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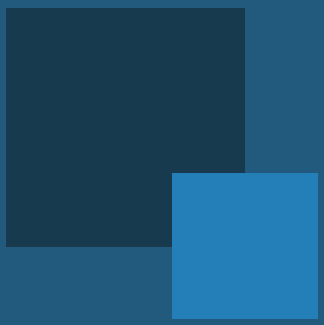
Ramonette B. Serafica
Marie Antoinette L. Rosete
Peter Jeff C. Camaro
Arjan Paulo S. Salvanera



Issues Paper on the Philippine Digital Commerce Market

Ramonette B. Serafica, Marie Antoinette L. Rosete, Peter Jeff C. Camaro, and Arjan Paulo S. Salvanera
Philippine Institute for Development Studies

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Abstract

Digital technologies connect various market participants from different jurisdictions and disrupt industries through new products and business models, thus reshaping traditional market boundaries. This paper presents the policy, regulatory, and institutional framework for the development of e-commerce in the country. It also describes the digital commerce landscape in the Philippines. Examples of digital commerce adoption, such as consumer markets, hotel and accommodation, travel, public transport, and financial services, are likewise explored. The key players and possible bottlenecks or constraints to the competition are determined using the distribution channel model. This study also presents and recommends issues for further analysis and action by the PCC.

1. Introduction

The national competition policy chapter of the Philippine Development Plan (PDP) 2017-2022 provides that the government commits resources for the conduct of issues papers in priority sectors where substantial impact on consumer welfare and market efficiency are expected. With the emergence of digital technologies, e-commerce or electronic commerce, which generally refers to the buying and selling of goods or services using electronic systems, has expanded rapidly over the past few years and is predicted to accelerate further. It has also become more accessible than ever before, as the use of smartphones and broad access to fast broadband connections to the internet become extensive.

Being cognizant of the increasing need to catch up with evolving industry trends, the Philippine Institute for Development Studies (PIDS) collaborates with the Philippine Competition Commission (PCC) to prepare this issues paper on the Philippine digital commerce market (PDCM). The PCC is an independent quasi-judicial body mandated to implement Republic Act (RA) 10667 or the Philippine Competition Act (PCA). As the primary competition authority, PCC primarily promotes economic efficiency and ensures fair and healthy competition in the markets. Empowered by the PCA, the PCC prohibits anti-competitive agreements, abuse of dominant position, and anti-competitive mergers and acquisitions.

1.1 Objectives of the study

In general, the study provides a detailed description of the industry, evaluates competition issues in the sector, and identifies potentially anti-competitive laws and regulations that affect firm entry and expansion.

Specifically, the study also aims to:

1. Describe the current value chain and related infrastructure of digital commerce in the Philippines, including key players and roles;
2. Describe the elements of a world-class digital commerce ecosystem in line with international best practices and compare such to the current digital commerce market in the Philippines;
3. Describe how traditional businesses and industries are being transformed by e-commerce, focusing on key sectors that are significantly affected as per Annual Survey of Philippine Business and Industry (ASPBI), as follows:
    a. Consumer Markets (retail shopping, groceries and food)
    b. Hotel and Accommodation
    c. Public Transport
    d. Travel
    e. Financial services
4. Understand the companies' adoption of e-commerce in the identified vital sectors in the Philippines, and their underlying motivations or inhibitions;
5. Provide a summary of the government policies and initiatives concerning the e-commerce development in the Philippines;
6. Assess competition impact (i.e., benefits and concerns) relating to digital commerce, such as:
    a. Anti-competitive practices (e.g., price transparency may facilitate conspiracy, the likelihood that e-commerce further establishes dominant position of vertically integrated firms and conglomerates, customer data as a source of market power)
    b. Barriers to entry and expansion; and
    c. Other potential competition issues
7. Propose recommendations to address the problems identified
    a. Assess the implications of the above on competition policy and law
    b. Identify areas/sectors that need further study/ investigation
    c. Policy recommendations relating to other government agencies.

1.2 Scope and methodology

This issues paper analyzes the digital commerce market in the Philippines. In particular, the paper focuses on e-commerce: the buying and selling of goods or services over computer-mediated networks. This paper also examines the traditional models and new forms of digital commerce.

Two general frameworks are adopted to describe the industry. The first is the **Structure-Conduct-Performance** (SCP) paradigm (Perloff, Karp, & Golan, 2007), which links the industry's performance (the success of an industry in producing benefits for consumers) to the conduct (behavior) of buyers and sellers, which depends on the structure (factors that determine the competitiveness of the market). The industry structure depends on the primary conditions of supply and demand. The enabling environment created by government policies and regulations influence all aspects of the industry.

Elements from the SCP model are used to some extent in describing the digital commerce market. This paper reviews the regulatory environment to identify possible barriers to entry and expansion as well as the structure and characteristics of the sector to determine the potential for anti-competitive conduct. However, the SCP model has some limitations. The relationships captured in the SCP model are complicated and do not specify the exact connections in detail. Moreover, the impact is not unidirectional as the different components affect and are affected by the other elements. According to Carlton and Perloff (2000), while the SCP is a useful descriptive model, empirical studies that link performance to structure are deficient because of measurement errors and conceptual errors, among others. For example, it is difficult to evaluate performance measures such as profits and price-cost margins when the industry covers many

products—distinguishing between short-run vs. long-run performance and whether to treat some variables as exogenous or not, may also present problems. The limitations (or suitability) of the SCP are more evident in the next chapter as it presents the various e-commerce models that make it challenging to set industry boundaries.

A **Channel Management** model is also used to describe the value chain and distribution channels in PDCM. A Distribution Channel is comprised of what is utilized to display, sell or deliver the product (or service) to the buyer or user, which includes distributors, wholesalers, retailers, and agents (Kotler and Keller, 2009). With the different firms involved in the PDCM, the value chain model can help explain the interactions among the various players and determine possible bottlenecks or constraints to competition.

1.3 Organization of the report

The next chapter provides a background on e-commerce. It also discusses the history and basic models of e-commerce. Chapter 3 provides an overview of the regulatory environment. It also presents official figures and indicators of the readiness of the country for e-commerce. Chapter 4 examines specific e-commerce value chains in the Philippines. Sectors include online retail, online travel and accommodation, transport, and e-finance. The case studies describe possible competition issues, where applicable. The paper concludes with regulatory and other issues for further study in Chapter 5.

2. Background

2.1 History and evolution

The emergence of electronic commerce is rooted in firms' and institutions' desire to maximize the capabilities of computing and computer technologies in improving customer interaction, business transactions, and information exchange within and across organizations. Below is a glance at the evolution of e-commerce from electronic fund transfer (EFT) to the birth of the World Wide Web (WWW) in the 90s.

> The 1970s – The EFT between banks was introduced (Liao and Cheung, 2002).
>
> The late 1970s and early 1980s – The use of electronic data interchange (EDI) and electronic mail (Liao and Cheung, 2002) became expanded.
>
> The late 1980s and early 1990s – Groupware or collaborative computing systems emerged (Rodriguez-Ardura, Meseguer-Artola, and Vilaseca-Requena, 2008).
>
> The 1990s – The WWW was formed and led into open access to the websites and search engines, hence, launching the e-commerce. (Friedman and Friedman, 2015).
>
> Early 1990s – An affordable connectivity (internet access) was made available via open computer technology; the WWW became a vital channel for businesses to reach more potential customers.
>
> The mid-1990s – The WWW progressed from an information resource to a location for e-commerce sites. The e-commerce activities were revamped from single buyer-seller transactions to multiple exchanges, and wireless technology was adapted. Technologies such as XML (Extensive Markup Language) were utilized for agent-based e-commerce and Web service security.

The need for the interactive two-way negotiation of buy-sell transactions became evident as e-commerce websites developed. The creation of a core technology called cookies opened a new door for interactivity by tracking the footprint of a participant (Liao and Cheung, 2002). Cookies make the process continuity on the internet possible and enable more e-commerce activities online.

Interactive processes that used new languages also introduced personalization and customization of product offers, and further developed online shopping environments with various scope-structures. Interactivity made online brokering possible by developing online links or websites capable of matching sellers and buyers. The Secure Sockets Layer (SSL) on the Web was eventually created to guarantee the confidentiality and integrity of the agents (Rodriguez-Ardura et al. 2008).

A set of new core business functions capable of matching, ranking, authenticating, and contracting was developed to support new e-commerce activities of shopping, personalizing, brokering, buying, and selling. These developments made personalized buying or selling possible. The latest core technology continued to develop to cater to massive website traffic, to provide sophisticated interfaces to databases such as Open Database Connectivity (ODBC), and to improve language interfaces with databases (Learner and Storper, 2014).

The emergence of interoperability in some websites required new management method to integrate processes online: sites were no longer used just for online trading activities but also for managing of e-business processes. E-business processes, such as e-supply chain management, e-collaboration, e-reengineering, and e-procurement, emerged and were also linked online, turning the websites into marketplaces and management platforms (Chu, Leung, Hui, & Cheung, 2006).

2.2 E-commerce models

E-commerce is a broad concept that continuously evolves with new business models. An e-commerce transaction entails businesses or enterprises, households, individuals, and organizations (public and private).

Box 1 shows that e-commerce models can also be based on the types and range and products sold. E-commerce models can also be classified in terms of inventory management and sourcing of products as shown in **Appendix A.**

Table 1. E-commerce models according to the parties involved[1]

Type and description	Examples
B2B – Business to Business A B2B model focuses on providing products from one business to another.	b2bpricenow (http://www.b2bpricenow.com) – A trading portal with close to 8,000 members that are mostly from cooperatives. It is officially endorsed by the Congress as the Philippine e-Marketplace for Agriculture and Fisheries. This site is a trading portal that provides up to the minute price update on market information for agriculture, consumer goods, and industrial manufactures. AsiaRx (https://e-order.asiarx.com/) – Caters primarily to the pharmaceutical and medical supply industry, has a regional scope, multilingual capabilities, tight real-time integration with supplier systems, and focus on the customer's perspective and business processes. AsiaRx takes control of the entire procurement process from finding the product to availability check, and up to order status verification. Philippines trade key –(https://philippines.tradekey.com/) A B2B marketplace that connects Filipino exporters with overseas buyers. It connects traders with global wholesalers, buyers, importers and exporters, manufacturers, and distributors in over 240 countries.
B2C – Business to Consumer B2C sales are the traditional retail model, where a business sells to individuals. Business is conducted online as opposed to in a physical store. It is the most prevalent eCommerce model where businesses sell their goods directly to the end consumer. These businesses run on the traditional retail model but sell their goods over the internet.	Shopinas (https://www.shopinas.com) – curated Filipino products oneSTore - https://onestore.ph/ - oneSTore.ph is an E-commerce Web Application that operates nationwide and caters primarily to Philippine consumers. oneSTore helps the Department of Science and Technology's assisted Micro, Small and Medium Enterprises widen the scope of their target market.
C2C – Consumer to Consumer Created by the rise of the ecommerce sector and growing consumer confidence in online sales, these sites allow customers to trade, buy, and sell items in exchange for a small commission paid to the site. C2C eCommerce websites provide a platform for consumers to sell their products to other consumers. The differentiating characteristic of this platform is that the seller is also the consumer of other products. These websites usually make money by charging commissions or through advertisements.	These websites usually make money by charging commissions or through advertisements. Examples include C2C marketplaces and crowdfunding websites like OLX.ph
C2B – Consumer to Business This type of online business is when the consumer sells goods or services to businesses and is roughly equivalent to a sole proprietorship serving a larger business. There are times when businesses buy products and services from the consumers. These products and services can be bought on C2B eCommerce stores and marketplaces. C2B e-commerce usually includes freelance services and specialized products.	Freelance websites like Upwork https://www.freelancer.ph/freelancers/Philippines/all/
Other Ecommerce Business Types Another model includes B2G, for businesses whose sole clients are governments. Two sectors that are closed for entrepreneur owners but are growing include G2B for government sales to private businesses, and G2C, for government sales to the general public.	Philippine Government Procurement System (PhilGEPS) https://www.philgeps.gov.ph/

1 DeMatas 2019; Pahwa, A., & Aashish 2017; International Trade Administration 2019; Powtoon Ltd., 2019

Box 1. E-commerce models according to the products sold [2]

Single Product Model - Single-product e-commerce businesses focus on a single product, potentially in varying levels, offered to businesses or consumers. One example is Nvivo, a software package made by QSR international. QSR's only product is the Nvivo software package, although the company also offers trainings and supplemental materials for purchase by users. This is a good model for a company with a solid product with high demand and limited competition.

Single Category - Offers a small selection of carefully chosen products, you can build your reputation and credibility without overspending. Several retailers started with a model like this, and many continue to use it today. Examples of e-commerce sites in this arena include Mangelsen Nature Photography, Flowers.com, and The White T-Shirt Company. This is a smart model for new business owners and requires minimal effort and investment to manage. The main drawback is that it is likely to catch the interest of a very small portion of e-commerce shoppers.

Multiple Category - Multiple category e-commerce sites are a good choice for established brick and mortar stores. Retailers who have tried a single category site successfully and are ready to expand their offerings might be ready for multiple category sites, too. Product selection is one of the most difficult parts of managing this type of site. One bad product can ruin its reputation, and if sourcing from multiple suppliers, the larger store, the more difficult logistics become. An example of this category is Target.

Affiliate - Amazon.com, DoTerra Essential Oils, and dozens of other companies are boosting their sales with the help of affiliates. Often through blogs, but sometimes through dedicated e-commerce stores, affiliate sales benefit the original seller by providing additional visibility and the affiliate by providing an opportunity to monetize product reviews, a personal blog, or other site. Most affiliate sites are not big money makers, but they can provide an additional income stream for sites that predominantly rely on other income streams.

Hybrid [Single Category + Affiliate] - For businesses that have outgrown the income stream or the product confines of a single category store, becoming a single category and affiliate hybrid store can be beneficial. They can test related product categories in their niche, risk-free, to see what their customers like. This gives the benefit of an additional product category without committing to marketing and managing additional products. There are many ways to make this category of e-commerce stores work, from listing affiliate links on the store's blog to using widgets that allow affiliate products to look like the products sold on the e-commerce store, with a seamless checkout process that will not disrupt the buyer's journey.

Case: Digital platforms

An increasingly significant subset of e-commerce is the digital platform. Examples of digital platforms include social networks, e-commerce websites, and mobile and computer operating systems. Not all e-commerce websites are platforms. A digital platform caters to a multi-sided market, thus online websites of brick and mortar stores are not platforms since they do not involve two or more distinct sets of users or customers.

Multi-sided platforms involve more than two types of participants (e.g., search engines that connect users, content providers and advertisers). Two-sided platforms enable two distinct types of participants to interact more readily and to realize gains from trade or other interaction (e.g., ride-hailing apps, credit cards, Airbnb). These two groups need each other in some way but cannot capture the value from their mutual attraction on their own. The demand for the service by each type of participant depends on the demand for the service by the other type of participant as a result of externalities between the two types. The platform acts as a catalyst to facilitate value-creating interactions between them (Evans 2007, 2018). There are three main business models of digital platforms (OECD 2018):

- Subscription model - end users pay for the provision of a service. Examples include Netflix or Spotify where users pay a fee to have access to movies or music, respectively.

- Advertisement model - end-users have access to the service for free as the platform is sustained by revenues coming from advertising. An example could be YouTube or Facebook where users have access to contents for free and are exposed to advertising.

- Access model - content or app developers pay the platforms to reach end-users. For instance, the App Store is a digital store where developers can place their applications to reach iOS users.

2.3 Barriers to competition in e-commerce[3]

Businesses in the e-commerce sector generally face two types of barriers: barriers to expansion and barriers to entry.

2.3.1 Barriers to expansion

Barriers to expansion affect the growth and development of all firms, including incumbents, in the e-commerce market. A barrier to expansion is defined as "something that prevents a firm already in the market from being able quickly and cheaply to increase its output". Examples include restrictive forms of regulation or broad technological delays. The quality of connectivity infrastructure may also be considered a barrier to the growth and development of e-commerce.

Trust issues also come into play. Data protection, banking fraud, unfulfilled deliveries, and the inability to return products are among the major concerns. For e-commerce transactions to replace brick-and-mortar transactions, the obstacles faced by sellers and buyers must be overcome.

2 Riich Me Pte Ltd., 2019
3 This section draws from CCS (2017)

2.3.2 Barriers to entry

Barriers to entry apply to potential entrants or small firms. They can be defined as "a cost of producing which must be borne by a firm that seeks to enter an industry but is not borne by firms already in the market". Barriers to entry limit the ability of new entrants to enter and expand output in a given market and can be present in both brick-and-mortar and online markets. However, the prevalence and magnitude of these barriers between the two sales channels could be different. These barriers can be considered under four broad categories:

1. Economic advantages enjoyed by incumbents

    a. Economies of scale and scope
    Economies of scale occur when the average cost per unit of output decreases with the increase in the scale of the output produced, whereas economies of scope occur when it is cheaper to produce two products together than to produce them separately. When economies of scale and scope are present, new entrants or smaller firms are unable to produce as efficiently as larger firms or to produce as many products.

    b. Privileged access to inputs, technologies or information
    Access to supporting infrastructure, such as logistics, inventory and payment systems may also constitute a barrier to entry. Vertical integration by an incumbent platform or single-sided firm may affect other firms' ability to gain access to these systems. Some also consider the data that a firm holds on its customers to be an asset that incumbent firms have privileged access to. The question is whether Big Data constitutes a barrier to entry and a source of market power. Big Data is defined as: "the use of large-scale computing power and technologically advanced software to collect, process and analyze data characterized by a large volume, velocity, variety and value." With Big Data, firms can use complex algorithms automatically to sieve through the data in order to identify the patterns and trends in consumers' behavior. Consumers benefit if firms pass on any efficiency gains from the use of this data, improve the quality and scope of their goods/services, and/or offer more targeted advertising.

2. Costs and network effects that inhibit consumers from switching suppliers

    a. Switching costs
    Switching costs for consumers also make it harder for new entrants and smaller firms to compete with large incumbent players because they make it more expensive for consumers to purchase a good or a service from an alternative supplier beyond the direct price charged. These costs may be monetary or non-monetary.

    While switching costs are present in both brick-and-mortar and online stores, there are more risks involved in switching in the case of the latter because consumers are less able to assess the risks in terms of reliability of the services, the quality of the products, the treatment of personal data and the safety of sharing payment details. Testimonials and reviews from previous customers, can go some way toward reducing these switching costs, although new consumers may not necessarily know whether to trust such endorsements.

    b. Network effects
    Network effects are present when the value that one user places on a good or a service increases as the number of other users of that good or service rises (that is the scale of the network). The network effects constitute a barrier for new entrants and smaller firms since they are competing with incumbents who have a larger number of members. While network effects are present in both physical and online markets, the emergence and growth of e-commerce have resulted in the development of many new platforms in multisided markets where network effects are highly prevalent such as online marketplaces, price comparison websites, and social media sites.

    With multi-homing, network effects do not necessarily present a significant barrier to entry for new entrants and smaller firms. Moreover, even when consumer single home, the advent of a better product or service can induce consumers to switch.

    Network effects are less of a barrier to entry if individuals multihome (use multiple providers of a good or service). Consumers may prefer the use of a platform that provides access to a large number of products or services, but if they can easily source the products or services from other platforms (i.e., multi-home) the larger scale of the incumbent network does not necessarily constitute a barrier. However, if there is a cost to multi-homing then the barrier to new entrants and smaller firms is greater.

3. Legal barriers
Legal advantages such as regulatory rules that limit the number of market participants can also constitute barriers to entry. For example, with regard to industrial property, namely patents for inventions, and copyright laws, new entrants and smaller firms may not be able to access patented technology or copyrighted content. Government licensing requirements and planning regulations,

statutory monopoly power and tariff and non-tariff barriers are other examples of legal barriers.

4. The conduct of incumbent firms
The conduct of incumbent firms may restrict entry to a particular market when they can exercise market power and thereby exclude or marginalize competitors.

3. Overview of Philippine e-commerce policy environment and readiness

3.1 Relevant policy and regulatory frameworks

3.1.1 National strategies

One of the steps identified in the Philippine Development Plan 2016-2022 is to develop the potential of the Philippines in digital trade and e-commerce and to improve the competitiveness, innovativeness, and resilience of industries and services. There are two major national strategies to facilitate e-commerce growth.

The **Philippine E-commerce Roadmap (PECR)** 2016-2022 is the main policy initiative of the government to develop e-commerce in the country. It contains 53 action agenda items spanning six strategic areas, namely:

1. Infrastructure - The need for an appropriate supply chain, communications, and applications infrastructure;
2. Investment - The ability to promote and support a range of investment opportunities from Foreign Direct Investments to capital flows;
3. Innovation - The ability to foster and support innovation, including the ability to protect innovation and investment in research and development;
4. Intellectual Capital - The ability to foster the appropriate skills and training from technological to linguistic to entrepreneurship;
5. Information Flows - The ability to use, transfer, and process information – the currency of the digital economy – while promoting privacy and a trusted Internet environment; and
6. Integration - The ability to connect domestic industries with the global economy.

