonesia (21%), Vietnam (16%), and Thailand (11%) based on estimates of the International Finance Corporation (IFC). This disproportionately affects smaller enterprises as they operate on a smaller scale and usually face high shipping and delivery costs when importing smaller shipments.²⁶ Strategies for enhancing logistics services are discussed in Chapter 9B.

²³ Smart Industry Readiness Index (SIRI) is developed in Singapore and is the first self-diagnostic Industry 4.0 tool that helps companies globally – regardless of size and industry – determine how to start, scale and sustain their Industry 4.0 transformation. The tool serves as a benchmark for manufacturers to assess and compare their Industry 4.0 maturity levels against those of their peers in the same industry. (<https://siri.gov.sg/>)

²⁴ A concrete example in pushing forward sustainable production in the manufacturing sector is the National Ecolabelling Programme – Green Choice Philippines (NELP-GCP). The NELP-GCP is a voluntary, third-party ecolabelling programme that follows the guidelines set by ISO 14020 and ISO 14024. Through a multi-sectoral process, the programme provides criteria for environmentally-preferable products which can be used as a guide for consumers and institutions for product selection. Ecolabelling and green purchasing is just the first step to create awareness on sustainable consumption and production practices. To further promote and patronize ecolabeled products and services in the public sector, the Philippine Green Public Procurement Roadmap has been launched by the Government Procurement Policy Board (GPPB) in 2017. Encouraging green procurement in the public sector is critical as this will create demand and will concretely lay down green purchasing policies. (GPPB– Technical Support Office. *The Philippine Green Public Procurement Roadmap*. GPPB-TSO, 2017)

²⁵ Strengthened cooperation is necessary to keep medical supply lines open and prevent harmful measures that will affect the trade of medical goods. (Rhea C. Hernando and Emmanuel A. San Andres, "APEC in the Epicentre of COVID-19," Policy Brief No. 31, APEC Policy Support Unit, April 2020)

²⁶ WB, *Philippines Digital Economy Report 2020*.

- **Maximize the country's opportunities to penetrate the global Halal market.** The Philippine Halal industry, another sector offering opportunities for higher value-adding, can be an instrument for sustainable growth and inclusive development in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) and the rest of Mindanao. Financing and technical assistance for Halal firms' digital-based businesses will be prioritized. The implementation of the Philippine Halal Export Development and Promotion Act of 2016 (RA 10817) will provide assistance to Halal industries to ensure compliance with Halal technical standards and provide common service facilities in strategic production areas. Further, the Department of Foreign Affairs (DFA) Foreign Service Posts will be utilized in conducting market research and intelligence for potential opportunities for the development of the Philippine Halal industry and other relevant information to expand market access.
- **Strengthen collaboration and monitoring of the implementation of various industry roadmaps.** Stronger collaboration of the various industry clusters across the regions, coupled with adoption of appropriate innovation and periodic monitoring of industry roadmaps will ensure that all stakeholders are on track towards producing higher value output to achieve the roadmap targets set.
- **Build capacity in preparing BCPs across industries.** The ability to tap alternative suppliers and beef up inventory capacity will insulate enterprises against vulnerabilities. Support will be provided by capacitating firms to prepare their customized BCPs²⁷ (see Chapters 9C and 10). A sound legal framework for telecommuting and alternative work arrangements will be applied as relevant to industry operations (see Chapter 10).
- **Boost infrastructure development by fast-tracking implementation of Build Build Build (BBB) projects aimed towards improving the country's healthcare system, digital and power infrastructure, among others** (see Chapter 19 on Infrastructure).
- **Adopt a policy framework to promote geographic indication (GI) system to boost production of local agricultural products with unique characteristics attributable to its geographic origin, human factors, or indigenous knowledge** (e.g., pili nuts of Bicol, Guimaras mangoes, etc.). The GI highlights the competitive advantage of origin-linked qualities, reputation, and other characteristics of products including traditional practices or local know-how in their production that can translate into economic benefit of local farmers or producers. As a starting point, technical capacities of relevant agencies and stakeholders will be strengthened. Information dissemination and creation of a policy framework on this initiative will be pursued²⁸ (see Chapter 8).

Encourage entrepreneurship leveraging technology-enabled business models.