The primary objective of the PECR is for e-commerce to contribute 25% to the country's gross domestic product (GDP) by 2020, from 10% of GDP in 2015 based on the data generated by i-Metrics Asia Pacific Corporation. The PECR identifies five (5) success criteria, which are:

- 100,000 MSMEs doing e-commerce;
- 40-50% of internet users doing e-commerce;
- Fast and competitive internet access;
- Cybercrime enforcement and protection; and
- Online and connected government (G2G, G2B, G2C, G2E).[4]

The E-Commerce Office (ECO), a Program Office within the Sector Planning Bureau (SPB) of the Department of Trade and Industry (DTI) is tasked with the formulation of policies and guidelines in support of e-commerce. It oversees the implementation of the PECR 2016-2020. The Office is currently undertaking a midterm review of the PECR.

Another major initiative to help spur the growth of e-commerce is the **National Retail Payment Systems (NRPS)**, which seeks to facilitate more convenient, affordable and secure electronic fund transfers and payments. Bangko Sentral ng Pilipinas (BSP) Circular No. 980 on the Adoption of NRPS Framework (2017) aims to "create a safe, efficient, affordable and interoperable electronic retail payment system", which calls for the creation of automated clearing houses (ACHs) that would process payment and transfer instructions given through digital channels, which include online and mobile banking. The NRPS also aims to increase adoption of electronic retail payments from 1% in 2013 to 20% by 2020. See **Boxes 2 and 3**.

3.1.2 History[5]

The Electronic Commerce Act (ECA) or RA No. 8792 was signed into law on 14 June 2000 by President Joseph Ejercito Estrada. The law gave legal recognition to electronic forms of data messages, documents, signatures, transactions, and storage of information. It provided penalties for access of data without consent, piracy, hacking, and other violations. Under Section 29 of R.A. 8792, the DTI has the authority to direct and supervise the promotion and development of e-commerce in the country with relevant government agencies.

The law was instrumental, in addition to other policies, in driving investments into the business process outsourcing (BPO) sector. At that time, these investments were referred to as e-commerce back-office operations. It is known today as the Information Technology-Business Process Management (IT-BPM) sector.

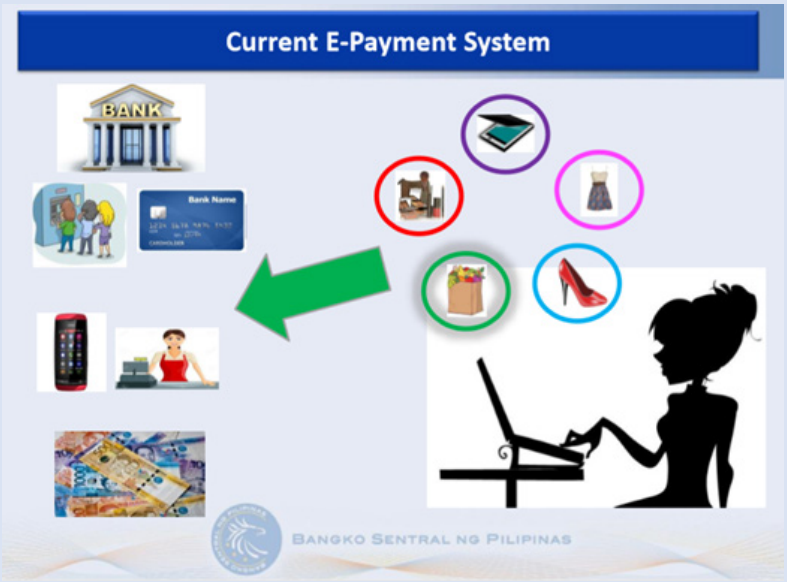
4 Toral, 2016
5 Department of Trade and Industry

Box 2. Current payment options

To purchase online, an individual can pay through any of the following:

1. Via Banks – (a) through credit/debit cards; (b) deposit over-the-counter to the merchant's account, (c) through electronic fund transfer via ATM or online banking, provided that the purchaser maintains an account with the merchant's bank or the merchant's bank has existing collection arrangement with the purchaser's bank;
2. Via Non-Banks – (a) through e-money; (b) payment over-the-counter through bayad centers or accredited collecting agents; and
3. Cash-on-Delivery

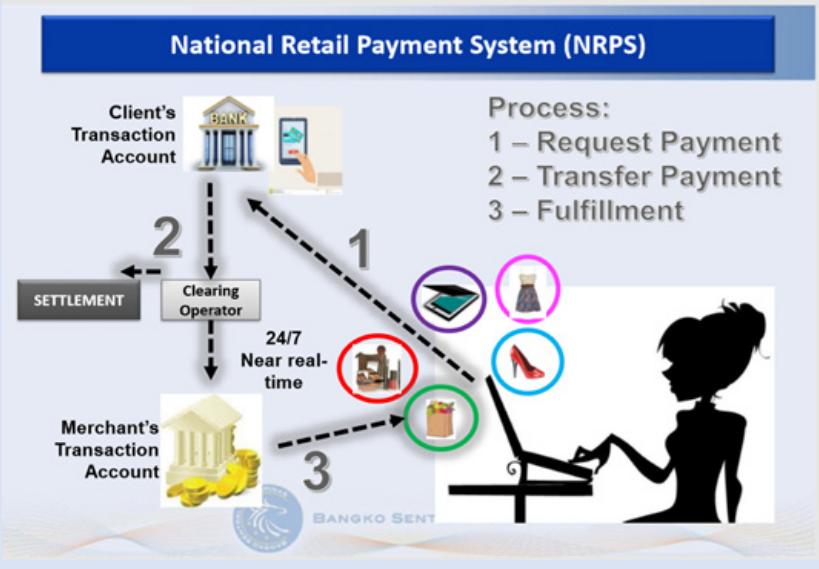
While a purchaser has the option to choose any mode of payment, most options are considered inefficient since it either requires a third-party intermediary, additional legwork, higher cost or simply takes additional time to process payment, thus at times resulting to receiving your goods/services at a later date.



Source: Bangko Sentral ng Pilipinas "National Retail Payment System and the Philippine E-Commerce Roadmap" Presentation at the Philippine E-Commerce Roadmap Launch, 02 February 2016

Box 3. National Retail Purchase System (NRPS)

1. The purchaser goes to merchant's web site and select for items to be purchased;
2. Upon selection, purchaser proceeds to payment mode;
3. For Batch Electronic Fund Transfer (EFT), the merchant makes available his/her account information;
4. The purchaser or payor instructs his/her bank to transfer funds to merchant's bank based on account information provided;
5. The paying bank authenticates the payor and confirm "good funds" are available to support the transaction;
6. The paying bank informs the payee that his/her account is debited in favor of the merchant's account. The receiving bank is likewise informed by paying bank of the transaction;
7. The receiving bank informs the merchant that funds are made available for credit to his/her account;
8. The merchant, after receiving the information from his/her bank, releases the goods/service to purchaser; and
9. At end of day or agreed schedule, paying bank settles the amount to the merchant's bank for the transaction.



Source: Bangko Sentral ng Pilipinas "National Retail Payment System and the Philippine E-Commerce Roadmap" Presentation at the Philippine E-Commerce Roadmap Launch, 02 February 2016

3.1.2.1 Information Technology and Electronic Commerce Council (ITECC)

On 12 July 2000, the Information Technology and Electronic Commerce Council (ITECC) was formed through Executive Order No. 264 - "Establishing the Information Technology and E-commerce Council (ITECC) from the merger of the National Information Technology Council (NITC) and the Electronic Commerce Promotion Council (ECPC)." The ITECC was chaired by DTI Secretary Manuel A. Roxas II and Jaime Augusto Zobel De Ayala, as the private sector co-chair. The Implementing Rules and Regulations (IRR) for ECA was issued immediately the day after the establishment of the ITECC.

In 2001, ITECC was restructured through the issuance on 25 May 2001 of Executive Order No. 18 - "Amending Certain Portions of Executive Order No. 264, Series of 2000." President Gloria Macapagal-Arroyo became the Chairperson with DTI Secretary Roxas and Presidential Adviser on International Competitiveness Ambassador Roberto R. Romulo as co-chairs for the government and the private sector, respectively.

ITECC committees were formed to address issues and gaps, to help drive investments into the information and communications technology (ICT) outsourcing sector, and to move towards e-government implementation as mandated under the E-Commerce Law. These committees were the Business Development Committee, e-Government Implementation Committee, Information Infrastructure Committee, Human Resource Development Committee, and the Legal and Regulatory Committee, each of which was co-chaired by government and private sector representatives. Supporting ITECC and its committees was an auxiliary Communications Committee in charge of advocacy and information dissemination. Under ITECC, various offices/units of DTI and other government agencies actively participated as committee members.

Various programs were undertaken by ITECC during this period. One of its biggest achievements was the creation of the E-Government Fund to support the implementation requirements as indicated in the E-Commerce Law and other related policies. Specifically, it is a source of funding for strategic ICT projects of government that are mission-critical, high-impact and cross-agency in nature.

ITECC was subsequently dissolved with the issuance on 20 July 2004 of Executive Order No. 334 - "Abolishing the Information Technology and Electronic Commerce Council and Transferring Its Budget, Assets, Personnel, Programs, and Projects to the Commission on Information and Communications Technology."

3.1.2.2 Commission on Information and Communications Technology (CICT)

The Commission on Information and Communication Technology (CICT) was created on 12 June 2004 through Executive Order No. 269- "Creating the Commission on Information and Communications Technology (CICT)." CICT, which was attached to the Office of the President, was the "primary policy, planning, coordinating, implementing, regulating, and administrative entity of the executive branch of Government that will promote, develop, and regulate integrated and strategic ICT systems and reliable and cost-efficient communication facilities and services." Section 4(n) of the EO stipulated the CICT's function to "harmonize, synchronize and coordinate with appropriate agencies all ICT and e-commerce policies, plans and programs." Section 4(e) gave CICT the mandate to "provide an integrating framework and oversee the identification and prioritization of all e-government systems and applications as provided for in the Government Information Systems Plan; manage and/or administer the e-Government Fund, which shall be institutionalized and included in the proposed annual national budget."

Under the administration of President Benigno S. Aquino III, CICT was moved under the Department of Science and Technology (DOST) and renamed as the Information and Communications Technology Office (ICTO) (Executive Order No. 47, "Reorganizing, Renaming and Transferring the Commission on Information and Communications Technology and its Attached Agencies to the Department of Science and Technology, Directing the Implementation Thereof and for Other Purposes," issued 23 June 2011).

3.1.2.3 Congressional Oversight Committee for the E-Commerce Law (COCEC)

The E-Commerce Act created the Congressional Oversight Committee for the E-Commerce Law (COCEC) to oversee and monitor the implementation of the law. It was activated in three (3) terms (2001-2004, 2005-2007, and 2012-2013) and co-chaired by the Chairs of the Senate Committee on Trade and Commerce and the House Committee on Trade and Industry.

During the hearings conducted by COCEC from 2005 to 2006, the co-chairs reminded the executive branch that R.A. 8792 designated the DTI to lead the implementation of the law and this took precedence over E.O. 269. The DTI Secretary tasked the Office of Policy Research (OPR) to handle matters related to e-commerce.

3.1.2.4 DTI – E-Commerce Office

On 06 March 2009, the E-Commerce Office was institutionalized (staffed with detailed personnel)

through the issuance of Department Order (DO) No. 09-16. Its major functions were:

1. Formulation of policies and guidelines in support of e-commerce;
2. Formulation and implementation of plans and programs for further development and implementation of e-commerce in the country, in coordination with other DTI agencies, other government agencies, the private sector and other stakeholders;
3. Monitoring and evaluation of the implementation of e-commerce policies, plans, and programs; and
4. Active participation in local and international organizations related to e-commerce.
5. It is also the office designated by DTI to submit reports to COCEC and address e-commerce policy concerns as the need arises, in coordination with relevant government agencies and the private sector.

With the DTI Rationalization Plan, which was approved by the Department of Budget and Management (DBM) on 17 October 2013, the DO was automatically revoked. ECO was created as a Program Office lodged under the Sector Planning Bureau (SPB) (formerly referred to as the Office of Policy Research). It is currently headed by the SPB Director and supported by SPB personnel.

3.1.2.5 Creation of Department of Information and Communications Technology (DICT)

In 2016, the Department of Information and Communications Technology (DICT) was created under RA No. 10844. The DICT is mandated to provide policy direction in the promotion of the development and use of ICT. Barcenas and Serafica (2018) note that there could be an overlap of the functions of DTI as the promoter of e-commerce and those of DICT as a promoter of the use of ICT in government and private transactions. There is a need to define the roles of DTI and DICT on ICT development and promotion of investment under the e-Commerce Act.

3.1.3 Relevant laws and regulations

RA 8792 – Electronic Commerce Act of 2000

To give legal recognition to electronic forms of data messages, documents, signatures, transactions, and storage of information. It provides for penalties for access of data without consent; piracy; hacking; and other violations. [6]

RA 8762 - Retail Trade Liberalization Act of 2000

The Philippines' Retail Trade Liberalization Act includes a minimum capital requirement of 2,500,000 USD for investments in retail, including E-retail. The law states that a retail enterprise with paid-up capital of less than this amount "shall be reserved exclusively for Filipino citizens and corporations wholly owned by Filipino citizens."[7]

RA 10173 – Data Privacy Act of 2012

The law (1) protects the privacy of individuals while ensuring free flow of information to promote innovation and growth; (2) regulates the collection, recording, organization, storage, updating or modification, retrieval, consultation, use, consolidation, blocking, erasure or destruction of personal data; and (3) ensures that the Philippines complies with international standards set for data protection through National Privacy Commission (NPC).

RA 10175 – Cybercrime Prevention Act of 2012

An Act Defining Cybercrime, Providing for The Prevention, Investigation, Suppression and the Imposition of Penalties Therefor and for Other Purposes.[8] It identifies punishable acts and lists cybercrime offenses according to these categories: Offenses against the confidentiality, integrity, and availability of computer data and systems; Computer-related Offenses; Content-related Offenses; and Other offenses.

Administrative Regulations:

- Bureau of Internal Revenue (BIR) Revenue Memorandum Circular No. 55-2013 – Reiterating Taxpayers' Obligations in Relation to Online Business Transactions

To inform taxpayers, buyers and online intermediaries of their duties and tax obligations when doing online transactions.

- Department of Justice (DOJ) Advisory Opinion No. 02-2015 – Advisory on Online Shopping Fraud

To "inform online shoppers of the risks involved in dealing online, as well as to guide online shopping providers in providing a safe and secure online shopping environment, in the promotion of consumer welfare".[9] Important issues include: Frauds and scams; Misleading or deceptive product advertisements; Difficulty in returns and replacements; Unexpected customs dues, transaction costs, and surcharges; Privacy breaches and abuse of user information; and Chaotic delivery procedures.

6 National Privacy Commission, 2017
7 Paz, 2017
8 Toral, 2016
9 Reformina, 2015

- Customs Administrative Order (CAO) No. 02-2016 Imported Goods with De Minimis Value Not Subject to Duties and Taxes

Implements the de minimis provision of the Philippines' Customs Modernization and Tariff Act (CMTA) or RA No. 10863, specifically on Section 423, which states that no duties and taxes are to be collected on all importations with a free-on-board or free carrier value of P10,000 and below[10].

- BSP Circular No. 649 – Guidelines Governing Issuance of Electronic Money (E-money) and Operations of E-money Issuers in the Philippines (2009)

Lays down guidelines for the issuance of e-money products and services to foster the development of efficient and convenient retail payment and fund transfer mechanisms in the Philippines.

- DTI-DOH-DA Joint Department Administrative Order (AO) No. 1 (2008) – "Rules and Regulations for Consumer Protection in a Transaction Covered by the Consumer Act of the Philippines (R.A. 7394) through Electronic Means under the E-commerce Act (R.A. 8792)" or the E-Consumer Protection Guidelines[11]

The Joint Department AO was enacted by the DTI, the Department of Health (DOH) and the Department of Agriculture (DA) to ensure consumer protection for e-commerce transactions. Part of the guidelines includes mandating minimum requirements that e-commerce sites must comply with, e.g., privacy policy, information about retailer, seller, distributor, products and services, and consumer transaction, including the setting-up of a help desk to internally resolve consumer complaints.[12]

*There are moves by the executive and legislative branches to amend the Consumer Act of the Philippines to include e-commerce-related provisions.

- BSP Circular No. 269 – New Guidelines on E-Banking Activities (2000)

Provides guidelines that banks must follow in the Philippines before they can be allowed to provide electronic banking services.

- BSP Circular No. 857 – BSP Regulations on Financial Consumer Protection (2014)

Establishes the Financial Consumer Protection Framework, which "provides for an enabling environment that protects the interest of financial consumers and institutionalizes the responsibilities of stakeholders."[13]

- Insurance Commission Circular Letter No. 2014-47 – Guidelines on Electronic Commerce of Insurance Products

Prescribes principles of good business practice on the sale of insurance products through the Internet, to ensure that the rights of policyholders are protected amid the faster way of transacting business with insurers online.[14]

- BSP Circular No. 944[15]– Guidelines for Virtual Currency (VC) Exchanges (2017)

Prescribes that VC exchanges or businesses engaged in the exchange of VCs for equivalent fiat money in the Philippines, are required to register with the BSP[16] as remittance and transfer companies. BSP-registered VC exchanges are required to put in place adequate safeguards to address the risks associated with VCs such as basic controls on anti-money laundering and terrorist financing, technology risk management and consumer protection.

- Land Transportation Franchising and Regulatory Board (LTFRB) Memorandum Circular No. 2018-003 – Common Supply Base for Transport Network Vehicle Service (TNVS)

Provides detail for regulating the number of allowed TNVS units operating in Metropolitan Manila, Metropolitan Cebu, and in Pampanga. Administrative regulations governing the operations of Private Express and/or Messengerial Delivery Service (PEMEDES) are contained in:

- Department Circular No. 2001-01 ("Rules and regulations in the Processing, Hearing and Adjudication of Applications for Authority to Operate Private Express and/or Messengerial Delivery Service, and in the Investigation of Complaints in Connection with the Operation of such services"); and
- Administrative Order No. 2001-01 ("Guidelines for the Uniform Application of Penalties for Offenses Committed by Authorized and/or Illegal Private Express and/or Messengerial Delivery Service Firms or their Employees")

These were issued by the Department of Transportation and Communication (DOTC) and are being updated since the regulatory functions over postal delivery services have already been transferred to the DICT (see Chapter 5).

10 Almonte L. , 2016
11 Toral, 2016
12 Lacson, 2018
13 Saclag, 2014
14 Cagahastian, 2014
15 V&A Law, 2016
16 Bangko Sentral ng Pilipinas, 2017

3.1.4 Industry regulators

The regulatory agencies in key segments of e-commerce are presented in **Tables 2, 3, and 4.** The industry classification and description are based on the Philippine Standard Classification 2009 (which in turn is based on UN International Classification of All Economic Activities (ISIC), Rev. 4), and do not necessarily reflect the definitions adopted in specific laws.

The National Privacy Commission is the country's privacy watchdog. It is an independent body mandated to administer and implement the Data Privacy Act of 2012. It is also tasked to monitor and ensure compliance of the country with international standards set for data protection. With RA 10844, the NPC is now attached to the DICT for policy and program coordination.

Table 2. Section G Wholesale and retail trade; repair of motor vehicles and motorcycles[17]

Economic activity	Regulator
Division 46. Wholesale trade, except of motor vehicles and motorcycles Includes wholesale trade on own account or on a fee or contract basis (commission trade) related to domestic wholesale trade as well as international wholesale trade (import/export). Wholesale is the resale (sale without transformation) of new and used goods to retailers, business-to-business trade, such as to industrial, commercial, institutional or professional users, or resale to other wholesalers, or involves acting as an agent or broker in buying goods for, or selling goods to, such persons or companies.	No overall regulator identified. However, trade in specific goods are regulated (e.g., FDA for cosmetics, drugs, processed food, medical devices)
Division 47. Retail trade, except of motor vehicles and motorcycles This division includes the resale (sale without transformation) of new and used goods mainly to the general public for personal or household consumption or utilization, by shops, department stores, stalls, mail-order houses, hawkers and peddlers, consumer cooperatives, etc. The goods sold in this division are limited to goods usually referred to as consumer goods or retail goods. Therefore, goods not usually entering the retail trade, such as cereal grains, ores, industrial machinery etc., are excluded. This division also includes units engaged primarily in selling to the general public, from displayed goods, products such as personal computers, stationery, paint or timber, although these sales may not be for personal or household use. Some processing of goods may be involved, but only incidental to selling, e.g., sorting or repackaging of goods, installation of a domestic appliance etc. This division also includes the retail sale by commission agents and activities of retail auctioning houses. **Group 479 Retail trade not in stores, stalls or markets** This group includes retail sale activities by mail order houses, over the Internet, through door-to-door sales, vending machines etc.[18] **Class 4791 Retail sale via mail order houses or via Internet[19]** This class includes retail sale activities via mail order houses or via Internet, i.e., retail sale activities where the buyer makes his choice on the basis of advertisements, catalogues, information provided on a website, models or any other means of advertising and places his order by mail, phone or over the Internet (usually through special means provided by a website). The products purchased can be either directly downloaded from the Internet or physically delivered to the customer. **Class 4791. Retail sale via mail/telephone order houses or via internet** **Subclass 47913. Retail sale via internet** (Note: New in PSIC2009)	No overall regulator identified. However, trade in specific goods are regulated (e.g., FDA for cosmetics, drugs, processed food, medical devices) Moreover, foreign retailers must secure a certificate of compliance with pre-qualification requirements from the Board of Investments in line with the Retail Trade Liberalization Act. The Consumer Protection Group (CPG) of the DTI is in charge of the enforcement of laws to protect consumers, consumer education, and formation of consumer groups. The CPG includes the Bureau of Philippine Standards (BPS), Consumer Protection and Advocacy Bureau (CPAB), and the Fair Trade Enforcement Bureau (FTEB).