- **Allow firms in new technologies and industries to test their products and business models through regulatory sandbox.**²⁹ Compliance and regulations will be flexible and suited to the pace of growth of the most innovative companies which will be balanced by sufficient checks to ensure consumer protection.
- **Provide a supportive policy environment for entrepreneurs and startups.** Further supporting

²⁷ National Wages and Productivity Commission (NWPC) commits to implement the Productivity Toolbox to sharpen the productivity perspective of BCPs such that BCP activation should not only mitigate impact of disruption but should also unlock workforce productivity

²⁸ The Intellectual Property Code of the Philippines (RA 8293) has already stipulated that GIs are examples of intellectual property rights. The Bureau of Trademark under the IPOPHL is in-charge of the "search and examination of the applications for the registration of marks, geographic indications, and other marks of ownership and the issuance of the certificates of registration."

²⁹ Regulatory sandboxes or testing grounds for emerging industries will require a high degree of regulatory flexibility, market openness, and a competitive policy environment. Further supporting the growth of emerging industries may spur innovation but may also cause disruption to traditional sectors (e.g. growth of fintech that may disrupt traditional financial sector).

individuals starting up their own businesses – particularly youth, women and persons with disabilities—will require a supportive policy environment from the national and local government. Blended finance or the strategic use of development finance to mobilize additional funding for sustainable development will be tapped.³⁰ For instance, blended finance that offers “gender lens investing plan”—encouraging investment in activities that positively affect women – will be explored and scaled-up. Access to other types of innovative financing for startups and MSMEs, as well as cooperatives will also be expanded to enable them to operate under the new normal (*see Chapter 9C*). Technopreneurship will also be considered in the implementation of the *Balik Probinsya Bagong Pag-asa* (BP2) Program, to address livelihood and job scarcity as support to regional growth and development (*see Chapter 18*).

- ***Pursue convergence among various government initiatives and flagship programs for startups, micro, and small enterprises and cooperatives*** (*see Chapter 9C*).

Improve ease of doing business to boost industry expansion through digital transformation.

- ***Address regulatory bottlenecks by streamlining permitting and licensing processes across industries.*** Effectively streamlining regulatory processes will attract further investments and boost output. Further streamlining of procedures and reducing the number of days in granting permits and other licensing requirements, will be implemented to

support restarting businesses or existing firms applying for permit renewals. Specific regulatory bottlenecks for the food manufacturing industry (FMI), which accounts for more than a third of the manufacturing sector, are currently being addressed.³¹ In the construction sector, permitting and licensing can be streamlined in line with the proposed Philippine Building Act.

- ***Encourage digitalization in government processes to support industry growth.*** Fast-tracking the implementation of e-governance projects, especially in terms of government to business (G2B) electronic services, is paramount in supporting the shift to the new normal (*see Chapter 5*). Full implementation of TradeNet, the online platform for the Philippine National Single Window (NSW), will digitize trade processes, including online payment systems, in simplifying trade (*see Chapter 15*). The government will likewise fully implement the electronic Business Permits and Licensing System (eBPLS) project, providing the LGUs across the country with software that digitizes the application of business permits and licenses. The shift to online business registration for Securities and Exchange Commission (SEC), DTI, and other relevant NGAs will also be fast-tracked. Government digital platforms will consider interoperability for shared access by relevant national and local government units while ensuring appropriate cybersecurity protocols. Utilizing e-payment channels for government transactions will be prioritized.
- ***Speed up implementation of Energy Virtual One-Stop Shop (EVOSS) (RA 11234) and the***

³⁰ The Australian Department of Foreign Affairs and Trade has just established the Emerging Markets Impact Investment Fund (EMIIF) which will be accessible to financial intermediaries in countries like the Philippines. The EMIIF intends to invest in funds for SMEs, or in financial intermediaries such as banks who, in turn, will lend to SMEs. A unique feature of the EMIIF scheme is a “gender lens investing” plan that will encourage investment in activities that positively affect women. Thus, EMIIF will either: (a) make available non-grant instruments to invest in SME funds, with the goal to play the role of an anchor fund from which other funds will be crowdsourced; or (b) use its funds to directly assist and support SMEs.