Source: PSA (2009) and author's compilation

17 SIC CODES, n.d.
18 SIC CODES, n.d.
19 SIC CODES, n.d.

Table 3. Section H Transportation and Storage

Economic Activity	Regulator
Division 53. Postal and Courier Activities **Group 531. Postal activities** **Class 5310. Postal activities** **Subclass 53100. Postal activities** This class includes: Pickup, sorting, transport and delivery (domestic or international) of letter-post and (mail-type) parcels and packages by postal services operating under a universal service obligation. One or more modes of transport may be involved and the activity may be carried out with either self-owned (private) transport or via public transport. Collection of letter-mail and parcels from public[20] letter boxes or post offices Distribution and delivery of mail and parcels	The Philippine Postal Corporation (PHLPost) is a government-owned and controlled corporation (GOCC) under the direct jurisdiction of the Office of the President with the mandate to plan, develop, promote, and operate a nationwide postal system. It is engaged in the collection, handling, transportation, delivery, forwarding, returning and holding of mails, parcels, and like materials, throughout the Philippines, and, pursuant to agreements entered into, to and from foreign countries. Note: Rates are approved by the Postal regulations division of DICT (see below)
Division 53. Postal and Courier Activities **Group 532. Courier activities** **Class 5320. Courier activities** This class includes: Pickup, sorting, transport and delivery (domestic or international) of letter-post and (mail-type) parcels and packages by firms not operating under a universal service obligation. One or more modes of transport may be involved and the activity may be carried out with either self-owned (private) transport or via public transport Distribution and delivery of mail and parcels. It also includes home delivery services. **Subclass 53201. Private postal service** **Subclass 53202. Messenger service**	Postal Regulations Division of the DICT regulates the PEMEDES. It has the authority to supervise, regulate and control the operations of private express and/or messengerial delivery service firms' franchises or permits and to impose fines.

Source: PSA (2009) and author's compilation

20 SIC CODES, n.d.

Table 4. Section K Financial and insurance activities

Economic Activity	Regulator
Division 64. Financial service activities, except insurance and pension funding Group 649. Other financial service activities, except insurance and pension funding activities This group includes financial service activities other than those conducted by monetary institutions. Class 6492. Other credit granting This class includes: financial service activities primarily concerned with making loans by institutions not involved in monetary intermediation, where the granting of credit can take a variety of forms, such as loans, mortgages, credit cards etc., providing the following types of services: granting of consumer credit, international trade financing, provision of long-term finance to industry by industrial banks, money lending outside the banking system, and credit granting for house purchase by specialized non-depository institutions Sub-class 64921. Credit card activities Division 66. Activities auxiliary to financial service and insurance activities This division includes the provision of services involved in or closely related to financial service activities, but not themselves providing financial services. The primary breakdown of this division is according to the type of financial transaction or funding served. This group includes the furnishing of physical or electronic marketplaces for the purpose of facilitating the buying and selling of stocks, stock options, bonds or commodity contracts. Group 661. Activities auxiliary to financial service activities, except insurance and pension funding Class 6619. Other activities auxiliary to financial service activities Subclass 66190. Other activities auxiliary to financial service activities This class includes activities auxiliary to financial service activities not elsewhere classified, such as: – financial transaction processing and settlement activities, including for credit card – transactions investment advisory services – activities of mortgage advisers and brokers (Note: Prepaid credit cards, PayPal, GCash and PayMaya offer payment services not real credit)	Bangko Sentral ng Pilipinas

Source: PSA (2009) and author's compilation

Another agency that plays an important role is the Cybercrime Investigation and Coordinating Center (CICC), which was created upon the approval of RA 10175 or the Cybercrime Prevention Act of 2012. Also attached to the DICT following RA 10844, among the key powers and functions of the CICC include the formulation of a national cybersecurity plan; provision of assistance for the suppression of real-time commission of cybercrime offenses through a computer emergency response team (CERT); coordinating the preparation of appropriate and effective measures to prevent and suppress cybercrime activities; and monitoring cybercrime cases being bandied by participating law enforcement and prosecution agencies.

3.2 Official e-commerce figures

The Philippine Statistics Authority (PSA) adopts the OECD's "broad" definition of e-commerce, which is "The sale or purchase of goods and services, whether between businesses, households, individuals, governments, and other public or private organizations, conducted over computer-mediated networks. The goods and services are ordered over those networks, but the payment and the ultimate delivery of the good or service may be conducted on or offline."[21] Excluded are orders received from telephone, facsimile, and e-mails.

According to the 2015 ASPBI, which covers the formal sector only, sales from e-commerce transactions in 2015 reached PHP44.4 billion, accounting for 0.3 percent of total income in 2015. Sectors with reported e-commerce sales include:

- Transportation and Storage recorded the largest sales through e-commerce transactions which amounted to PHP31.5 billion or 5.3 percent share to total income for the sector.

21 OECD Statistics Directorate, 2001

Table 5. Sales from e-commerce transaction

Industry	2014 (Thousand pesos)	2015 (Thousand pesos)	Growth (%)
PHILIPPINES	39,465,980	44,366,935	12.42
Manufacturing	23,216	132,921	472.54
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	1,850,274	2,560,527	38.39
Transportation and Storage	25,320,904	31,495,464	24.39
Accommodation and Food Service Activities	4,020,191	4,892,268	21.69
Information and Communication	1,659,812	2,000,265	20.51
Financial and Insurance Activities	2,782,782	-	
Administrative and Support Service Activities	1,102,176	895,024	-18.79
Education	74,660	784	-98.95
Arts, Entertainment and Recreation	2,631,965	2,389,682	-9.21

Source: ASPBI Economy-wide Final Reference Number: 2018-280. Release date October 19, 2018 (https://psa.gov.ph/content/2015-annual-survey-philippine-business-and-industry-economy-wide-all-establishments-final on October 28, 2018)

- Accommodation and Food Service Activities followed with PHP4.9 billion sales from e-commerce or a share of 1.0 percent to the sector's total income.
- Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles placed third with e-commerce sales of PHP2.6 billion or 0.1 percent of the sector's total income.
- Arts, Entertainment and Recreation, PHP2.4 billion
- Information and Communication, PHP2.0 billion

The following sectors did not report any e-commerce transaction for 2015: Agriculture, Forestry and Fishing; Mining and Quarrying; Electricity, Gas, Steam and Air Conditioning Supply; Water Supply; Sewerage, Waste Management and Remediation Activities; Construction; Financial and Insurance Activities; Real Estate Activities; Professional, Scientific and Technical Activities; Human Health and Social Work Activities; and Other Service Activities. [22]

Manufacturing reported the highest increase in e-commerce sales in 2015 compared to the previous year (See **Table 5)**.

Although Manufacturing experienced the biggest increase, e-commerce sales as a share of the sector's total income is still insignificant (See **Table 6)**.

As **Figures 1** and **2** reveal, transport and storage account for the biggest share in e-commerce sales, particularly, online ticket sales.

Appendix B presents further breakdown of the e-commerce sales at the 5-digit (subclass) level.

Table 6. Sales from e-commerce as a share of total income (%)

	2014	2015
PHILIPPINES	0.28	0.29
Manufacturing	0.00	0.00
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	0.05	0.07
Transportation and Storage	4.94	5.32
Accommodation and Food Service Activities	1.01	1.04
Information and Communication	0.30	0.35
Financial and Insurance Activities	0.22	-
Administrative and Support Service Activities	0.27	0.20
Education	0.04	<0.01
Arts, Entertainment and Recreation	1.88	1.50

Source: ASPBI Economy-wide Final Reference Number: 2018-280. Release date October 19, 2018 (https://psa.gov.ph/content/2015-annual-survey-philippine-business-and-industry-economy-wide-all-establishments-final on October 28, 2018)

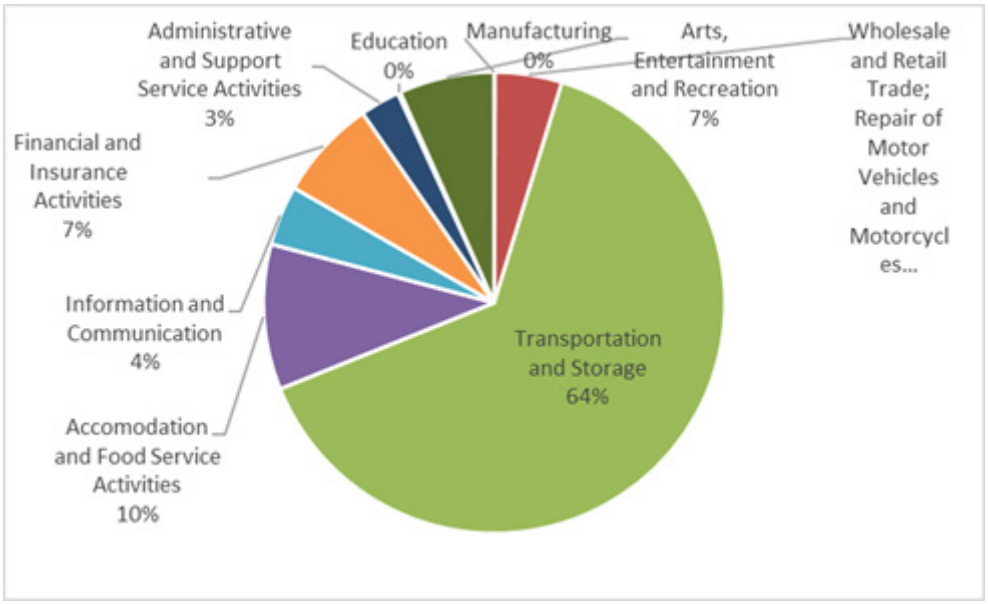
3.3 Market concentration[23]

The Herfindahl-Hirschman Index ("HHI") is a commonly accepted measure of market concentration. The HHI is calculated by squaring the market share of each firm competing in the market and then summing the resulting numbers. For example, for a market consisting of four firms with shares of 30, 30, 20, and 20 percent, the HHI is 2,600 ($30^2 + 30^2 + 20^2 + 20^2 = 2,600$). The HHI is calculated by summing the squares of the individual firms' market shares, and thus gives proportionately greater weight to the larger market shares.

22 https://psa.gov.ph/content/2015-annual-survey-philippine-business-and-industry-economy-wide-all-establishments-final on October 28, 2019

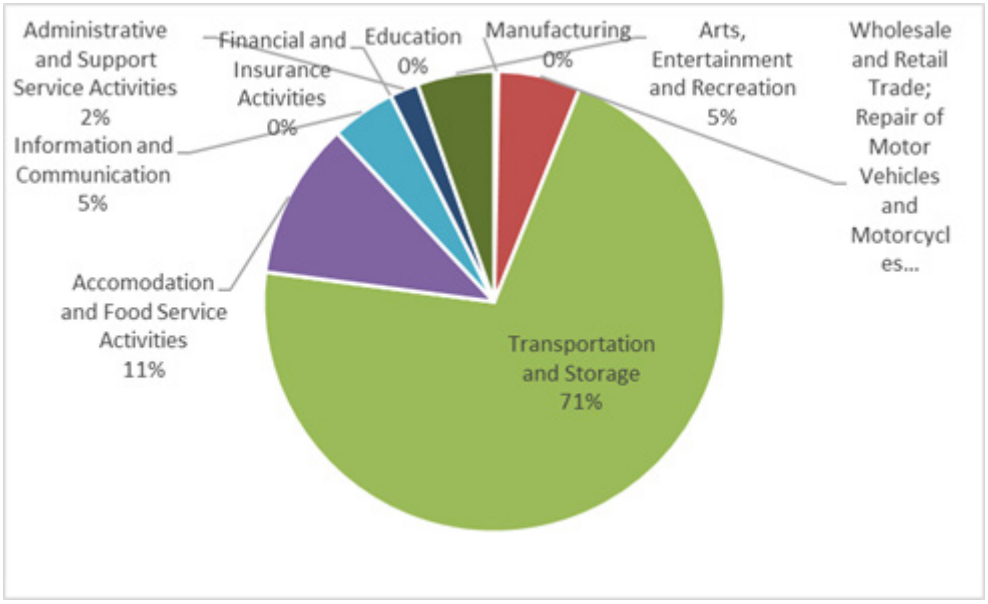
23 U.S. Department of Justice and the Federal Trade Commission, 2010

Figure 1. Share of sector in total e-commerce sales (2014)



Source: ASPBI Economy-wide Final Reference Number: 2018-280. Release date October 19, 2018 (https:// psa.gov.ph/content/2015-annual-survey-philippine-business-and-industry-economy-wide-all-establishments-final on October 28, 2018)

Figure 2 Share of sector in total e-commerce sales (2015)



Source: ASPBI Economy-wide Final Reference Number: 2018-280. Release date October 19, 2018 (https:// psa.gov.ph/content/2015-annual-survey-philippine-business-and-industry-economy-wide-all-establishments-final on October 28, 2018)

The HHI takes into account the relative size distribution of the firms in a market. It approaches zero when a market is occupied by a large number of firms of relatively equal size and reaches its maximum of 10,000 points when a market is controlled by a single firm. The HHI increases both as the number of firms in the market decreases and as the disparity in size between those firms increases.

In the case of the United States, the Department of Justice and the Fair Trade Commission generally classify markets according to three types:

- Unconcentrated Markets: HHI below 1500
- Moderately Concentrated Markets: HHI between 1500 and 2500
- Highly Concentrated Markets: HHI above 2500

While it is difficult to define the e-commerce market as explained previously, within the Retail sector the subclass G47913 or Retail Sale via Internet (e.g., Lazada) can be a starting point.

As **Table 7** shows, the HHI for the latest available data in 2015, indicates that 'retail sale via internet' is a highly concentrated market. Interestingly, market concentration significantly increased (i.e., from unconcentrated to highly concentrated) in 2014 even though the number of players increased from 2013.

Table 7. HHI of the Retail Sale via Internet industry (PSIC subclass G47913)

YEAR	Number of establishments	HHI	Market Type
2012	14	1288 to 1356*	Unconcentrated
2013	11	1238	Unconcentrated
2014	15	4288	Highly concentrated
2015	10	5116 to 5652*	Highly concentrated

** the range was computed based on the weights used by the PSA*
Source of data: PSA CPBI 2012, ASPBI 2013, ASPBI 2014, ASPBI 2015

Collyer, et al. (2017) note that simple supply shares used as an indicator of market power for homogenous products or services may not be applicable for platforms as it is not always clear how shares should be computed to take into account all sides of the market (i.e., the multi-sidedness of the market). A key feature of multi-sided markets is the presence of indirect network externalities (INE), which means the benefit derived by one side of the market from being on the platform depends on the number of customers on the other side of the market, and vice versa. INE lead to interlinked demand which generates feedback loops between them. Collyer, et al. (2017) explain that when there are strong INE in both directions, the interaction between these INE on both sides can create a feedback loop that may have second and higher-order effects. For example, the ultimate effect of a price increase to one side of the platform could escalate if it leads to further feedback loops with participants increasingly leaving both sides as the platform becomes less valuable to each group of customers. Thus, they argue that any competition assessment involving multi-sided markets must take into account the strength of these feedback loops which may enhance or constrain the platform's market power. Another aspect to consider is the extent of single-homing and multi-homing by customers on each side of the market. If customers on one side only join one platform, then customers on the other side can only access those customers by joining the same platform. More weight could be attached to high market shares on one side of the market if there is evidence that that side is prone to single-homing (Collyer, et al. 2017).

3.4 Readiness of the Philippines for e-commerce

Chaffey (2007) initially described what constitutes e-readiness at the national level as this constituted pre-condition from which the online industry sectors benefit. He identified essential factors for national e-readiness: (1) Connectivity – general ease of using available network connections; (2) E-leadership – established and effective linkages among stakeholders; (3) Information security – high trust in the maintenance of shared information; (4) Human Capital – available required level of skill and (5) E-business climate – regulatory openness.

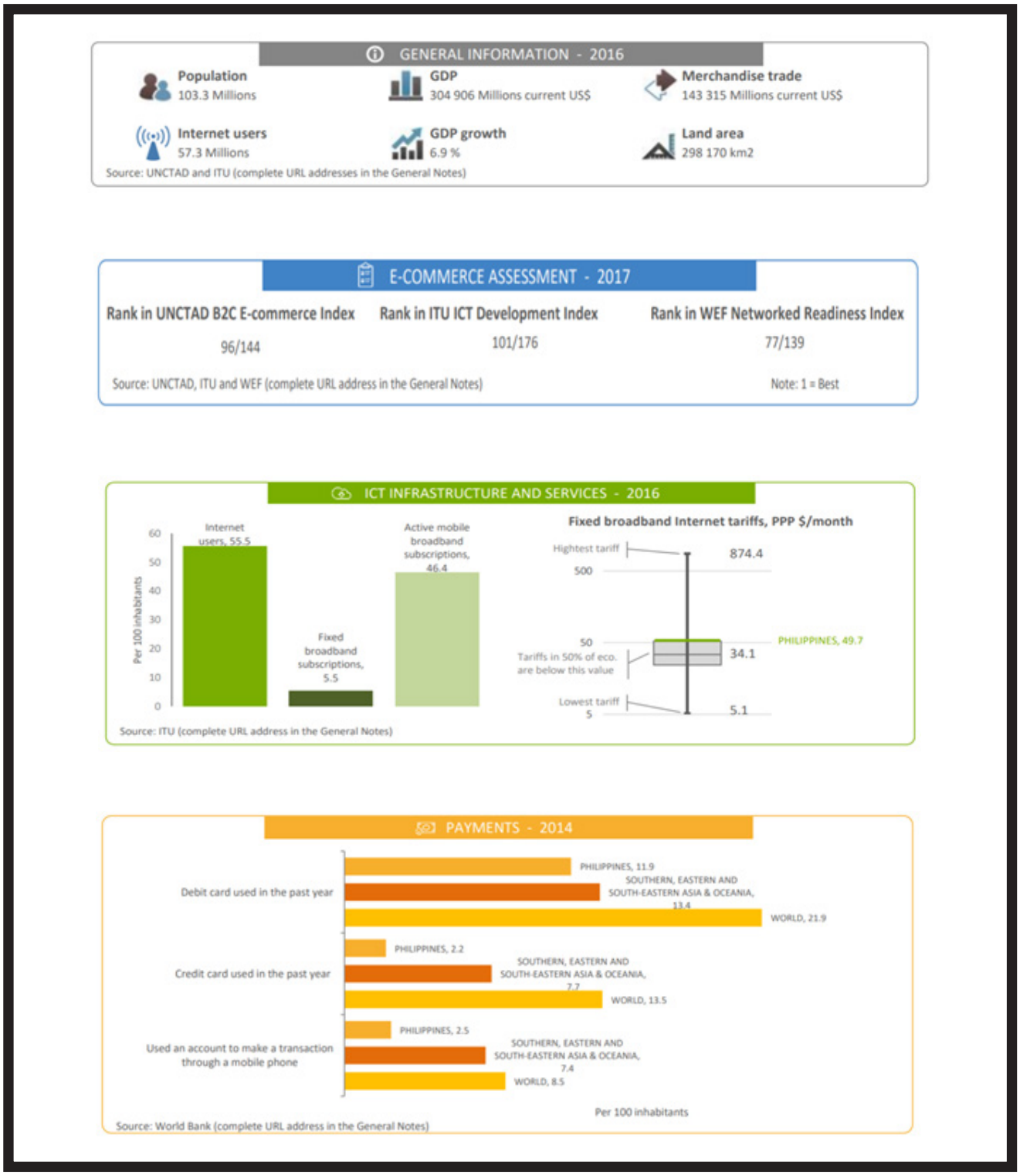
Bendaya, et al., (2017) and Graham et al. (2009) emphasized the apparent link between Information Technology (IT), which included PC equipment, programming, systems administration, and media communications, to the spread of the digital economy as IT progress spurs efficiencies within the digital economy. These efficiencies are then reflected in less cost for internet access and an observed increase in computer hosts per capita. What is even more significant is that IT advancements make for better utilization of computerized systems and this has become a positive externality to hosts whom are now able to offer their products to the global market (Scuotto, et al., 2017). Low to medium-income countries also experienced their share of ICT's innovation and implementation (Vertovec, 2013) but a significant number lagged behind in terms of ICT usage (Sussman 2007). Geographical realities also mean that the only way the population can access the internet is wirelessly (Yonazi et al., 2012).

The various infographics in **Box 4** generated by the "Etrade for all initiative" of the United Nations Conference on Trade and Development (UNCTAD) present the readiness of the Philippines for e-commerce compared to the rest of the world.[24] The state of critical infrastructure, the quality of connectivity, the absence of legal frameworks (or weak enforcement of laws) and other general conditions may act as barriers to expansion which,

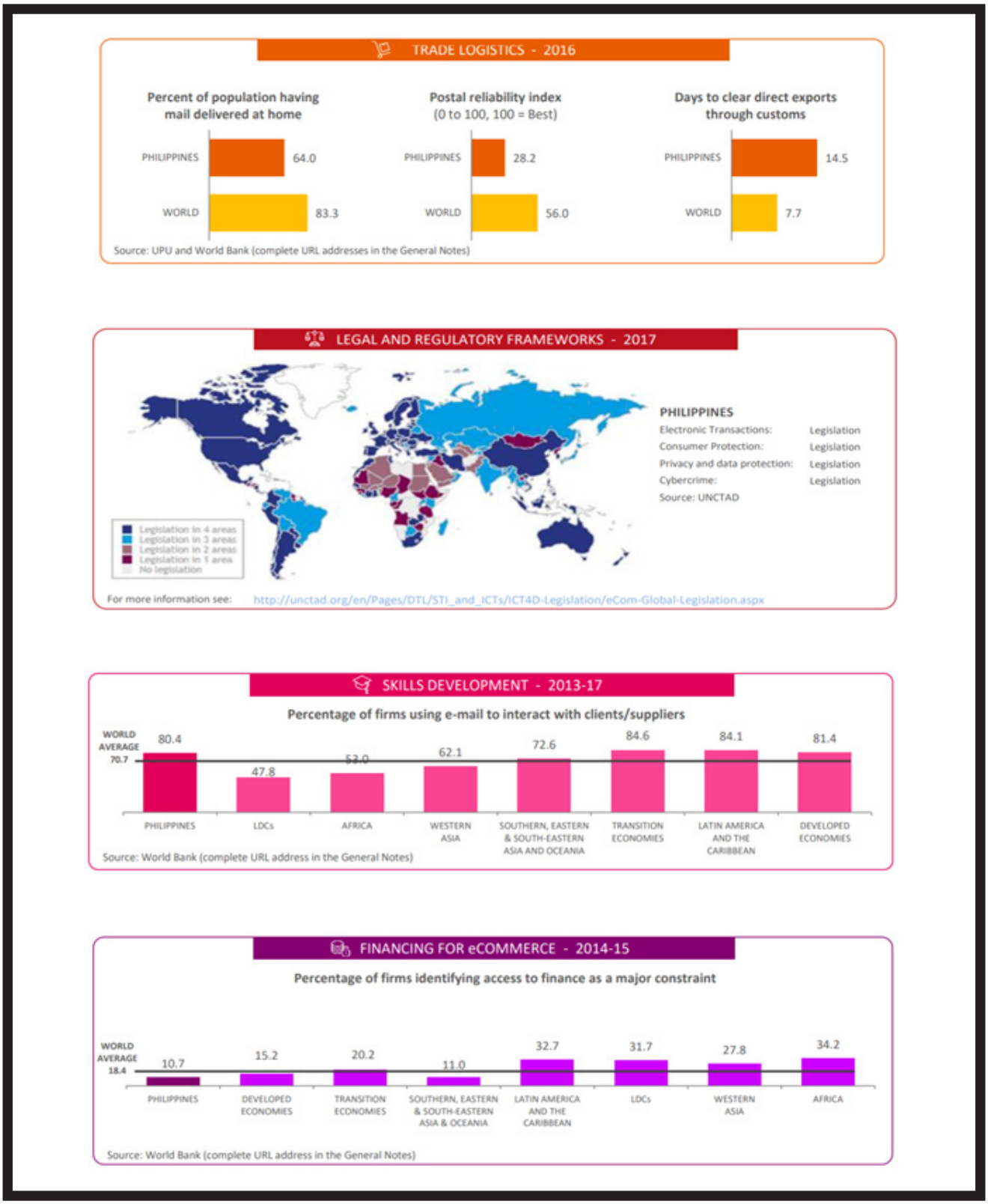
24 See https://etradeforall.org for technical notes and data sources.

as explained previously, affect the growth and development of all firms, including incumbents, in the e-commerce market.

Box 4. Etrade readiness of the Philippines



Box 4. *continued*



Source: https://etradeforall.org accessed on November 13, 2018

4. The e-commerce landscape in the Philippines

4.1 Industry value chains

As discussed earlier, there are generally three types of e-commerce platforms:

- Business to Business Platforms (B2B),
- Business to Customers Platforms (B2C), and
- Customer to Customer Platforms (C2C).

Incorporated in the Value Chain are the Specialized Online Intermediaries or the Firms that provide external support to the Sub-Platforms from Market Research, Financial Intermediaries and Logistics in the Value Chain.

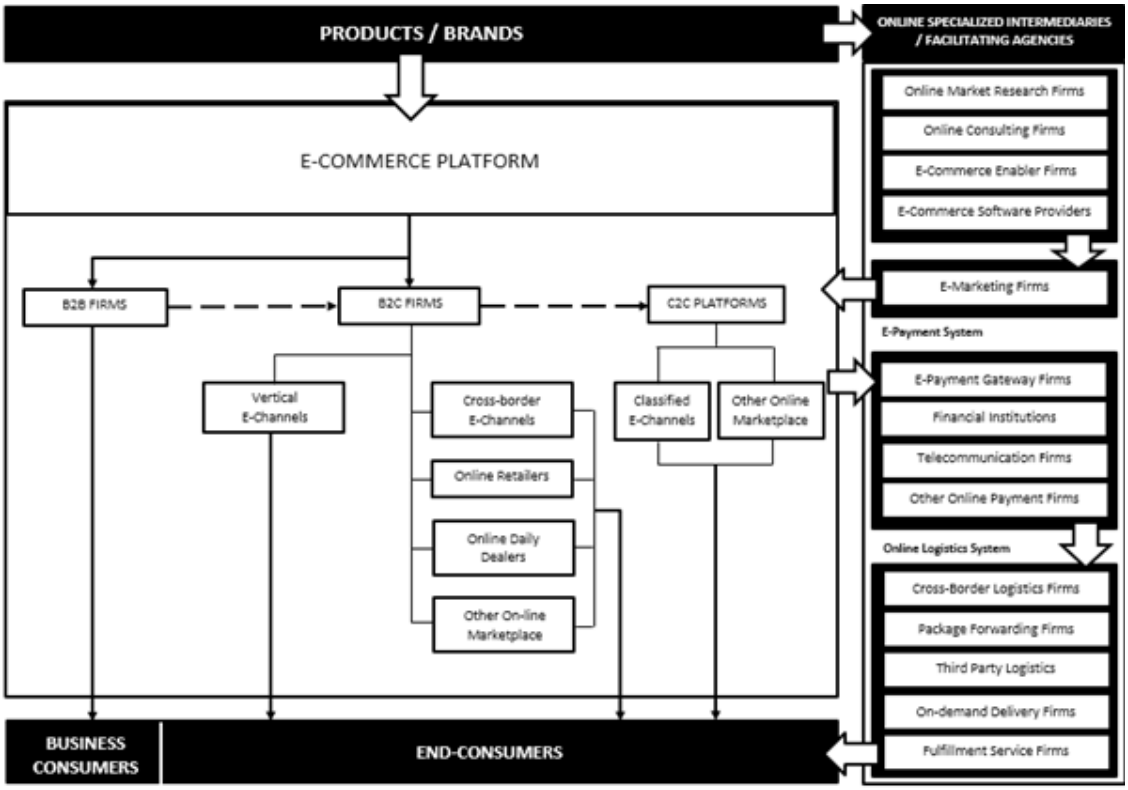
Figure 3 represents the Digital Commerce Market based on a Channel Management model to identify the distribution channels in the digital economy. Supply chain analysis deals with a longer channel starting with raw materials to components to the final products carried to final buyers (Kotler and Keller, 2009) and therefore deals with subject matters well beyond the scope of this research. A Distribution Channel is described as what is utilized to display, sell or deliver the product (or service) to the buyer or user and is comprised of distributors, wholesalers, retailers, and agents (Kotler and Keller, 2009). With the different firms involved in the PDCM, in utilizing the developed value chain model the researchers can identify possible bottlenecks in the market which can indicate anti-competitive practices through oligopolistic characteristics and behavior, and may in turn imply an existence similar to that of cartels within the PDCM.

The model traces the flow of goods and services from E-Commerce Platforms to the B2B and the B2C firms until it reaches either the Customers or other C2C firms. On the right side of the value chain are the specialized channels; these remain part of the value chain but are indirectly involved in the sale of the product. These firms are called facilitating agencies. In the main flow, the vertical channels under the B2C Firms are their B2C channels (e.g., firms that maintain their website) while the firms included in the specialized channels are the other types of channel members that sell the products of the B2C firms. The C2C platforms perform almost the same roles but are separated into classified online firms (e.g., OLX, Lazada, etc.) and other online market places. The whole e-commerce platform is composed of these fragmented yet enmeshed organizations. The end-consumers assume that these companies are vertically integrated (i.e., as one company).

A distribution channel is a group of interdependent firms or organizations engaged in the undertakings to make a product or service accessible for use or consumption (Coughlan et al., 2006). **Figure 3** shows how products flow from the brand owner down to the end-consumers via B2B, B2C and C2C distribution channel members. Products can be sold directly to the end-consumers (for B2C and C2C) or business consumers (for B2B).

The flow from the brand owner to B2B firms applies to two ways of selling: first is to business consumers and second is to B2C firms. Business consumers are organizations or firms that utilize the products of B2B

Figure 3. Value Chain / Distribution Channel Model for the Digital Commerce Market



firms to produce another final product. B2C firms, on the other hand, make the products available to the end-consumers, while C2C entities are individuals who buy products intended for reselling.

B2C firms can use various channels in selling their products directly to the end-consumers. They can use their websites or social media accounts (vertical e-channels) and/or third-party channels. There are many types of third party channels, which include: (1) cross-border e-channels such as those located outside the country; (2) on-line retailers such as those offline and online independent firms who resell the products; (3) online daily deals such as those firms that offer discounts and other promotions to consumers online; and (4) other online marketplaces such as those firms that resell products.

C2C platforms are categorized into two types: (1) classified e-channels such as firms offering their platform for peer-to-peer selling; and (2) other online marketplaces such as firms that sell online and at the same time offer their platform to consumers for peer-to-peer selling.

4.1.1 Intermediaries

Specialized intermediaries or facilitating agencies are firms that do not have direct involvement in the production or selling of products. Rather, these firms assist or facilitate on-line firms to complete the process of their selling operations. Brand owners normally commission research and consulting firms to conduct market and industry studies to develop better competitive strategies as well as support the online firms to execute the same. E-commerce platforms cannot be made possible without software providers and platform enablers. They are responsible for creating and maintaining platforms. The online firms' marketing strategies are integrated into its platform operations in order to maximize efficiency and the efficacy of their online selling. These include, among others: email marketing, online advertisements, retargeting through other online site users, online search optimization using search engine optimization (SEMs), cashback or rebates through online promotions, price comparison using independent online sites, social media, other affiliated marketing online tools, and online to offline or O2O marketing (use of online sites and information to buy from a 'brick-and-mortar' store).

4.1.2 E-payments and Financial Technology

Online selling cannot be complete without payment and delivery systems. E-payment systems are attached to the platform as these ultimately consummate the transaction (payment) and fulfill the order. E-payment can be conducted using e-payment gateway firms such as PayPal, PesoPay, HelloPay, and the like. These firms are normally affiliated with the payment system of the e-commerce platform of the firm. Financial institutions such as VISA, American Express, and MasterCard are also used for online payments. Mobile payments have emerged as well such as PayMaya and GCash. There are also yet-to-be categorized online payment firms but already have substantial presence in the online payment system; examples of these are e-Peso, PayPana, and AliPay. These e-payment firms play a vital role in e-commerce especially if the e-commerce firms fear the risk of non-payment. These e-payment firms charge the online sellers for taking on the risk.

4.1.3 E-Commerce Logistics

It is online logistics firms that fulfill the transaction between the reseller and the buyer (consumers) by delivering the products bought. Online logistics include cross-border logistics firms, package forwarding firms, third party logistics, on-demand delivery firms, and fulfillment service firms. Cross-border logistics firms deliver outside the country. Package forwarding firms deliver a limited classification of items. Third-party logistics firms also act as cross-border logistics and these firms also deliver within the country. On-demand delivery firms are not necessarily in the business of logistics but use its fleet and its other resources in product deliveries within a limited or specific geographic area. Fulfillment service firms facilitate brand owners with warehousing, order processing, inventory management, and delivery of the products to the end-users.

Facilitating agencies or firms are vital in the e-commerce system. These firms have specific functions such as risking, financing, promoting, physical possession, ordering, payment, etc. Moreover, they complete the process of the operations and help the online resellers fulfill the demands of the consumers. What is unique about these facilitating agencies is their specialization in the chosen field.

4.1.4 Product Distribution using Digital Commerce

Reynolds (2000) recognized that electronic commerce has been by far the most complex challenge faced by the retail and consumer services sector and its rapid expanse has led to uncertainties. The research also looked into how new electronic channels to markets have resulted in business differentiation particularly in branding and pricing. Electronic channels were recognized as improvements in the supply chain and productivity specifically for business-to-business companies. This was consistent with the findings of Jantan (2003) for the semiconductor industry where e-commerce's role in distribution was consistently increasing and that e-commerce taking over the role of traditional distributors is highly likely. Efficiency gains from distribution via e-commerce can be explained by organizations recognizing their involvement in a specific (e-commerce) supply chain as some form of

(social) capital (Hazen et al., 2016) wherein inter-firm resource exchanges, dynamic product innovation, evaluating team effectiveness and constant supplier development are valued and practiced. As firms became interactive members of a supply chain, they are likely to accept the shared norms, values and standards within. This includes extending information and data sharing for use in the improvement of the overall performance of the entire network.

Digital technology has shaken traditional operations, therefore, impacting supply chain management. For digital technology to yield substantial business outcomes, firms need to reinvent supply chain strategies by envisioning a digital supply network that joins not just physical links but also talent, information and finance. As digital supply chains become more universal (Korpela et al., 2017), it depends on an effective constant exchange of information between suppliers (Schoenherr and Speier-Pero, 2015). Such coordination can only be achieved with electronic links between information systems that enable automated processing of source-to-pay processes between suppliers and customers. All of this information sharing and processing also includes large amounts of data from devices, sensors and social media applications (Aviles, 2015; Schoenherr and Speier-Pero, 2015). Vital business drivers are information integration and service automation. The benefits from maintaining a digital supply chain are more cost-effective services and more opportunities for value-adding, which benefit firms, suppliers, employees and customers.

Bendaya et al. (2017) recommended the following requirements for an operational supply chain in the internet: digital connectivity of the physical connectivity of the establishments including large data storage for analysis and sharing, dependable communication lines within and among transacting physical firms covering all major supply chain processes and facilitated planning, control and coordination of said processes. The same research enumerated the following research gaps in the field of online supply chain management: (1) the lack of robust models that can contribute to the development of guidelines for internet adoption in supply chain management particularly since a connected world provides for security and privacy issues (Schoenherr and Speier-Pero, 2015; Tadejko, 2015; Waller and Fawcett, 2013); (2) a dearth of models to show supply chain problems in the context of the digitally connected environment that extends to procurement, production planning, inventory management and other quality and maintenance issues (Aviles, 2015; Tan et al., 2015; Waller and Fawcett, 2013) and (3) addressing the technological, institutional and managerial barriers with regards to implementation (Schoenherr and Speier-Pero, 2015).

While the literature conveys the impression that a supply chain, particularly one representative of the electronic/digital commerce market, is a blanket term for connected and interdependent organizations operating to control, manage and improve the movement of materials and information from suppliers to end-users (Christopher, 2011 as cited by Kumar et al., 2016), supply chain management consists of multiple value streams as it does not just focus on one aspect of the organization. Mentzer's (2001) description of what constitutes a supply chain underscores the role of information between entities and information-sharing is an indispensable element of the digital commerce market. For the purpose of this research, the internet is recognized as (1) a means for firms to distribute their product or service from its source to the end-user just as Kotler and Keller (2009) described a distribution channel as the utilized means to display, sell or deliver to the buyer and (2) as a strategic mechanism for firms to further establish their market position thereby reinforcing market size.

4.2 Digital commerce market best practices

At the firm level, Chaffey (2007) recognized that e-commerce readiness may differ across industry sectors depending on (but not necessarily limited to) size, the nature of the sector, location, knowledge base, and motivation for adopting e-commerce. Firms that believe in the business value of the internet usually take advantage of electronic business methods because they normally align their IT strategies with their business strategies. Although managers can still adopt "common" business strategies such as cost leadership, differentiation and market focus, they can create a competitive advantage online by combining the traditional with the new towards e-business success. Integrating strategies can be an effective means of providing unique value to their customers.

Chaffey (2007) segregated e-commerce activities, as follows: commerce, collaboration, communication, connection, and computation. Among these five key areas, he highlighted the relevance of communication as a source of useful information for e-commerce expansion. He anticipated that accessible communication (customers contacting firms and vice versa) can lead to the creation of virtual marketplaces and even product customization. Also, creating a community of customers can be a strategic way to tap into their thinking and preferences and ultimately become a source of innovation for the firm.

Jeffcoate et al. (2002) identified the following as three generic strategies for firms to achieve competitive advantage: (1) become the producer with the lowest cost within a broad market; (2) develop means to differentiate products within a broad market; and (3) focus on narrow market niches as either the least-cost producer or through differentiated products. This research identified the following as Critical Success Factors (CSF) for firms engaging in business via the Internet and these are: (1) Content - effective product presentation online; (2) Convenience - user-

friendliness of the website; (3) Control - how much of the buying process does the firm have control over; (4) Interaction - how is the website capable of building a relationship with individual customers; (5) Community - the means by which the website builds relationships among like-minded clients or organizations; (6) Price sensitivity - the sensitivity to online price competition; (7) Brand image - ability to build up a brand name for the online business as well as its product/s; (8) Commitment - the business us motivated to use the internet for its operations and is willing to innovate; (9) Partnership - utilizes value chain relationships towards internet presence and business expansion leverage; (10) Process Improvement - the extent of automated business processes and (11) Integration - providing aligned planning in IT systems towards stronger partnership (between business management and IT adoption) and process improvement. Firms are initially engaged to identify the broad and "traditional" business strategy to be utilized and are then given free hand to choose among the eleven CSFs they want to adhere to.

4.3 Case study: Online retail

4.3.1 Description of industry

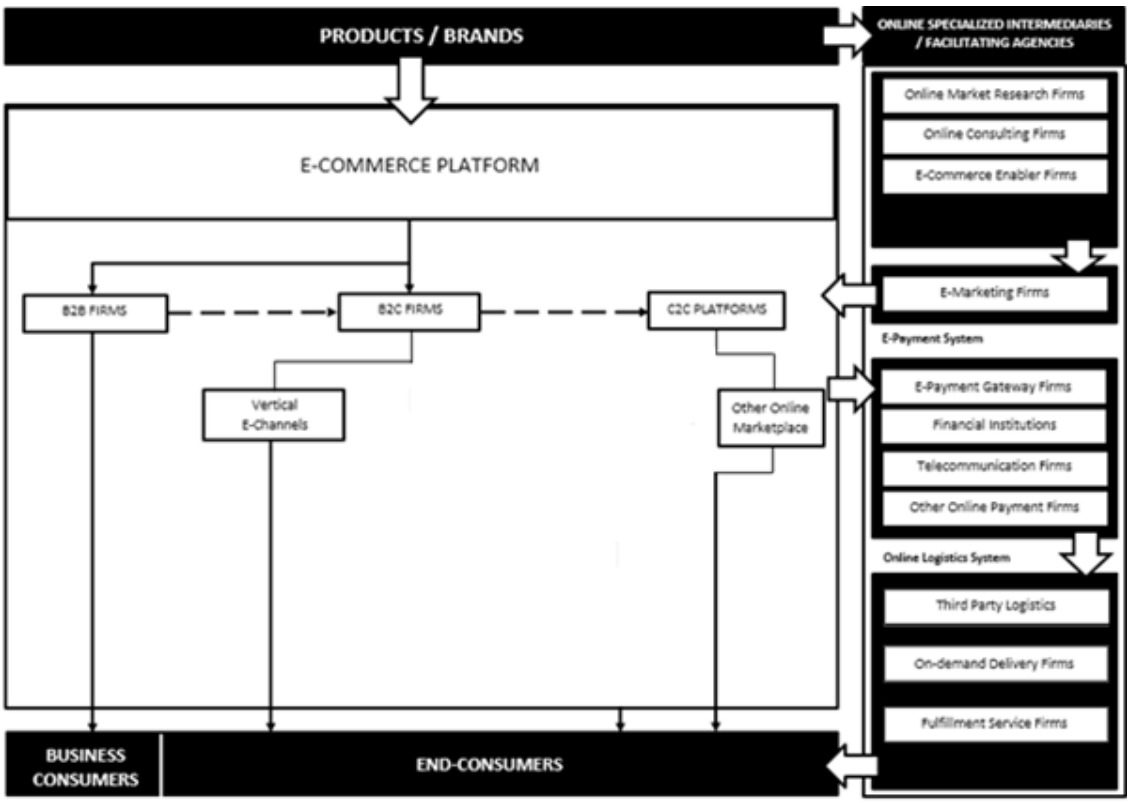
According to Euromonitor International (2017), the online retail market is sales that take place over the internet within the following categories and payment is not transacted in-store on a later date: (1) Apparel, (2) Electrical & electronics (communications equipment, computer hardware & software, consumer electronics, household appliances and photography equipment), (3) Food & groceries (food, drinks, household products and tobacco), (4) Footwear, (5) Home & garden products (gardening & outdoor living, home improvement and homeware and (6) Others that sums up Jewelry, Watches & Accessories; Toys & Games; Games Software and Sports Equipment.