³¹ Some of the concrete measures for improvement: (a) operationalize a one-stop processing venue for the various certifications required by various food safety regulatory agencies (FSRAs) utilizing online platforms and digital payment channels; (b) shorten turn-around periods of processing and issuing clearances, permits, or other required certifications to address regulatory compliance including a thorough review to streamline the FSRA processes; and (c) update current standards and protocols for food regulation aligned with internationally recognized standards and protocols to address product safety and quality concerns of consumers. (Nerlita M. Manalili, et. al. “Scoping Study on Reducing Unnecessary Regulatory Burdens in the Philippine Food Manufacturing Industry,” *Discussion Paper Series No. 2017-23*, Philippine Institute for Development Studies, June 2017.)

Energy Investment Coordinating Council (EO 30) to address delays in the implementation of energy infrastructure projects. These policies will streamline permitting processes for energy projects, including power generation, transmission, and distribution at the local level by utilizing online platforms (see Chapter 19).

Harmonize and strengthen the National Quality Infrastructure (NQI) System.

- **Pursue passage of the NQI Law** (see Chapter 9A Legislative Agenda). The current fragmented nature of the country's NQI System limits the capacity of local manufacturers to comply with global technical regulations and product standards.³² A unified NQI system, through passage of this law, will harmonize the country's standards, technical regulations, metrology, accreditation and conformity assessment procedures (e.g., testing, calibration, inspection, and certification), packaging, and labeling to be at par with international standards. As a parallel activity, the technical regulation regime will be reviewed and adjusted, including its related legislation, to meet regional and international requirements promulgated under the regional trade protocols, the World Trade Organization Technical Barriers to Trade (WTO-TBT), and Sanitary and Phytosanitary Measures (SPS) agreements along with other international best practices.³³ The service delivery of the NQI is dependent on a trained and skilled workforce. Hence, developing the human resources necessary to support the various standardization, quality, and technical regulation programs is also supported.

- **Provide more dispersed access points for common service facilities including laboratories, calibration, and testing facilities for MSMEs especially in the regions** (see Chapter 9C). MSMEs across regions will be provided greater access points to common service facilities to encourage and support their NQI compliance and adherence.
- **Intensify targeted awareness and information dissemination on the benefits of accreditation for firms engaged in essential sectors and emerging industries.** Under the new normal, business accreditation and compliance with domestic and international standards and conformance will be promoted for essential sectors (i.e., healthcare, food safety and food testing, etc.), as well as emerging industries (i.e., manufacturing PPEs, test kits, and other health testing instruments, etc.).

Ensuring consumer access to safe and quality goods and services

Continue vigilance on product safety, value for money, and access to quality goods and services.

- **Strengthen institutional and human capacities of key agencies to enforce regulations and enhance consumer awareness on the safety and quality of products and services.** The capacity of responsible units under the Department of Health (DOH),³⁴ DA,³⁵ and DTI,³⁶ to fulfill their mandates, to enforce and advocate for higher standards of safety and quality of goods produced³⁷ will be strengthened. Measures to increase consumer awareness will be scaled-up, leveraging digital platforms.

³² An assessment of the NQI in the Philippines and the corresponding support for institutional capacity of both government and the private sector will be pursued to ensure harmonization of domestic standards and regulations at par with global standards.

³³ This will include the establishment of effective cooperation amongst the NQI institutions and the national regulatory authorities, and also with their regional and international counterparts.

³⁴ The DOH through the Food and Drug Administration (FDA), establishes standards for processed food, drugs, and cosmetics.

³⁵ The DA's Bureau of Agriculture and Fisheries Product Standards (BAFS) develops standards for agriculture and agriculture-related products including fruits and vegetables and grains.

³⁶ The DTI's Bureau of Philippine Standards (BPS) formulates standards for food and other categories including building, construction, and transport products; electrical and electronic products; and chemical and consumer products. It is mandated to develop, implement, and coordinate standardization activities in the country and works with DOH and DA on this area.

³⁷ Periodic exchange programmes among ASEAN Member States (AMS), for instance, will build national capacity and encourage these agencies to pursue a higher standard of quality awareness and consumer protection in ASEAN.