Figure 4 represents the online retail distribution channel.

The online retail sector is heavily fragmented, as large companies like Amazon, operate alongside much smaller, specialized sellers. The existence of undifferentiated large competitors, low cost of sales and near-zero consumer switching costs increase rivalry. Moreover, the near-absence of geographical boundaries within the online retail sector further reinforces rivalry as marketplaces are essentially international.

Firm size is not an immediate deterrent for participating in online retail as social commerce (i.e., utilizing social media as means to display products and reach target markets) is free and user-friendly (Marketline Advantage, 2017). Small online retailers, especially offering differentiated products and those catering to niche markets, can flourish alongside the big online marketplaces (B2C). The online marketplaces, of course, can sell directly to end-consumers, similar to the small online retailers. Online marketplace can also be a platform where online retail stores can fill up their inventory through wholesale purchases (B2B). Some online marketplaces also accommodate small-sized online firms to display their products/service using their platform thereby giving these small-scale sellers

Figure 4. Distribution Channel for Online Retail



Author's illustration

access to technology, which they would not have been able to afford at their current size.

Online payment systems play a vital role in online retail particularly for small online retailers who are more likely to have the limited privilege (i.e., linkages with large credit card companies) and technology (i.e., applications development) when it comes to transacting payments with their buyers. Bank transfers, remittance centers, and mobile money services are the main lines through which cash transfers/payments are carried out. Online marketplaces and vertical channels have already streamlined their payment systems as under the breadth of their markets, the credit companies, banks and virtual prepaid card applications that are seeking affiliation with them.

Logistics companies play the critical role of being the culminating phase of customer fulfillment as they are accountable for timely delivery and guarantee of product integrity upon reaching their destination. Logistics companies affiliated, maintained or even partly-owned by the online marketplaces and vertical channels ultimately complete customer fulfillment for these firms. Some small online retailers can establish arrangements with logistics companies in terms of bulk pricing and pick-up services.

Substitutes exist in online retails with traditional brick-and-mortar retail outlet as the most apparent and with catalog retail as the other substitute. Nevertheless, large retailers are becoming increasingly multichannel, and brick-and-mortar retail is not deemed as a direct substitution threat. Multi-channel retailers, instead,maintain their physical stores in conjunction with their online offering. Filipino consumers have not essentially shifted their consumption to online sales channel against offline substitutes (Marketline Advantage, 2017).

The primary motivations in consumers' shifting towards online retail are lower prices and the convenience of online shopping and delivery. In reaction, traditional stores tend to undercut their prices at the expense of profits in order to avoid losing customers to online retailers. This strategy stems from the consumer phenomena of 'showrooming', where consumers try out a product in the physical store but purchase it online for a cheaper price.

The number of buyers using online retail channels continues to rise, which somewhat reduces buyer power as online shopping becomes more indispensable. Meta searches for finding the best price and exploring the attributes of a product have contributed to consumer awareness. Increasing internet access and proliferation of digital and smart devices have resulted to consumers claiming more power in the retail market, since they can access information and conduct their research to make informed purchasing decisions. This is further reinforced by social media, review sites, and price comparison sites. In some cases, comparison shopping engines or websites have become so popular that they also serve as marketplaces for online retailers.

Switching costs are near-zero in online retail and buyers have high tendencies to switch due to price sensitivity (Ke and Li, 2004). This freedom significantly increases buyer power. Price sensitive buyers are free to shop around for the cheapest offer. However, information/data security concerns reinforce consumer loyalty to well-known and trusted retailers.

E-commerce expansion not only favors online retailers, but also supports the backward integration of consumers (Bhaskaran, Chung, Das, Heath, Kumaran, & Nandi, 2001). Platforms that facilitate C2C commerce transactions, such as eBay, allow buyers to become sellers, further enhancing buyer power. In this regard, OLX and Shopee, with similar platforms as eBay, might pose a threat to online retailers.

A reliable and secure ICT infrastructure is a necessity for all players, and this contributes to the power of the providers of such services. Moreover, providers capable of meeting a large retailer's technical requirements tend to also be large, further enhancing their supplier power.

4.3.2 Online Retailers and Multichannelling

Most suppliers sell their products to several different retailers, which increase their power as their revenues are not brought in from one player. However, revenue losses because of a very large player, such as Amazon, can significantly affect a supplier's bottom line. In general, internet retailers, particularly large retailers, sell a wide variety of goods from a large number of suppliers thereby reducing their reliance on any one supplier. Thus, this undermines the overall supplier power.

Operating a retail business online has been proven to be significantly easier and less costly, as compared to a traditional brick-and-mortar retail chain. This contributes to the likelihood of suppliers integrating towards online retail market, and thus puts pressure on the incumbent online retailers. Moreover, supplier power online is weakened by the fact that even small producers/sellers can easily directly sell their products to consumers through e-commerce platforms such as eBay or even through social media.

A brand new company or an existing brick-and-mortar retailer diversifying its operations to include internet retail can easily gain entry into the online retail sector. A growing number of pure-play companies (i.e., companies that operate exclusively through the internet), such as Alibaba, have become the platform for brick-and-mortar retailers to exploit online sale channels.

Many brand stores have diversified to include online retail. However for many of them, this kind of diversification was more out of necessity rather than opportunity due to the "new" buying habits of consumers. As a result, the online retail sector continues to thrive where there are high growth opportunities for retailers even for those with faltering physical businesses.

Low entry barriers in online retail in terms of a significantly lower capital investment and fixed costs compared to traditional retail also contributed to its expansion (Marketline Advantage, 2017). A prospective entrant does not need to invest in fixed assets other than ICT systems and logistics facilities. A full asset-light model is acceptable because order fulfillment can be outsourced to third-party logistics services. Also, e-commerce platforms, such as Shopee and OLX, where small retailers are hosted under the guarantee of that platform's brand, also reinforces the entry of small players. Low-cost entry can also be realized through a particular segment or niche market.

Online retailers are able to gain access to a global number of consumers by selling their products on international platforms, which further entices new entrants. Foreign online retailers can easily access a country's online retail sector without having a physical presence within that country. However, it should be mentioned that longer delivery times, and higher prices due to customs duties, shipping costs and unfavorable exchange rates can discourage international purchases.

While large online retailers usually maintain in-house delivery services that fulfill largest volume of orders, third-party logistics services remain indispensable in online retails. Suppliers of delivery services are usually large and diversified, thus exerting strong power. Delays, missing products, and high delivery costs negatively affect online retailers' reputation and sales, thus making the quality and cost of delivery services vital. Also, suppliers of packaging material inputs that comprise a large part of overheads are significant.

4.3.3 Industry Issues on Online Retail

Large retailers have linked their physical and online offerings, creating a multichannel experience for their consumers. According to a report by Deloitte (2015), digitalization has borne new technologies that made retailers able to link sales channels and to deliver a combined experience. The growth of online shopping has led many retailers to invest in research and development (R&D), particularly in developing mobile apps following M-commerce. Conditions such as these can hinder the expansion of small companies, as large incumbents are more likely able to invest in such capital (economies of scale). Besides, ICT readiness and existing logistics infrastructure are critical for the sector's expansion and the entry of new players.

An ineffective legal framework adapted for online retail transactions can hinder the sector's growth. Trade regulation in many countries has already been revised to include online retail sales as the enacting of e-transaction, consumer protection, privacy protection, and anti-cybercrime laws is essential.

Leading online retailers can reduce prices because of their high sales volumes and economies of scale. Large companies benefit from scale economies when it comes to purchasing, inventory management, and customer service. Large players can outmaneuver smaller competitors through improved customer service, such as dealing with product returns as this can be costly for small companies. They are also able to engage in aggressive pricing strategies based on their economies of scale, such as offering free shipping and coupons for customer retention. An example of such customer loyalty policy is the special paid membership by Amazon, Amazon Prime, with free express shipping being the most important benefit for its members. Many consumers remain concerned about the security of online transactions, which also increases loyalty to well-known retailers.

Many larger retailers diversified to several sectors, reducing their reliance on any particular sector, increasing their customer base, and reducing overall buyer power. Diversification can also be realized in geographical terms: some of the largest online retailers, such as Amazon and Alibaba, maintain a strong international presence and are therefore protected against any negative demand shocks in any one particular country (Marketline Advantage, 2017). Access to the international marketplace further reinforces their economies of scale and brand appeal. On the other hand, the fact that online retailers can compete across countries contributes to the rivalry conditions of this sector. Lower prices and other enhanced offerings by foreign online retailers may invite more domestically-based consumers. However, customs and unfavorable exchange rates for consumers can serve as a protectionism shield for domestic retailers, alleviating international competition.

Another critical competition aspect of this sector is the existence of multichannel retailers, specifically of those brick-and-mortar retailers, who also offer their products online. These retailers competing in the online sector can benefit from a strong brand and economies of scale, while offering an enhanced shopping experience through better customer service, which can further leverage their physical presence. Their physical presence can be leveraged for undercutting prices—in-store collection means no packaging and delivery costs for the retailer, and no shipping costs for the consumer.

A short operating cycle due to high storage costs can be detrimental to the business of an online retailer.

This means that a powerful Enterprise Resource Planning and ICT system can be a competitive advantage in terms of efficiency (https://hbr.org/1985/07/how-information-gives-you-competitive-advantage). Large retailers investing in these assets, as well as in R&D to improve shopping experience and finding consumers, have stronger potential in increasing their market shares online. Low fixed costs support the rapid expansion of activities without significant investment capital and this generally encourages competition. Also, the relatively lower capital investment in online retail, coupled with low fixed costs, may reduce exit barriers, thus alleviating rivalry to some extent.

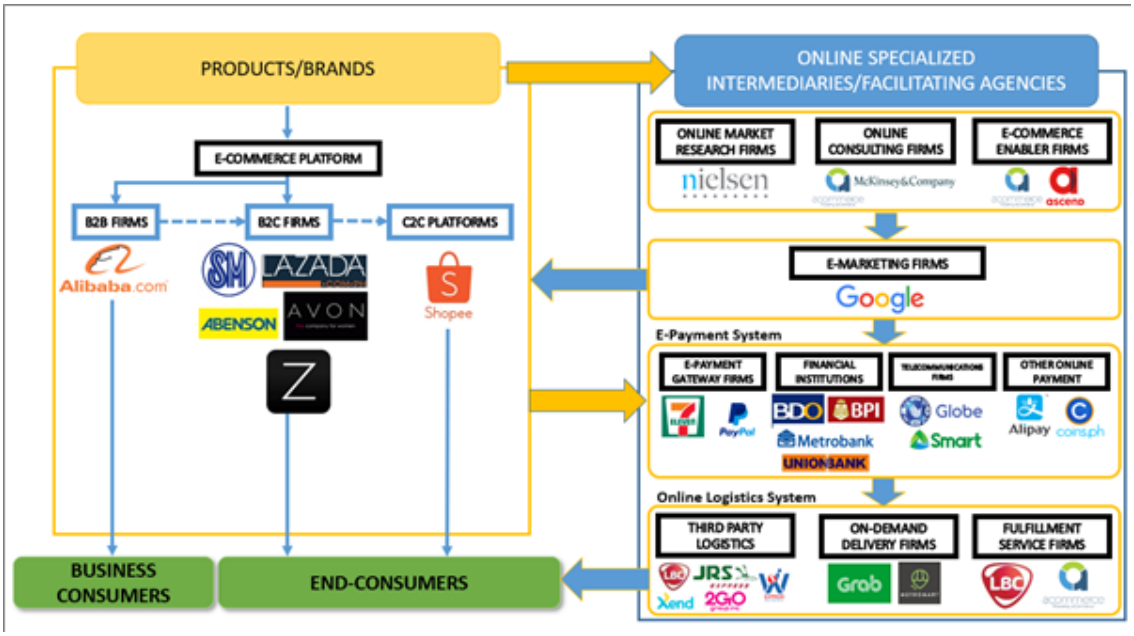
Market research utilizes key performance indicators such as the bounce rate, the conversion ratio, and repeat buyers as reflective of retailers', and extensively of the sector's demand-conditions. A high bounce rate (the number of users exiting a site without clicking through its content) reveals a lack of interest in the retailer's site. A low conversion ratio (the number of visits converting into orders) means that consumers are hard to get (https://www.searchenginejournal.com/10-reasons-website-can-high-bounce-rate/182260/). Lastly, the repeat buyer indicator (the number of customers that made at least two orders, divided by the total number of customers for a given period) is an accurate proxy of customer retention.

4.3.4 Local market

Figure 5 represents the Philippine Online Retail Distribution Channel by identifying the involved Securities and Exchange Commission (SEC) registered companies operating in the country and the role each company plays in the Philippine digital commerce market by showing its place in the model. According to the 2017 ICT Development Index[25] of International Telecommunication Union (ITU), the Philippines ranked 101st out of 176 countries, based on IT infrastructure, IT use, and IT literacy. The logistics sector is complementary to online retail; therefore, the quality and development of the former is determinant of the latter. The logistics capabilities of the Philippines are low (ranking 71st out of 160 countries), as per the World Bank Logistics Performance Index, lagging in terms of infrastructure and competent suppliers of logistics services.

Overall, the Philippine e-commerce sector is dominated by a few large international pure online retailers. Lazada, which is 83% owned by Alibaba, is the largest and most diversified player in this sector.[26] Lazada has launched heavy discounts for the Filipinos in recent years, not only to outdo competitors but also to heighten the adoption of online shopping habits. Zalora is the second-largest player.[27] It is engaged in the apparel segment and is geographically diversified across Southeast Asia (SEA). The two largest Filipino retail conglomerates, Ayala Group and JG Summit, acquired Zalora Philippines, as well as the local operations of the popular e-commerce platform Shopee, respectively.[28] Ayala Group, maintains a controlling stake of forty-nine percent in Zalora Philippines, realizing their partner stores' leverage to e-commerce through the said platform. Zalora then gained access to Ayala's technology for digital payments through Globe GCash. Zalora transformed its brick-and-mortar owners as multi-channel players. Moreover, the

Figure 5. Philippine Online Retail Distribution Channel



NOTE: Only SEC-registered companies are included in the model

25 A composite index that combines 11 indicators into one benchmark measure, and is used to monitor and compare developments in ICT between countries and over time.
26 Russel, 2017
27 https://www.entrepreneur.com.ph/news-and-events/who-are-the-leading-foreign-and-local-players-in-ph-e-commerce-a00200-20171024
28 Llamas, 2017

Gokongwei-led conglomerate JG Summit acquired a significant stake in Shopee Philippines,[29] a Singapore-based e-commerce. Launched only in 2015, Shopee is a young e-commerce platform but has already amassed over two million sellers across SEA because of its free product listing and inexpensive to zero shipping fees.[30] Furthermore, Shopee has strengthened its consumer numbers. Given these conditions, the rivalry with Lazada Group is expected to intensify.

Small and medium enterprises (SMEs) to giant corporations[31] are shifting to e-commerce in order to broaden their Filipino consumer base despite the Philippines' "mall culture". Philippine e-commerce exhibits great potential with its growing internet and smartphone penetration, as well as rising middle class, and young population. Even as the Philippine retail industry proceeds to exploit the benefits of e-commerce, Lazada remains the country's leading retail e-commerce in terms of website traffic followed by Zalora, Shopee,[32] and eBay. For the Philippine markets, Lazada's strategy is to solidify its brand by providing a wide assortment of products, and a highly dependable logistics infrastructure.[33]

Online and offline marketplaces increasingly interact and compete with each other. This development requires[34] regulatory agencies to consider the effects of these sales and the interaction between the marketplaces when considering the competitive effects of such conduct or transactions. The increasingly blurred lines between online and offline sales and distribution[35] have led to companies engaging in various distribution methods to compete. This multi-channel approach allows companies to match supply-side output with demand-side expectations. These supply-side responses to demand-side shifts in consumer behavior may be an indication that competition is working rather than being a sign of trouble.[36]

Although website traffic remains vital in determining top retail e-commerce sites and platforms, social media is also a factor in the growing local e-commerce. The behavior of Philippine e-commerce has always leaned towards social media integration. Most local players initially started their business via social commerce on Facebook (FB) and Instagram (IG), or on both (Deloitte, 2015). E-commerce companies exert much effort in using social network platforms as marketing channels. The social media become a means to attract and influence online buying and selling, and can also serve as a way to become widely known to millions of social network followers. Online business transactions in the country widely utilize Messenger app, easing engagement between businesses and consumers. Because of this, PayMaya and GCash, two of the country's top mobile money service providers teamed up with Facebook Messenger to launch a payment option in its application that caters to remittances, payment bills and mobile data purchasing.[37]

The consistent popularity of Facebook and Instagram as an opportunity marketplace for e-commerce has led to Lazada utilizing social media platforms as a strategy for retail innovation. Lazada's IG and FB strategy directly links their merchants' IG and FB accounts to their website, which then sync all their merchants' products to Lazada's website.

E-commerce in the Philippines has been showing much growth potential and there is a ripe opportunity for businesses to take advantage of local e-commerce, especially in such a promising market. One of the primary features of e-commerce is it transcends geographical barriers. With an e-commerce website, the one vital requirement is internet connection. Drop-shipping, digital payments, and online security have all made it much easier for companies to launch a digital storefront complementing their brick-and-mortar one. E-commerce enables the firms to widen its market reach as the physical distance becomes a non-issue. An example of this is The SM Store. In 2014, the mall conglomerate digitized their department store brand by launching a complementary e-commerce website[38] as part of their thrust to deepen their penetration in an emerging, lucrative demographic: digital-savvy, millennial shoppers. The SM Store's site comes with offline services for all its shoppers: door-to-door deliveries to most of the Philippines or customers can simply pick up their online purchases up at any SM stores. In 2016, SM Investments Corp. entered into a strategic alliance with Lazada which will enable SM to use the platform to sell online merchandise.[39]

Instead of maintaining inventories in multiple retail locations, e-commerce businesses can opt to store them all in one warehouse and pay for lesser utilities.[40] Sales personnel have no roles in an end-to-end shopping experience such as an e-commerce website where customers look for their preferred colors and sizes, and even conduct their checkouts. Shifting the shopping experience to an automated system is not only cost-effective but also reduces

29 Gratela, 2017
30 Llamas, 2017
31 Gratela, 2017
32 Gratela, 2017
33 BusinessMirror, 2017
34 OECD, 2018
35 OECD, 2018
36 OECD, 2018
37 Desiderio, 2017
38 Globe Telecom 2017
39 http://www.bworldonline.com/content.php?section=Corporate&title=billionaire-sy-lazada-team-up-for-online-retail&id=124461
40 Globe Telecom 2017

margins for error.[41] One company that has benefited from a centralized ordering and dispatch platform is Max's Group Inc (MGI).[42] The group operates many popular brands: Max's, Jamba Juice, Teriyaki Boy, etc. To harness the potential of their portfolio (i.e., 500 stores across 13 brands), they launched their website dedicated to deliveries for their brands as well as Yellow Cab, Pancake House, Krispy Kreme, and other establishments, which have nationwide coverage. A customer simply has to create an account, place an order, and facilitate their delivery.

Round-the-clock operation is another feature of e-commerce. The e-commerce store never has to close simply because it does not have to. As long as its infrastructure and systems are solid, the site can pretty much run on its own. Except for most deliveries having cut-offs, e-commerce websites operate on any time frame.

The increase in the country's internet penetration rates, driven by the increasing adoption of smartphones particularly by the younger population due to the availability of more affordable units, strongly contribute to the growth of e-commerce. As mobile internet penetration rises, Internet usage is expected to increase, helping e-commerce[43] become more widespread.

Aside from transforming shopping practices, online retailing has also[44] led to the emergence of alternative payment methods or technologies necessary in how the industry transacts. Although cash on delivery (COD) is recognized as the modal mode of payment in the country, the payment landscape has evolved. New payment methods such as e-wallets and mobile-based payments are also contributing factors to e-commerce growth; without a means to pay online, consumers are incapable of participating in the digital economy. Although some e-commerce stores in the Philippines accept COD, creating more inclusive and more extensive financial technology is a keystone to e-commerce. Electronic payment methods are steadily growing but the payment landscape is primarily COD-based which is difficult for small-sized e-commerce companies to manage as such require personal delivery or having to commission a third-party to the conduct the transaction.[45] Although COD is still expected to have a bigger share of the market in the country, as the mobile landscape expands, so will alternative payment solutions like an e-wallet that enable customers to pay directly from their phones.[46] Lazada already accepts helloPay, an e-wallet and online payment gateway that converts post-payment methods into pre-payment and serves as the best value proposition for merchants.