- **Prioritize procurement of ecologically responsible products and services that are domestically produced and at par with international quality and standards.** In the public sector, enforcing Rule XII, Section 43 of the Revised Implementing Rules and Regulations (IRR) of the GPRA (RA 9183), will help the growth of local industries that produce safe and quality goods and services at a competitive cost. As a whole, *Go Lokal!* and similar *buy Pinoy* initiatives will enable domestic industries to bounce back under the new normal. Green or sustainable procurement will also incentivize greening industries that will contribute to sustainable economic growth (see Chapter 20).

Promote and strengthen consumer protection to cover digital transactions.

- **Amend the Consumer Act to strengthen protection for consumers.** The law will be updated to provide stronger measures that will enhance consumer protection from dangerous and hazardous products and abusive sales practices. Foremost, the DTI will be given the mandate to effectively monitor the quality and safety of products being sold in the market; halt the proliferation of substandard and potentially dangerous products by being granted the authority to declare, *motu proprio*, certain products as unsafe, issue preliminary preventive or mandatory orders and recommend the closure of erring businesses.

Almost three decades since the existing law has been passed, it will be updated, to cover consumer protection on ICT and e-commerce and improve pre-adjudication consumer redress mechanisms, including an effective return and refund policy.

- **Engage relevant consumer welfare organizations.** Regular engagement and continuous dialogue among the government, non-profit consumer organizations, and other relevant non-profit private organizations will be established. These organizations are critical partners of the government in ensuring that products and services in the domestic market comply with safety and quality requirements based on the Philippine National Standards,³⁸ technical regulations, and other trade and industry regulations.
- **Formulate and enforce policy framework/guidelines for online sellers and buyers to spur e-commerce growth.** E-commerce will likely remain part of the post-pandemic reality. To ensure safe and reliable e-commerce transactions, updating of joint circulars issued by the DTI, DA, DOH, and other relevant government agencies that enforce consumer protection policy in e-commerce will be prioritized (see Chapter 9B). Use of virtual modes or digital platforms in handling consumer complaints and dispute resolutions will be promoted.

³⁸ The Philippine National Standards (PNS) is a publication of various consumer products that follow a standard documentation format aligned with the ISO documentation format. It also covers mandatory labelling and packaging and prescribes all the standards and required information for domestically produced consumer products

Box Article 9A.1 Strengthening Economic Zone Development Program

Administrative Order (AO) No. 18 s. 2019, "Accelerating rural progress through robust development of Special Economic Zones in the countryside", and Executive Order No. 114, the "*Balik Probinsya Bagong Pag-asa* Program," are perceived as complementary measures. The successful implementation of both will enable the creation of more ecozones in the countryside which will boost job generation and improve employment prospects of rural and *Balik Probinsya* beneficiaries.

In response to the COVID-19 pandemic, the following are proposed policy responses in support of Economic Zone Development Program under the new normal:

- Encourage PPP, joint ventures (JVs), and other modes of partnership in building a transportation and logistics hub in every region to encourage countryside investment.
- Address bureaucratic hurdles to reduce trade costs pertinent to logistics by fully implementing the Customs Modernization and Tariff Act (CMTA). Under the law, the Bureau of Customs (BOC) must ensure uninterrupted 24/7 service in the ports, including weekends and must accredit more off-dock container yards and container barge terminals, as part of its decongestion measures. The Land Transport and Franchising Regulatory Board (LTFRB), for its part, will ensure prompt issuance of franchises and permit to operate (PTO) to truck drivers. Lastly, the DTI's issuance of a policy to regulate port and shipping fees for shippers and full container load (FCL) shipments must be fast-tracked.
- Temporarily reduce export threshold for COVID-19-affected economic zone export-oriented industries, as prescribed by the PEZA Board subject to terms and conditions as the latter may determine (RA 7916³⁹).
- Include the establishment of Medical Waste Disposal Facility and production of medical waste disposal equipment among the eligible and priority products/activities for registration with incentives, pursuant to DTI-DOF Joint Memorandum Circular No. 2020-02.
- Rationalize the strict implementation of Department AO 2016-08, which provides additional parameters for monitoring and compliance for wastewater discharge, with Department of Environment and Natural Resources (DENR), to undertake cost-benefit study on the additional environmental parameters.
- Adopt digitalization with the view of harmonizing and streamlining permitting requirements of exporters and importers pursuant to the implementation of the EODB-EGSD Act, as enforced by the Anti-Red Tape Authority (ARTA), and establish an inter-agency committee to strengthen coordination among IPAs, including the establishment of a one-stop shop to respond to all concerns regarding ecozone development, investment requirements, and applicable incentives, among others.