The industry must expand its coverage to include places outside Metro Manila which is the under-penetrated market. However, the fragmented geography of the country remains a challenge as logistics is very important in e-commerce. Logistics and warehousing capabilities both contribute to reliable and affordable delivery. Low-density areas with low retail pressure are difficult to locate and reach as it requires a costly delivery infrastructure. An affordable delivery to the far corners of the Philippines, innovation on the speed of delivery, dependable tracking and ability to deliver different types of items capable of bringing brands and products from the online store to the consumer's door is crucial in e-commerce growth.[47]

For e-commerce companies that transact business with numerous customers, security and data privacy are important issues. At PayMaya, for example, they take several steps to make online transactions even safer: a two-factor authentication process is in place – one for online and through mobile. For example, your PayMaya account is linked to your mobile number (does not have to be a Smart number) and when you make a purchase online, PayMaya immediately sends you a message confirming the details of the transaction. For Lazada their online transactions are secured via enhanced protocols protecting customers' data through encryption, merchant's buyer protection and data privacy policies, and strict verification procedures of payment gateways.[48]

To support the e-commerce industry to hurdle challenges hindering its growth, collaboration between the private stakeholders and the government is vital. Because internet speed and wider access for the public are critical to change market behavior, it is important for the government to invest in the country's digital infrastructure. One key element of the e-commerce industry is to protect customers from online fraud, theft, and phishing, among others. Thus, government must provide online security regulations, as well as ensure access to consumer rights, in order to guarantee that the online marketplace is secure and conducive for conducting business.[49]

4.3.5 Potential points of disruption

Dynamic Pricing is a concept that came with online shopping. It is a strategy on which retailers change the price of the product based on the supply and demand condition. Dynamic pricing is an approach

41 Globe Telecom 2017
42 http://www.maxsgroupinc.com/
43 Vicente 2016
44 Vicente 2016
45 https://codcop.lbcexpress.com/
46 Vicente 2016
47 Vicente 2016
48 Vicente 2016
49 Vicente 2016

to setting the cost for a product or service described as highly flexible. The goal of dynamic pricing is to allow a company that sells goods or services over the Internet to adjust prices immediately in response to market demands.[50] A significant example is the case of Amazon, which has had tremendous success in applying dynamic pricing to their products.[51] Dynamic pricing is not about pricing lower, but pricing more intelligently. This means pricing according to internal and external variables, such as stock levels and competitor prices. This requires timely and accurate data to be done right. Brick-and-mortar stores are incapable of applying dynamic pricing in their business operations, as well as small-scale online retailers who do not have access to the required data and infrastructure.[52]

Possible anti-competitive issues may arise from these activities:

For consumer goods being sold online: (1) price limitations for online retail prices particularly for multichannel establishments; (2) exclusive selling in particular marketplaces; and (3) possible restrictions to sell cross-border or geo-blocking.

For digital content: (1) restricting the validity of licenses for content based on cross-border regulation; (2) long duration of contractual relations; and (3) Long copyright licenses that may limit the entry of new or smaller players.

4.4 Case study: Online travel and accommodation

For this research, online travel is combined with hotel and accommodation service to make up the industry case for Online Travel and Accommodation. Although the two services can easily be considered as independent transactions, both are generally featured and serviced by the same internet entities: Online Travel Agencies (OTAs). Moreover, it has been observed that airlines and hotel chains are exhibiting similar behavior with regards to marketing their booking platforms contributing to the fragmented state of the industry. Hotel chains are also faced with unique challenges upon the emergence of product substitutes.

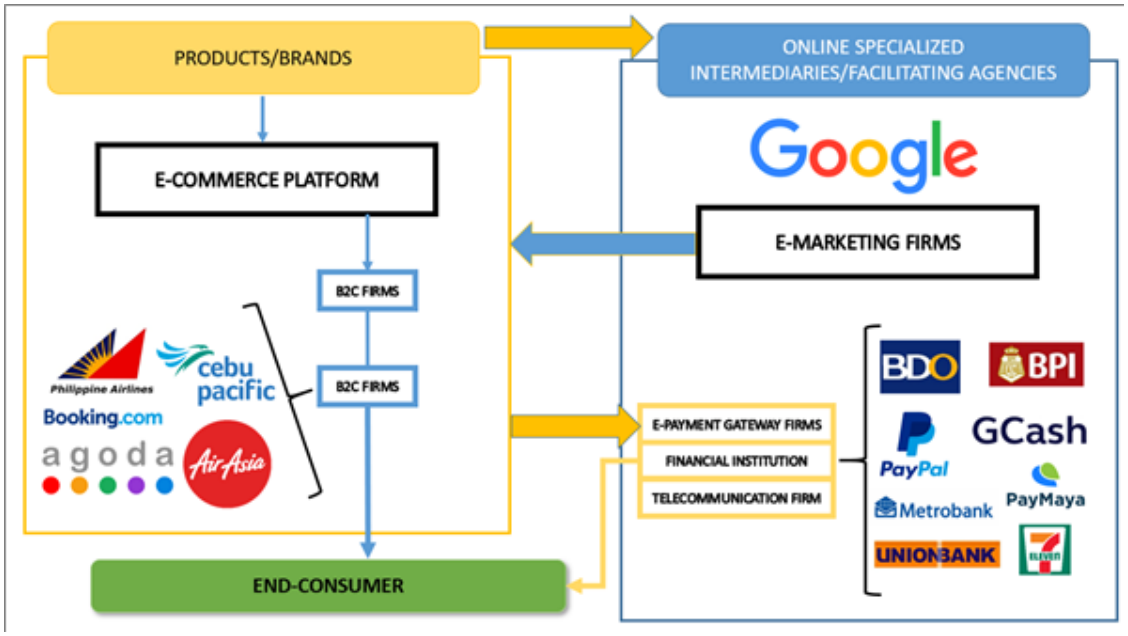
Figure 6 identifies the specific companies registered under the SEC that are currently operating in the Philippines, and their position in the Philippine digital commerce market. Airline companies are tagged as vertical channels as they both offer booking and ticketing services on their website as well as via OTAs, such as Agoda and Booking.com. Reservations for hotel rooms can also be made via OTAs. Google Ads is a good example of a venue for placing flight and hotel stay advertisements to reach a much wider market. Payment for airline tickets are already accepted at electronic kiosks located in convenience stores but payments for hotel room bookings remain coursed through the more conventional means such as credit and debit cards.

4.4.1 Description of industry

4.4.1.1 Hotel and Accommodation

Although hotel and accommodation stays can be considered as non-essential, the number of potential buyers is large as this includes domestic and foreign travelers. For the market players (suppliers) a large number of potential buyers is translated to decreased buyer power as it is less important for the market players to retain any individual customer. The industry

Figure 6. Distribution Channel for Online Travel and Hotel Accommodation



NOTE: Only SEC-registered companies are included in the model

50 Rouse n.d.
51 https://smallbusiness.chron.com/type-dynamic-pricing-amazon-use-27704.html
52 Burnside, P., & Norris, H. 2016

is fragmented: large national and multinational chains exist and at the same time it is possible to operate on a small scale. There are no evident entry barriers in the industry and is potentially within reach of small businesses (as evidenced by the homestay accommodations and the Airbnb phenomena) (Euromonitor, 2017). Products are highly differentiated as branding is important for the major hotel chains. Vertical integration is evident as large chains maintain their sites for online reservations but at the same time platforms such as Trivago, and Booking.com feature the chain's products and promotions.

There is a highly diversified range of products and services in the market the threat from substitutes is strong. Recent substitutes that are becoming increasingly threatening are the online services of Airbnb, FlipKey, and Couchsurfing. According to an interview with Airbnb managing director for Southeast Asia and India, JiaJih Chai Airbnb had 975 enlisted rooms and homes in Metro Manila alone in 2013.[53] Airbnb continued to increase its number of hosts and occupancy rates, reflecting a successful response from travelers. Furthermore, based on an Agoda Travel & Tech Study in 2017, 82% of Filipinos are more likely to consider booking homestays when traveling, primarily because they want to accommodate families and large groups, which is an advantage of several Airbnb listings.[54]

Significant advertising costs are incurred by large hotel chains with high visibility in mainstream and online channels. Brand strength is important as consumers may be unwilling to book an unfamiliar hotel. Thus, online reviews and customer feedback become critical as these can erode brand strength to some extent. A strong brand acts as a guarantee of quality to the buyer and a new entrant will be at a disadvantage relative to incumbents with established brands (Euromonitor, 2017).

Hotel operators rely on technology and systems for property management, procurement, and reservation systems. Continuous R&D is integrated into the e-Commerce platforms as technology development complements the evolution of these platforms. Large chains invest heavily in their infrastructure, which includes the integration of IT in their customers' overall experience with them. Small companies can thrive in the industry. Therefore, competition is evident. There is high allocative efficiency as a wide range of price points are available. Therefore it is highly likely that a potential buyer can find a suitable product fit that corresponds to his/her reservation price. The industry remains highly unregulated, however customer feedback is fast and highly significant. Consequently,the proprietors are expected to respond fast to the online feedbacks and reviews for the provided service.

4.4.1.2 Online Travel

Online travel comprises passenger air transportation, both scheduled and chartered and excludes freight transport (Euromonitor, 2017). Significant entry barriers are evident due to high capital requirements and regulation. Low product differentiation is evident as airline companies offer an essentially homogeneous product. E-commerce, however, contributes to product differentiation through the added convenience it can provide in booking, check-in and even in ticket sale notifications. The services offered by the airline companies are not diversified except for the seat class categories in-flight. Some specific destinations are exclusively served by specific airlines.

Significant advertising costs are incurred by the airline companies through mainstream media. Furthermore, the third-party applications hired by these companies amplify their advertising via online pop-ups. Airline ticket prices have significantly decreased in the last ten years due to the entry of budget airlines such as Cebu Pacific, Air Asia and Tiger Air (Shuk-Ching Poon, & Waring, 2010). Entering the travel industry requires considerable capital, as investment in this industry requires expensive capital products, infrastructure, and a highly-skilled workforce. Regulation is stringent and complex due to institutional rules and regulations for licensing of employees, aircraft safety, access to airports and flight paths, and compliance is costly. There is little option for product choice as there are only different flight schedules for specific destinations. Collusion among the different players is unlikely as high rivalry is evident (Euromonitor, 2017).

4.4.2 E-Commerce adoption and disruptions

Technology and the internet have made consumers more sophisticated when it comes to choosing a channel for their purchase decision making. Determining the performance of a distribution channel for the travel and hotel industries has become relatively more complicated and difficult as hoteliers and industry managers opt for more diverse distribution channels besides what has been deemed as traditional channels all in the name of sales, booking efficiency and improved brand awareness. OTAs along with airline and hotel chain websites have become the consumers' choice and these are coupled with the decline in direct calling, walking in or reservations through a brick-and-mortar travel agent.

The proliferation of the internet and consumers' preference for fast and effective service led to the opening of third-party online travel service companies such as Agoda, Booking.com, Expedia,

53 http://manilastandard.net/business/181735/airbnb-pursuing-expansion-in-ph.html
54 https://markets.businessinsider.com/news/stocks/first-wave-of-the-agoda-travel-tech-study-results-non-hotel-travel-accommodation-traveler-trends-1002264150

and Trivago etc. (Morales, 2017). These accessible online agencies and hotel chain websites provide customers with a wide-ranging set of information, such as prices and hotel room availability, so that customers can easily make the correct purchase decision. A more diverse distribution channel presents an easier and time-saving hotel booking process for the customer. Hotel chains usually utilize different marketing channels such as the hotel websites, OTAs, travel agencies and even call centers to offer consumers a more convenient booking activity (Morales, 2017). The apparent goal is to increase the hotel's profitability and reduce costs however combining distribution channels may reinforce conflict among the channel members. Channel conflict occurs when a distribution channel is called out by another channel to be enticing the same customer of the same brand at the same time and setting (Lamb, Hair & McDaniel 2011).

Conflict can also take place when the hotel chain increases its booking rate by launching exclusive promotions through its website or booking service, but at the same time maintains its connection with partner OTAs. This is highly related to the issue of rate parity. Although the details of each parity agreement differ in every country and hotel chain, rate parity can be categorized as wide and narrow rates. Wide rate parity is more restrictive as the hotel agrees not to undercut the rates that the OTA charges for their hotel rooms in all distribution channels. Narrow rate parity, on the other hand, allows hotels to offer lower rates to other OTAs, but not online through their websites. Narrow rate parity also generally does not restrict the hotel from offering lower direct rates through offline channels, such as email or telephone bookings, or to guests using their loyalty programs.[55] While rate parity clauses restrict the hotel from promoting lower rates online, hoteliers have devised other ways to boost direct bookings, such as but not limited to the following: monitoring the published rates in all onlinedistribution channels, publishing direct website rates compared with the OTA rates on metasearch sites (for example, on Trivago, the feature Rate Connect shows a hotel's official website rate at the top of the list of

Box 5. Examples of how countries have reacted against rate parity[56]

Countries where narrow and wide rate parity clauses are strictly prohibited:
France – July 2015 – The "Macron Law," which outlawed all rate parity clauses
Austria – November 2016 – Austria amended the Competition Law banning all rate parity clauses
Italy – August 2017 – adoption of the Competition and Market Law banned all rate parity clauses
Belgium – November 2017 – The Council of Ministers allowed hotels to freely publish their own rates on their websites. Hotels are no longer bound by price agreements with popular booking sites such as Booking.com.

Countries where rate parity clauses are prohibited for some OTAs:
Germany – December 2013 – The Federal Competition Authorities prohibited all parity clause used by HRS, a major German OTA. December 2015 – The Federal Competition Authorities ordered Booking.com to remove all rate parity clauses from its contracts before January 31, 2016.

Countries where Booking.com and Expedia have agreed to use only narrow rate parity clauses:
European Union – June to July 2015 – In agreement with regulators in Italy, Sweden, and France, Booking.com changed its rate parity clauses in Europe from wide to narrow at the end of June 2015. Expedia followed suit shortly at the beginning of July 2015.
Australia – September 2016 – Expedia and Booking.com agreed to amend their contracts from wide to narrow rate parity clauses
New Zealand – October 2016 – Expedia and Booking.com both agreed to amend price and availability clauses to be in line with their approach in Europe and Australia.

Countries where rate parity has not been regulated:
USA – no uniform regulation of rate parity clauses has been proposed.
Latin America – Rate parity clauses are widespread and are unregulated

Box 6. Examples of how various destination cities came up with regulation in response to room-sharing applications

The International Hotel and Restaurant Association described the room-sharing applications as partially "unfair" competition and a good number of destination cities have acted on the sharing app's regulation:

1. Amsterdam - collects 6% tourist tax on all bookings with a maximum 4 adults at a time;
2. New York, NY - renting out an apartment for less than 30 days is illegal.
3. Mallorca, Spain - only detached homes with municipal government -issued registration numbers are allowed to become hosts. Apartments are not allowed;
4. Charleston, South Carolina – registration is required and host must be living in the premises;
5. Japan, Barcelona, Spain and Paris, France - registration is required;
6. New Orleans, Louisiana and San Francisco, CA - hosts must have a Business Registration Certificate and a Short-term Residential Rental Certificate;
7. Santo Monica, CA - registration and 14% tax on revenues;
8. Iceland - income/revenue cap of 1M Krona per year and registration;
9. Las Vegas, Nevada - high registration fee (U$1,000.00) and no new units can pop up within 660 feet of an existing one

Source: https://www.cntraveler.com/galleries/2016-06-22/places-with-strict-airbnb-laws

55 Ethan & Dessaucy 2019
56 Ethan & Dessaucy 2019

deals),additional amenities to increase the value of booking directly, and advertising these deals on their hotel profiles, promoting private rates through customer loyalty programs, direct marketing email campaigns, or register-only travel providers and listing certain room types exclusively on the hotel website, so that those room rates are not subject to rate parity agreements with OTAs.

The online sharing economy inspired the concept of an online marketplace where people rent out their entire property or spare rooms to guests such as Airbnb. Guests get good value accommodation and available price points are wide-ranged. Aside from homeowners augmenting their income, guests get to experience living like a local for a more (perceived) authentic travel experience. Standard hotel accommodations are incomparable to the home-stay character of Airbnb subsidiaries which is why hoteliers do not necessarily view these as threats referring to their establishments as the premium proposition.[57] Airbnb would have difficulties in expanding into the markets of (1) the business travelers and (2) the luxury travelers. Specifically, business travelers require end-to-end experience like flexible check-in times and amenities such as a gym and a business center. Moreover, this group is avid for loyalty program points and needs someone who is 100% accountable for their experience. The primary offense of Airbnb is its subsidiaries' disregard for their obligation to pay taxes from their rental income. Hotel property and Airbnb subsidiaries must be on equal footing with regards to taxes and property law.

Travel suppliers used to be regarded as service providers and they let distributors handle the technology-intensive process of actually selling airline seats or hotel rooms. In the 1960s up to the early 1990s airlines facilitated this approach by creating Global Distribution System (GDS) or also known as a Computer Reservation Systems (CRS).[58] When a client requests for travel routes with a brick-and-mortar travel agency, this agent accesses the airlines' inventories using the GDS. However, developments in computer applications have afforded airlines to maintain their own platforms, granting agents access to their inventories and therefore bypassing the GDS platforms.

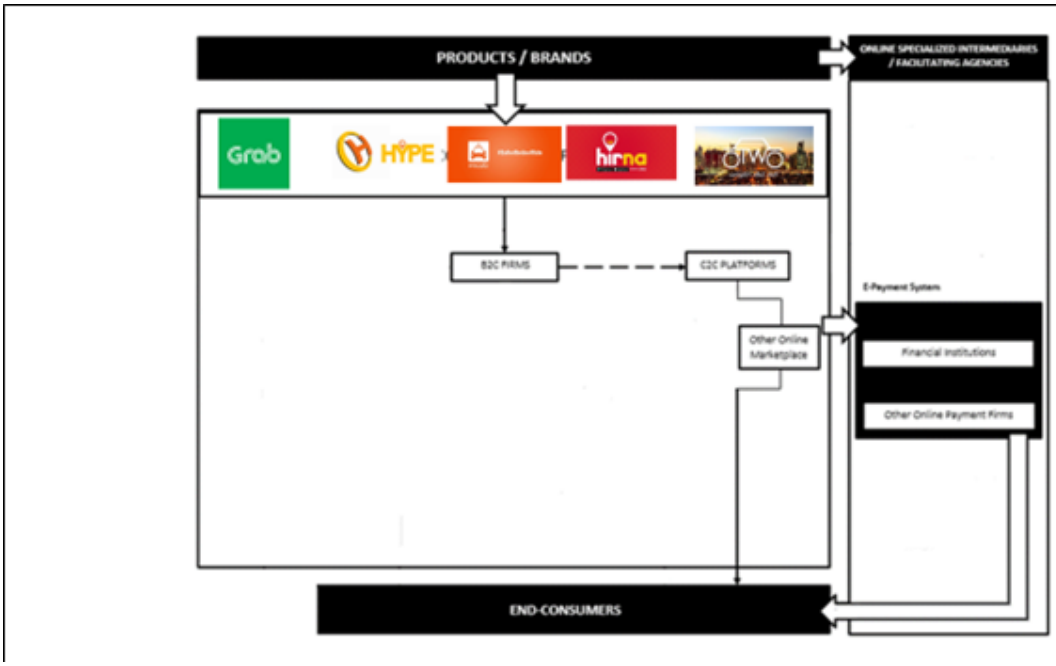
The Internet radically altered the airline ticket distribution industry at a global scale, and OTAs remain important players in the industry (primary examples of these are Expedia, Ctrip, and Priceline). At the same time, most major airlines come up with more ways to attract more customers to book flights using their websites. Eventually, access to the airline platforms was granted to individual customers and this direct connection to the airlines gave them the ability to book add-on services such as checked-in luggage allowance and in-flight meals. Airlines continue working towards unbundling their services (e.g., charging for preferred seat reservations and additional weight allowance for checked-in luggage), making air travel more accessible to a wider market by allowing their passengers to personalize their air travel experience according to their reservation price (Euromonitor, 2017).

All currently operating airline companies in the Philippines (e.g., Cebu Pacific, Philippine Airlines and PAL Express, AirAsia and Tigerair Philippines) allow their passengers to book their flights either with an OTA or through their platforms. These airlines also transform social media such as Twitter and Facebook into marketing channels for their platforms so that their followers can hear of new promotions and "seat sales" in real-time. Cebu Pacific and Philippine Airlines have developed smartphone applications where subscribers are not only immediately informed of their promotions, but also serve as a portal for early check-in and preferred in-flight seating upon booking. Booking a flight and managing flight details and preferences have been reduced to a smartphone application dismissing the need for any paperwork and any direct human interaction.

The leading Philippine airline company Cebu Air Incorporated is practically the creator of the seat sale phenomena. The company has three divisions: Passenger Services, Cargo Services and Ancillary Services. The Passenger Services division provides scheduled air travel services to passengers connecting key local and international routes, which accounts for more than 75% of the company's total revenues. Ancillary Services refer to cancellation and rebooking options, excess baggage and travel-related products and services and accounts for almost 20% of total revenues. Cargo Services provides airport-to-airport services and accounts for almost 6% of total revenues (Source: Company Profile in Marketline). Seat sales as an effective marketing scheme can only be made possible by allowing customers to book their flights without the help of an OTA. Even though OTAs worldwide offer electronic ticketing for Cebu Pacific flights, nothing hinders anyone residing anywhere in the world to just directly book a flight with the airline company. Although revenues from Passenger Services are expected to be a substantial percentage, revenues from Ancillary Services are also noteworthy. Had a flight been booked through an OTA, the OTA would have earned a share of these money flows but instead are wholly recieved by the airline company.

57 https://www.bworldonline.com/is-airbnb-really-disrupting-the-local-hotel-industry/
58 https://pdfs.semanticscholar.org/c085/d27d3db25a89c89a3ed630290668f5474a5c.pdf

Figure 7. The distribution channel model for online public transport (for motor vehicles)



Note: Reference for the TNC companies included in the model is the URL (https://www.imoney.ph/articles/alternative-grab-car-philippines/)

4.5 Case study: Public Transport

4.5.1 Industry Description

"Online-enabled Transportation Service" or OETS connects drivers with riders through an internet-based digital technology application.[59] In the Philippines, OETS was divided into two identities: the Transport Network Companies (TNCs), companies with internet-based digital technology platform, and the Transport Network Vehicle Service (TNVS), the vehicle service. This division was seen as necessary for the Philippine Transport Regulator to classify OETS as a mode of transportation. Accreditation for TNCs is different from that of TNVS. According to LTFRB's Memorandum Circular No. 2015-015-A, a TNC is defined as "organization whether a corporation, partnership, or sole proprietor, that provides pre-arranged transportation services for compensation using an internet-based technology application or digital platform technology to connect passengers with drivers using their personal vehicles", while a TNVS is the actual service vehicle unit used by ride-hailing services. Transportation Network Vehicle Service is a new classification for public transportation conveyance termed in the DOTC Department Order 2015-011. This new classification is used for the issuance of Certificates of Public Convenience – a primary requirement for Public Utility Vehicles. Despite being classified for the operation of road transportation for public use, TNVS units are usually privately-owned.

Figure 7 presents the distribution channel for public transport in the Philippine digital commerce market.

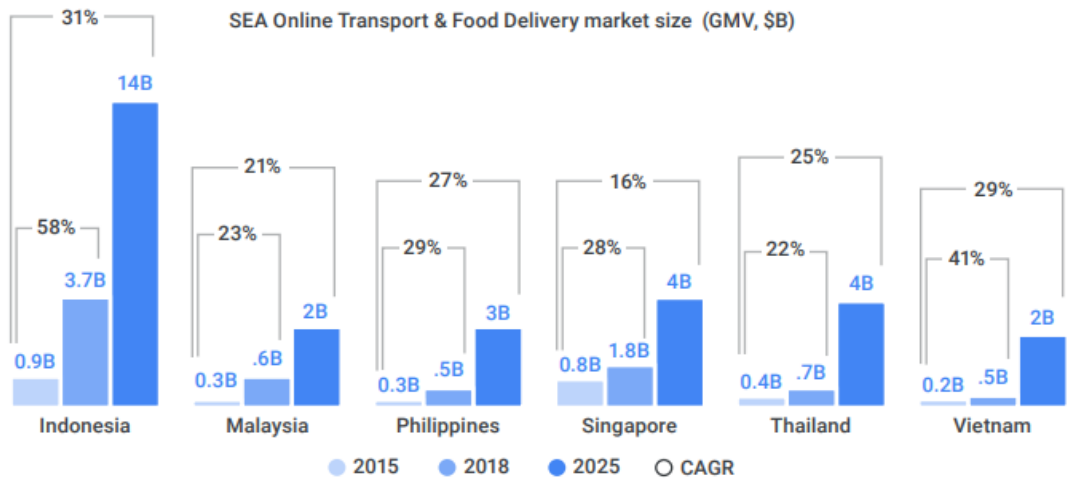
The ride-hailing service applications function as a means of facilitating a transaction between passenger and driver. Passengers can monitor the number of partner-drivers in the immediate area , and be able to monitor the location of the latter upon confirmation of a ride (in which the driver's full profile is also provided). Full disclosure in terms of price (trip cost) is also revealed and agreed upon by the passenger and driver. Trip details are also provided such as the estimated travel time and estimated time of arrival. Both the passenger and driver get real-time updates on their current location as well as the length of travel and arrival time depending on the traffic situation. At the end of the trip, the passenger is also expected to rate his/her overall trip experience, and this is reflected in the overall rating of the driver. Although passengers are the end-consumers, partner-drivers are also app-users and are therefore customers of the TNCs too. Drivers subscribe to TNCs' applications as means to finding clients, or vice versa.

Sector growth can be attributed to operating companies focusing on the acquisition of loyal subscribers/passengers and its geographical expansion within the region. Examples of acquisition strategies applied include leveraging promotions for riders, driver incentives, and increased marketing efforts. According to Google and Temasek (2018), consumer adoption of the ride-hailing services continues to flourish as there are an estimated 35 million Southeast Asians, who are active users of such services, and with daily average rides of 8 million per day - fourfold increase relative to 2015. Furthermore, there is still significant room for growth as more than 80% of the Association of Southeast Asian Nations (ASEAN) users are not actively using the ride-hailing services.

Based on the gross merchandise value, the Philippine online transport & food delivery market grew from 0.3 billion in 2015 to 0.5 billion in 2018 and is

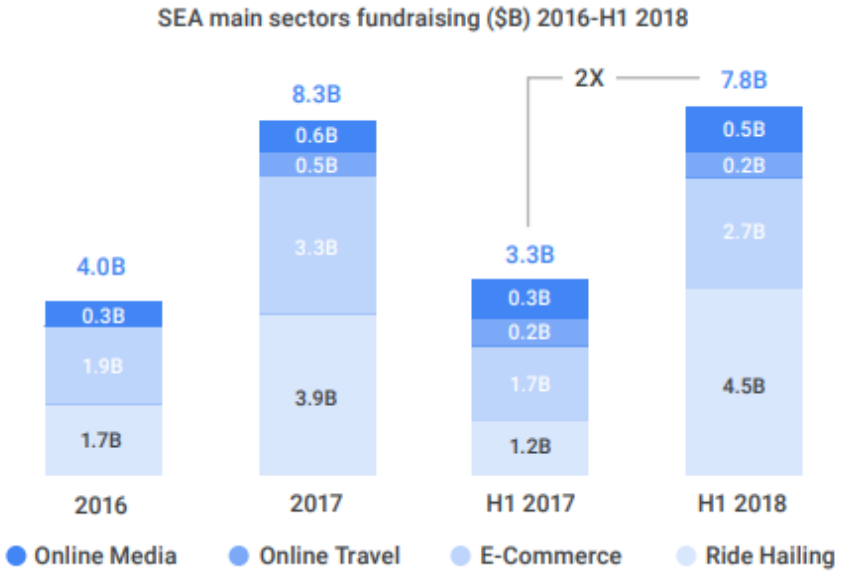
59 https://dotr.gov.ph/images/issuances/DO/2015/DO2015-11.pdf

Figure 8. Market size of Online Transport and Food Delivery



Source: Google and Temasek (2018)

Figure 9. Total investments into the Ride Hailing sector relative to other digital commerce markets



Source: Google and Temasek (2018)

estimated to reach 3 billion by 2025 (Google and Temasek 2018). See **Figure 8**. In terms of investment, the ride-hailing sector in the ASEAN region received the biggest share among key technology sectors with 4.5 billion dollars in 2018 as these applications evolve from simple ride-hailing services to becoming "everyday applications" (**Figure 9**).

4.5.2 Local Market

In 2017, there were an estimated 2.4 million Filipinos who downloaded at least one ride-hailing application, and this significantly increased to 4.1 million in 2018.[60] A consistent uptrend in the adoption rate is expected coupled with increased active users. It has been reported that an average 600,000 bookings per day in Metro Manila are only serviced by Grab's 35,000 LTFRB-registered TNVS operators.[61] There used to be two prominent TNCs in the market. On 25 March 2018, Grab acquired the assets and driver contracts of its primary competitor, Uber in Southeast Asia, including the Philippines. The Philippine Competition Commission subsequently conducted a motu proprio review of the merger and issued a Statement of Concerns regarding the merger transaction. PCC noted that Grab acquiring 93% of the TNVS registered vehicles resulted in Grab's further dominance in the market. PCC's concerns were as follows:

a. Grab acquiring the ability to profitably increase prices, given its market share;
b. New entrants in the market unable to provide competition for *Grab*; and
c. With Grab's ability to increase its prices, the quality of service would then deteriorate which would be disadvantageous for the consumers.

60 https://www.statista.com/outlook/368/123/ride-hailing/philippines#market-users
61 https://visor.ph/traffic/the-sad-numbers-behind-a-grab-driver-income/

Despite the increased number of Grab's TNVS, price monitoring surveys indicate that post-Grab-Uber merger resulted in an overall price increase which is a significant disadvantage to the TNVS consumers. The Grab-Uber merger resulted in the loss of Grab's primary competitor which led to an increase in prices and a deterioration of the quality of service by Grab as evidenced by the increased cancellation of rides by drivers and increased waiting times for the consumers.

Grab-Uber merger was then fined by the PCC amounting to P16 million for the violation of key provisions in the Interim Measures Order (IMO), which was issued during the merger review period. Grab was fined together with Uber with the following provisions:

1. Maintain the independence of their business operations and other conditions prevailing prior to 25 March 2018;
2. Refrain from executing any final agreement or contract that will transfer any asset, equity, interest, including the assumption by Uber of a board set in Grab;
3. Refrain from providing access between parties any confidential information;
4. Refrain from imposing exclusivity clauses, lock-in periods and/or termination fees to drivers;
5. Refrain from acts that may lead to reduced viability and saleability of businesses;
6. Refrain from acts that will prejudice the PCC's power to review the transaction and impose remedies; and
7. Refrain from performing any act that may lead and/or further lead to the consummation of the transaction.[62]

Homegrown TNCs have been launched in response to the evident supply gap. While these new firms may not necessarily be less expensive, new options have been made available to the riding public. Some of these new companies are 1. Mobile Internet Cab or Micab which started in Cebu City in 2012 and expanded operations in Metro Manila and in Davao as well; 2. HirNa is fully operational in Davao City since 2017 and is looking at expanding to Metro Manila, Iligan City in Lanao del Norte, and Cagayan de Oro in Misamis Oriental; 3. Owto is a TNC operated by Ipara Technologies and Solutions Incorporated and was founded by former Grab and Uber drivers and 4. Hype Transportation Systems Inc. which is an all Filipino company.[63] The LTFRB made certain that fare rates remain the same across TNCs as they are categorized as public utility vehicles and cannot therefore increase fares without obtaining approval.[64] Grab's market share remains large as compared to other homegrown TNC's, effectively making the majority of TNVS still operate under Grab.

4.5.1 Motorcycles as a mode of public transportation

Under the LTFRB Department Order No. 2015-011, motorcycles are not covered in the standard classification of public transport. Furthermore, motorcycles are not even mentioned under the Transportation Network Vehicle Services section. It does not allow motorcycles to be used as a mode of transportation for passenger or freight. Section 7 of the RA. 4136 or the "Land Transportation and Traffic Code states that"... (c) private motorcycles, scooters, or motor wheel attachments. Motor vehicles registered under these classifications shall not be used for hire under any circumstances and shall not be used to solicit, accept, or be used to transport passengers or freight for pay."[65] However, despite the definite restriction in the use of motorcycles for public transportation, these are widely used in rural areas. To a certain extent, motorcycles are the only mode of transportation for passengers and goods in some mountainous areas. These motorcycles are colloquially known as "habal-habal". This mode of transport is prevalent in areas where regulations are rarely implemented. Hence, "habal-habal" riders are vulnerable to some of the dangers brought by riding motorcycles. Moreover, "habal-habal" providers usually charge riders excessively since prices are unregulated.

In 2016, "habal-habal" became so popular that it gave Grab the opportunity to introduce its ride-hailing motorcycle GrabBike service. Grab proposed to have a cheaper and safer motorcycle as a mode of transportation than the traditional "habal-habal". Grab's expansion in the motorcycle ride-hailing services is easier than in the motor vehicle ride-hailing service. There is an abundant supply of motorcycles in the metro; and at the same time, many are lured by the competitive pricing of GrabBike as compared to the traditional "habal-habal". Angkas, on the other hand, began offering the motorcycle ride-hailing service in 2017. Both of these motorcycle ride-hailing services saw the same opportunity in the market. Unfortunately, motorcycle as a mode of public transportation is prohibited under the law since it does not fall under any category. In a hearing conducted to discuss the legality of Angkas,[66] the Department of Transportation (DOTr) and LTFRB defended their position that motorcycles are unsafe for public transportation.

There is also a question on who should be regulating motorcycle-for-hire and motorcycle TNVS (habal-habal). Cebu City government officials proposed that the local government units (LGUs) be given the authority to regulate motorcycle TNVS. Tricycles, another popular mode of transportation in the provinces, are already being regulated by the

62 Tadeo 2018
63 https://www.imoney.ph/articles/alternative-grab-car-philippines/
64 https://www.imoney.ph/articles/grab-wont-monopolize-ride-sharing-business/
65 San Juan & Recuenco 2018
66 San Juan & Recuenco 2018

LGUs in all parts of the country (DOTC Department Order 2008-023). Officials want the same to be applied for "habal-habal". Supporters of this mode of transportation pointed out that "habal-habal" is already thriving outside the metro. In mountainous barangays of Cebu City, "habal-habal" is the only mode of transportation since some parts of the city are inaccessible to vehicles because of rough, steep terrains or narrow roads.[67] In these areas, motorcycles are either owned by the household or pre-arranged bookings are done via word of mouth. Despite the efforts of Cebu City's LGU, they could not make "habal-habal" legal because there is no way to classify it under the current public-transportation regulation.

Another popular motorcycle TNC in Indonesia, Go-Jek, launched their expansion in Singapore, Thailand, Vietnam, and the Philippines.[68] Go-Jek was widely accepted in these jurisdictions, except for the Philippines. LTFRB rejected their application to operate simply because Go-Jek Philippines is majority-owned by an overseas business.

4.5.2 Possible Market Disruptions

With the LTFRB at the helm, it is easy to assume that pro-consumer regulation in the local online public transport industry is assured. The regulator issued various memoranda that, according to LTFRB, ultimately protect consumers and also cited issues of "accountability of TNCs to passengers and operators alike, and the problem of fare surging scheme". However, it is important to keep in mind that these TNCs are maintaining a technology-based service. As such, it is highly probable that the technology can outperform regulation. Take for example the case of Grab, which was able to slip a P2.00 per minute charge into their fare computation, and the LTFRB only found this out after the fact.[69] Consumer protection via agency regulation is also not ensured if the lead agency has limited means of monitoring customer feedback.[70]

On the competition aspect, the Philippine Competition Commission allowed Grab's acquisition of Uber in the Philippines. PCC Chairman Balisacan said "The PCC's Commitment Decision holds Grab to a standard as if Uber were present in the market. In effect, while Grab operates as a virtual monopolist, the commitments assure the public that quality and price levels that would prevail are those that had been when they still faced competition from Uber".[71] This, however, is disproved by surveys, which suggest that post-merger price increases and there is a significant deterioration of services. The virtual monopoly established by Grab-Uber is expected to continue as new entrants, which act as a direct substitute to Grab currently have no ability to exert competitive pressure.

4.6 Case study: Financial services

4.6.1 Financial Inclusion in the Philippines

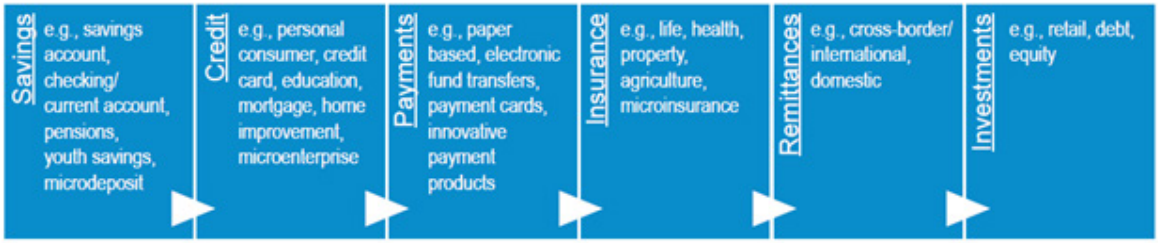
The government and financial institutions have been actively promoting financial inclusion. However, access to financial products and services remains to be low in the Philippines. Formal financial institutions are limited to serving selected customers only. They can only provide financial products to prospective borrowers who can prove their financial capability. For depositors, some banks are imposing them with hefty documentary requirements, such as multiple proofs of identification, or costly bank account charges if their current balance is below the maintaining balance.

The National Strategy for Financial Institution (NSFI) was initiated by BSP to provide financial services to both the unbanked and the underserved markets in the country. NSFI report defines a "wide range of financial products and services" as the full suite of basic financial products should be accessible to everyone, including the traditionally unbanked and underserved markets.

Figure 10 shows basic financial products and services. Physical access to these products is worsened for the case of prospective customers located in rural areas. This case study will look through some actors that provide digital solution to fill in the gap of unbanked and underserved market.

NSFI is in line with the PDP in strengthening the "efficient delivery of microfinance and micro-

Figure 10. Wide range of financial products and services



Source: BSP's National Strategy for Financial Inclusion

67 https://www.rappler.com/nation/194445-transportation-angkas-grabbike-lgu-regulation
68 Russell, 2018
69 https://visor.ph/traffic/the-long-and-short-of-grabs-p2-per-minute-hidden-charge/
70 https://www.imoney.ph/articles/grab-wont-monopolize-ride-sharing-business/
71 Russell, 2018

insurance products and services" using financial technology or fintech. Technology has already improved the efficiency of banking operations. Users and consumers of financial services have benefited from innovations such as, the introduction of the automated teller machines (ATMs) for interoperability of interbank transaction. BSP's programs also benefit from the changes brought by financial technology. The combination of mobile technology and financial services increases the access to financial products of the unbanked and underserved.

According to BSP, their goal is to "raise the volume and value of electronic transaction in the country from its present 'negligible' level of 1 percent of all transfers to 20 percent by 2020" (Inquirer, 2018). BSP aims for an efficient retail payment system that will intensify the use of electronic payment system.

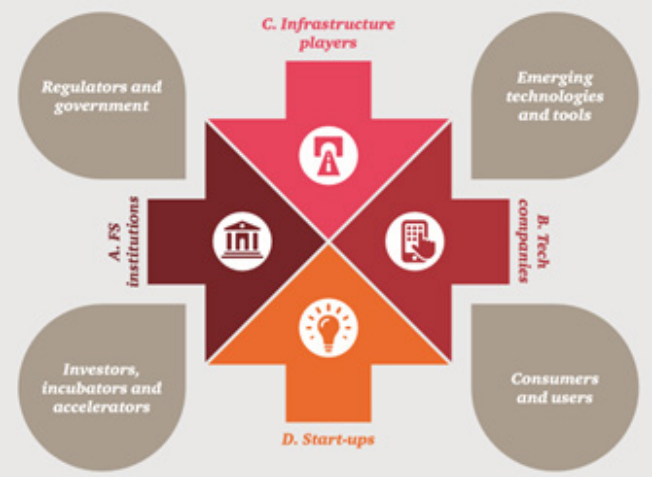
BSP labelled the utilization of these technologies for financial inclusion as Digital Financial Inclusion (DFI). DFI can reach new markets that conventional financial institution cannot service. With all these changes brought by financial innovation, BSP operation must keep up with these disruptive technologies. Herewith, BSP formed a new unit called "Financial Technology Sub-Sector (FTSS)" (BusinessWorld, 2018), which is under the Financial Supervision Sector. This new unit conducts effective oversight of fintech and other innovative alternatives. Aside from overseeing fintech companies, BSP must also preserve reliability of the system of fintech transactions by continuously checking on the cybersecurity threats and issues. Two departments were created under the FTSS: the Payment System Oversight Department and Core IT Specialist Group.

4.6.2 Fintech in the Philippines

The Financial technology ecosystem in the Philippines is relatively new as compared to other ASEAN neighbors'. However, BSP has been receptive with how financial services develop through financial technology. A Fintech Cooperation Agreement with Monetary Authority of Singapore (Singapore's central bank) was signed to foster fintech collaboration in the region. Additionally, a regulatory environment that caters to the needs of fintech startup companies while ensuring risks are effectively managed was established. BSP anchors its regulatory approach based on three pillars: risk-based and proportionate regulation; active multi-stakeholders' collaboration; and consumer protection. (Espenilla, 2018)

Fintech found itself in the intersection of financial services and technological disruption. New financial products were born out of improvements in the ICT sector. It is playing an undeniable role in accelerating financial services. Although some complex financial products (e.g., financial instruments and investment products) developed through technology are not available in the rural Philippines, fintech companies helped to close the gap between formal financial institution and the unbanked and underserved markets. Tech companies help prospective customer, especially from the unbanked and underserved markets, to connect with the formal financial institutions.