Legislative Agenda

For the rest of the Plan period, the following legislative agenda will be pursued:

Table 9A.2 Legislative Agenda to Expand Economic Opportunities in Industry

LEGISLATIVE AGENDA	RATIONALE
<i>Competitiveness, innovativeness, and resilience increased</i>	
Amendment of the Foreign Investments Act	The current law needs to be updated to attract more foreign investments in manufacturing and other priority sectors. The following amendments are supported: (a) reduce employment threshold from 50 to 15 direct employees and (b) exclude individual practice of profession from coverage of the law and the Foreign Investment Negative List (FINL).

³⁹ The IRR of RA 7916, Section 2i allows that ecozone export enterprises, which have been registered with PEZA to engage in manufacturing, assembling or processing activity, falling within the purview of the Act and resulting in the exportation of 100% of its production, may be allowed a lower percentage of its production for exportation as prescribed by the PEZA Board subject to terms and conditions as the latter may determine.

LEGISLATIVE AGENDA	RATIONALE
Philippine Electric Vehicle (e-vehicle) Industry	This aims to highly promote, encourage, and support e-vehicle production and usage towards adopting an eco-friendly and economical transportation landscape in the country. Support and grant for time-bound and performance-based incentives for the manufacture, assembly, conversion, and sale of hybrid and other fuel-alternative vehicles and the establishment of charging stations, will be pursued in accordance with the provisions under the Corporate Recovery and Tax Incentives Reform Act (CREATE) (see Chapter 15). This is also in support of the public utility vehicle (PUV) modernization program of the government to make the country's public transportation system efficient and environment friendly.
National Quality Infrastructure (NQI) Law	An NQI policy will raise quality consciousness of both suppliers and consumers, as NQI institutions introduce, promote, and maintain a culture of safety and quality of goods produced. The law will integrate and coordinate standardization, metrology, testing analysis, quality management, certification, and accreditation at par with global standards. This will ensure that goods and services emanating from or traded to the country are designed, manufactured, and supplied in a manner that matches the needs, expectations, and requirements of the purchasers and consumers, as well as those of the regulatory authorities in the domestic and export markets.
National Digital Transformation	Given the new normal, structural reforms that cut across multiple sectors need to be put in place to allow a transformational shift to digital modes of conducting work and life. This will require enhancing the foundation of the digital economy through greater investment in ICT infrastructure and connectivity and setting up a sound regulatory environment that promotes digital adoption.
Amendment of the Contractor's License Law ⁴⁰	This will provide a level playing field and expand opportunities to eligible and qualified domestic and foreign contractors by reducing barriers to entry of new players in the construction sector. Moreover, this will facilitate potential investments in quality and climate-resilient infrastructures.
<i>Consumer access to safe and quality goods and services ensured</i>	
Amendment of the Consumer Act ⁴¹	The law needs to be updated to efficiently and effectively address consumer concerns and align existing business and industry practices, to be at par with international standards and best practices, and to cover the use of technology applications (e.g., e-commerce).

⁴⁰ Amendment of the Contractor's License Law (Senate Bill 1008) was filed by Senator Sherwin Gatchalian on September 4, 2019, aimed at removing government restrictions that hinder potential economic growth by removing the nationality criterion and replacing this with foreign reciprocity.

⁴¹ Among the Consumer Act amendments being considered are: (a) stronger measure to give DTI the authority to close down establishments caught in the act of manufacturing, distributing, selling, producing, displaying, or importing hazardous and defective products; (b) coverage on e-commerce and ICT; (c) protection from deceptive and misleading online or digital advertisements; (d) real-time consumer hotline to be made mandatory for all manufacturers/suppliers/final producers to respond to consumer complaints/suggestions and a stronger policy for return and refund options; (e) requirement for foreign products with labels to have English or Filipino translation before being allowed entry into the country; and (f) exemption of businesses offering price-discounted rates for single or bulk-purchase of products or services from the requirement to secure sales promotion permit from DTI to facilitate growth of e-commerce, among others.