Figure 11. Fintech is a complex ecosystem



Source: PriceWaterhouseCoopers, 2016

Figure 11 illustrates how four key players shape the financial technology ecosystem (PriceWaterhouseCoopers, 2016): Financial Services institutions, Tech companies, Infrastructure players and Start-ups. Regulators and Government, Investors, incubators, and accelerators, Emerging technologies and tools, and Consumers and users are factors that affect the financial technology ecosystem.

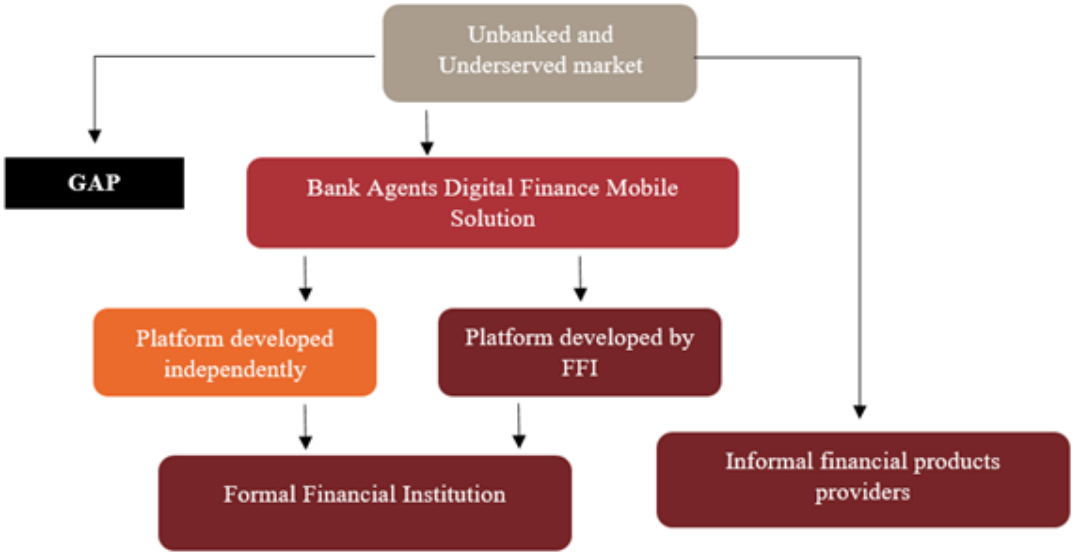
Consumer Banking (80%) and Fund Transfer and Payments (60%) are sectors likely to be disrupted by financial innovation in the next five years (PriceWaterhouseCoopers, 2016). Hence, this case study will focus on these two most disrupted sectors. By matching the definitions of PriceWaterhouseCooper and the BSP's National Strategy for Financial Inclusion, Consumer Banking covers savings and credit while Fund Transfer and Payments covers remittances and payments.

4.6.2.1 E-Savings and E-Credit

There are two identified markets: the unbanked, in which formal financial institutions cannot provide financial services, and the underserved, in which clients are not availing loans or insurances. Lack of household income is the primary reason why some households do not have bank accounts. These two markets have gaps in between, which are mainly due to physical access or hefty documentary requirements. Hence, these markets, which were eventually captured by informal financial product providers, suffer from high transaction costs/ high-interest rates.

Financial technology can fill in the gaps between these markets and formal financial institutions (see **Figure 12**). Bank agents act as facilitators for mobile platform solutions to serve the unbanked and underserved markets. These mobile platforms

Figure 12. E-Banking for the underserved and unbanked market



Author's illustration. Partly drawn from BSP's National Strategy for Financial Inclusion

are developed by a third-party (marketplace or standalone) or by the financial institution itself (standalone). A marketplace platform for banks is usually beneficial for small financial institutions since it can be associated with bigger banks.

Low digital adoption in rural areas is expected in the Philippines. However, CARD Bank[72] was able to use "social trust" as a key factor for their loyal customers, especially in rural areas, to adopt their mobile application. Konek2Card (K2C) is one of the first technology of its kind to expand and to minimize banking transaction cost for both creditors and borrowers. It offers basic banking transactions such as withdrawal and deposit through a local bank agent. This agent functions as an intermediary between the users and the bank, which is usually located in the town center.

Accessibility issue of the unbanked market is now addressed. The market will eventually turn away from informal credit providers. "Social trust" also helps the borrowers to industriously fulfill their payment deadlines. The borrower's agent is just someone who lives nearby. Hence, borrowers will not try to mess up their relationship with their neighbors. These bank agents earned by means of commission for each transaction.

Table 8. Financial Ecosystem for Konek2Card App

Financial Institutions	**CARD Bank** **Regulators of FI**: BSP, Credit Information Cooperation Investors, incubators and accelerator: NA
Tech Companies	**CARD MRI IT – Konek2Card** Emerging technologies and tools: Mobile App **Consumers and Users:** Unbanked and Underserved farmers
Infrastructure	Internet Providers
Startup	No

Source: Card Rural bank Website. (https://www.cardmri.com/) and Llanto et al, 2018

Table 8 presents the Financial Ecosystem for Card Rural Bank's Mobile App

Allotting basic banking functions to the agents will lessen the administrative burden of on-site banking staff, and workload can be allocated to more productive tasks. The tasks of the bank agents resemble the functions of ATMs. However, the physical location of these ATMs is a factor of their reliability. (Llanto, Rosellon, & Ortiz, 2018) ATMs located in rural areas are relatively more difficult to operate than ATMs located in urban areas. Maintenance and operation cost per ATM unit is much higher for a rural bank than commercial banks. The existing level of infrastructure for rural banks is not even on par with commercial banks. Internet speed remains an issue for all technology-enabled financial services. Some apps would be useless if there is no internet connectivity available in the service area. But for K2C, the transaction can also be done through short message service (SMS), which only requires a cellular signal. This is the reason why K2C thrived in rural areas. Offline transactions are possible and can just be reflected in a later period until mobile internet or SMS-based transactions become available.

Despite being one of the first to introduce financial services mobile application, the K2C mobile application is still prone to competitors, especially with commercial banks. (Llanto, Rosellon, & Ortiz, 2018) These large banks, who have the resources to develop and mimic the CARD's mobile application, can eliminate their first-mover advantage. As the digital financial market matures, more players

72 Established in 1997, the Center for Agriculture and Rural Development, Inc. (CARD Bank) is a micro-finance oriented rural bank in the Philippines.

Figure 13. Alternative Finance in the Philippines

Source: Financial Startup Report 2018

are entering the market. Their fixed cost, such as subscriptions to a third-party server, are becoming more expensive since demand for such technological services is growing. With economies of scale, the fixed cost of maintaining the application can be reduced for large banks. CARD Bank is also concerned with large banks flocking into areas that are traditionally monopolized by rural banks. (Llanto, Rosellon, & Ortiz, 2018)

While BSP encourages startups to venture in the digital financial ecosystem, CARD Bank recognizes them as a threat to their digital finance mobile application. (Llanto, Rosellon, & Ortiz, 2018) Some Alternative Finance Startups (see **Figure 13**) mainly venture to provide digital financial solutions such as developing a mobile application or developing a website for the bank to use. They can provide a wide-ranging and reliable platform, in which, K2C cannot compete with. Startups can offer better platforms at a lower price, and they are directly competing with financial innovation initiated by formal financial institutions like CARD Bank. These startups focus on developing and improving the digital finance mobile application. Unlike K2C, their technology can be replicated and be offered to other financial institutions.

One fintech company is offering two kinds of digital finance mobile applications: a marketplace app and a standalone or "silo"[73] app. Financial Technologies (FINTQ) seeks to provide a platform that will fill in the gap between the bank and the unbanked market. Their marketplace app serves various formal financial institutions from large commercial banks to small rural banks while their "silo" app was developed specifically to a certain client bank or non-bank financial institution. FINTQ is supported by Voyager, a technology-arm company of Smart/PLDT.

FINTQ noted that there was early resistance from traditional banks in using their digital finance mobile application. But eventually, these banks became their bank partners. FINTQ reiterated that they are not competing with these financial institutions, but rather providing them with a digital financial solution. The platform connects the unbanked and the underserved to the formal financial institutions. FINTQ does not provide credit to these markets but rather facilitate the credit market through the Lendr app platform. FINTQ already has a significant number of user base in their mobile application. Their bank partners need not undergo the process of building a user base throughout the country since FINTQ already has one.

Table 9 presents the Financial Ecosystem for FINTQ's financial mobile application for micro savings and microcredit.

Table 9: Financial Ecosystem for FINTQ
(Kasama Ka microsavings and LENDr)

Financial Institutions	**Camalig Bank, Cash Credit, Maybank, etc.** **Regulators of FI**: BSP, Credit Information Cooperation, NPC Investors, incubators and accelerator: Voyager Innovation
Tech Companies	**FINTQ - LENDr** Emerging technologies and tools: Mobile App **Consumers and Users**: Unbanked and Underserved farmers
Infrastructure	PLDT/Smart
Startup	Yes, FINTQ

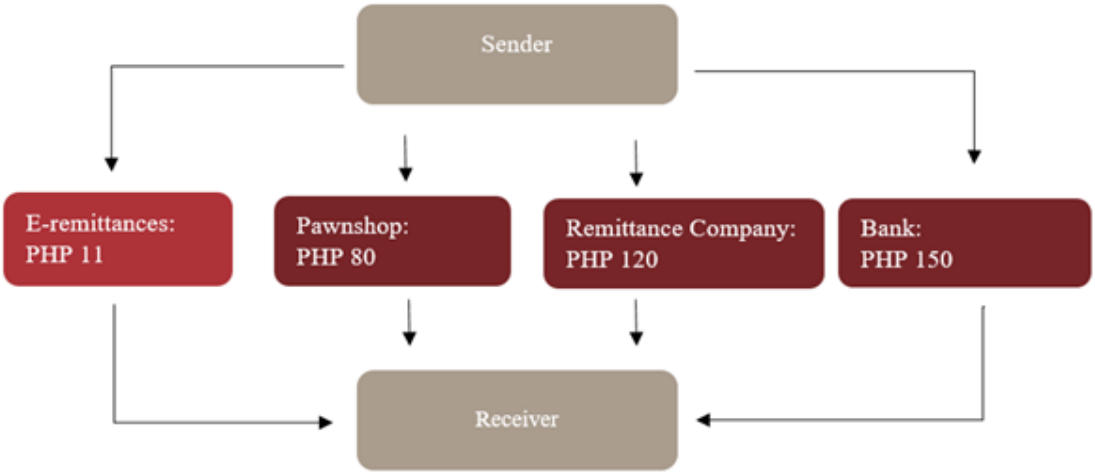
Source: FINTQ, Lendr Websites (www.fintq.com and lendr.com.ph) and Llanto et al., 2018

4.6.2.2 E-Remittances and E-Payments

Mobile connectivity in the Philippines is widespread across the archipelago. The country is cited as having one of the largest smartphone markets, with widespread usage of social media. (Euromonitor, 2018) However, internet access through fixed lines is

73 Term used by FINTQ to their standalone app

Figure 14: Illustrative Example for domestic remittance[74]



Author's illustration. Figures are from the E-money Platform: Opportunities for Digital Payments

low. Formal Financial Institutions limitations that are resolved by utilizing a mobile phone is not new in the country. In 2004, Smart and Globe both introduced e-payment and e-remittance services in the country. Smart Money/Smart Padala and GCash is a Person-to-Person (P2P) transaction, which is regulated by BSP and the Anti-Money Laundering Council.

Despite the Philippines being the first to introduce P2P remittances, the situation was not as successful as Kenya's M-Pesa. Philippine P2P remittances were considered as constrictive due to its Know-Your-Customer/Client (KYC) requirement (Leishman, 2009) M-Pesa can send money to an unregistered user on any network. M-Pesa also incentivizes agents whenever they were able to register new users. Nevertheless, E-remittances were able to bring down the cost of remittance in the Philippines.

Figure 14 is an illustrative example of sending a domestic remittance of 1,500 pesos. Transaction cost through conventional means ranges from 5% to 10% of the remitted amount. With the introduction of E-remittances, the transaction cost has reduced from 10% to as low as 0.7%. This disruptive charging offered by E-remittances increased the competition between remittance providers. E-remittance providers do not impose high transaction cost since there is virtually no capital needed for an e-remittance agent. (BSP, 2018) Senders and receivers only need to have mobile phones, which is not a problem for a country with high mobile phone penetration. Lower transaction costs would increase the volume of remittance transactions over time.

Globe also partnered with Bank of the Philippine Islands (BPI) to launch BPI Globe BanKo, the country's first phone-based savings bank. This partnership developed a system that can convert actual cash into mobile credits, which has one-to-one equivalency. BSP treats these monetary transactions made through a system, from an SMS text to an online platform, a digital representation of actual cash (or fiat currency). This is called an e-money (BSP, 2018). BSP saw these developments in financial technology as an opportunity to boost their financial inclusion agenda.

There are over 100 million mobile phone subscribers, of which a large percentage is unbanked (BSP, 2018) Physical transfer of cash is hard to process for an archipelagic country, but the country's reliance over domestic remittance is still high, and this is done via technology-facilitated mechanism. Traditional remittance companies have at least a computer terminal in their stores, which have a relatively high capital requirement, especially when the store only processes small volumes – a common characteristic in remote areas. Consequently, traditional remittance companies have to impose high transaction cost.

On the other hand, Smart was the first one to introduce SMS-based text in facilitating remittances. Smart saw this opportunity to venture their remittance profile in remote areas and provide remittance agents a mobile platform to process remittances by just using their mobile phone. BSP calls this e-remittance. This scheme was attractive to remittance agents since, aside from remittance transactions already integrated into the mobile system platform, e-remittance can be done with virtually no capital needed. The application process for e-remittance agents is also seamless as compared to obtaining a store franchise from traditional remittance companies.

For retail payments, cashless transactions were initially isolated to payments via credit cards/debit cards issued by both banks and non-bank financial institutions. Eventually, Smart and Globe were able to provide their e-payments through PayMaya (successor of Smart Money) and GCash respectively. Mobile bank holders should be a subscriber first of said telecommunications companies (telco) before availing the e-payment platform (Smart for PayMaya, Globe for GCash). Other e-payments/e-remittance companies are shown in **Figure 15**.

Registration for the abovementioned e-payments requires a demanding KYC process. For PayMaya,

74 Espenilla n.d.

Figure 15. Payments and Remittance companies in the Philippines

Source: Financial Startup Report, 2018

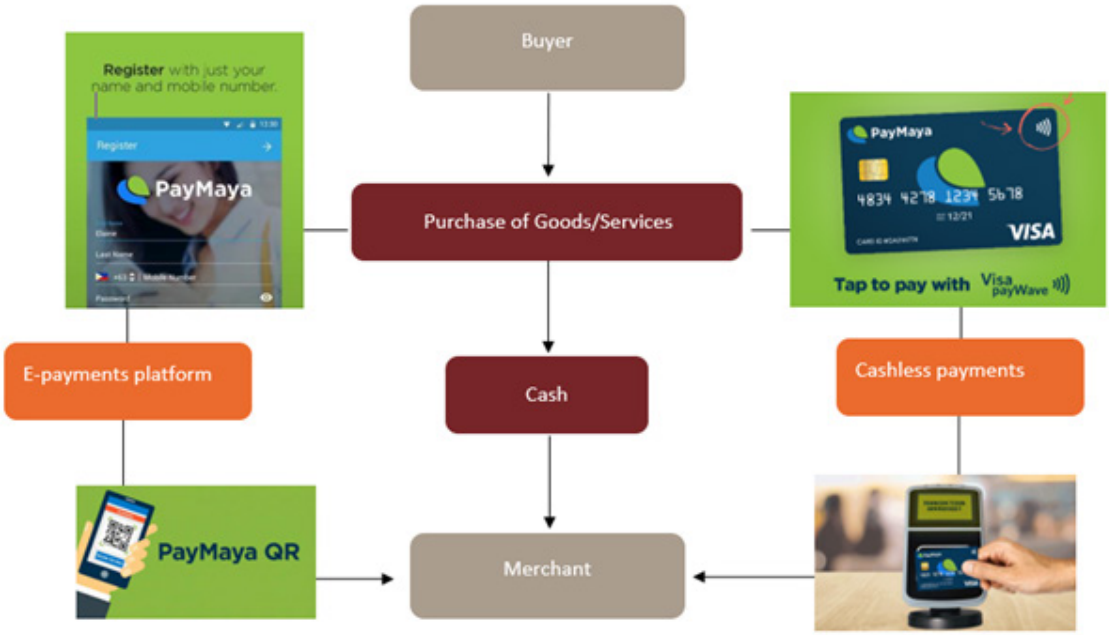
users must undergo a video-conferencing arrangement for the KYC via mobile phones. This process demands a stable internet connection, which might be unreliable in rural areas. BSP allowed the acceptance of banking documents electronically through BSP Circular 950. The electronic KYC scheme enables both the bank and non-bank financial institutions and customers to be flexible in processing official documents, proof of identification and other relevant documents.

GCash or PayMaya's cards are associated with one payment network. This allows affiliated card in a payment network, such as Visa or MasterCard, to pay their merchant electronically. These cards can be classified into two features: magnetic stripe card or smart card. (Kossman, 2017) The magnetic stripe card, sometimes called magstripe or swipe card stores data by the use of magnetism. Magstripe can be found at the back of the cards. It can only change data one-time, which makes information stored in the card static. Alternatively, smart card stores data in a chip (integrated circuit) embedded in the card. It can store data and modify existing data in the chip. Hence, making the stored data dynamic. Since the implementation of Europay, Mastercard, and Visa (EMV), counterfeit fraud rates have already gone down. (Kossman, 2017) The chip allowed every purchase to have a unique identifier to be stored, making it easier for the banks and regulators to monitor fraudulent activities. Cards can either have these features or both.

BSP recently implemented the "EMV Migration Requirement" All BSP-supervised financial institutions must comply to migrate their entire payment system network to an EMV-enabled one.[75] In addition to the magstripe at the back of the card, cards now have an EMV-chip in front. This chip was seen as an added layer of security, in order to protect the consumer from operational risk. Magstripe or swipe card was deemed "outdated" and needed to be replaced to prevent fraudulent act done to consumers.

GCash and PayMaya EMV-enabled cards are now at par with debit/credit cards issued by banks and non-bank financial institutions. With these cards, mode of payments via E-payment platforms and cashless schemes are now possible (**Figure 16**). The purchase of goods and services online are possible for cards

Figure 16: Buyers/Merchants using the payment system



Author's illustration. Information are from PayMaya Website (https://www.paymaya.com/)

75 de Vera, 2017

associated with a payment network in the Philippines. However, some merchants do not have an online payment gateway that connects their system with these major payment networks. Alternatively, payments do not have to utilize these payment networks if these merchants have access to GCash or PayMaya platforms for merchants. To authenticate online purchases, Visa and MasterCard have added security features known as "Verified by Visa" or "MasterCard SecureCode" respectively. A one-time password (OTP) is sent via SMS to the user's primary mobile number to verify the transaction.

Concurrently, merchants partnered with any financial institution, usually banks, offer Point of Sale (POS) terminal. The terminal allows merchants to accept payments electronically through an external payment card reader by reading swipe cards. The cashier can swipe (or insert for smart cards) the card of their customers and the POS terminal will read the owner's card using the magstripe (or chip). BSP also required the banks to upgrade the POS terminals of all their merchant partners and equipped it with EMV-recognition technology (de Vera, 2017). A feature introduced by Visa is the VisaWave. Instead of swiping the card, the transaction can be done via hovering the card over the POS terminal. This contactless scheme uses the NFC technology in the card.

Table 10 presents the Financial Ecosystem for e-remittance and e-payments company *PayMaya*.

Table 11 presents the Financial Ecosystem for e-remittance and e-payments company GCash.

Globe and Smart continue developing their respective e-payments and e-remittance platforms. GCash and PayMaya now have an online platform for all users: buyers and merchants. Using this system has an advantage over traditional card payments.

Table 10: Financial Ecosystem for Smart's PayMaya in the Philippines

Financial Institution	PayMaya Philippines (formerly Smart eMoney, Inc.) **Regulators of FI**: BSP, Philippine Payments Management Inc., NPC Investors, incubators and accelerator: KKR, Tencent, IFC (World Bank)
Tech Companies	Voyager Innovation **Emerging technologies and tools**: Mobile App, EMV, NFC/RFID, QR Code **Consumers and Users**: Buyers with No Debit/Credit Card, Merchants
Infrastructure	Subscriber's internet provider, Smart Padala and other PayMaya's remittance partners, Visa/MasterCard (Point of Sale EMV), Visa PayWave, WeChat QR
Startups	Voyager Innovation (PayMaya)

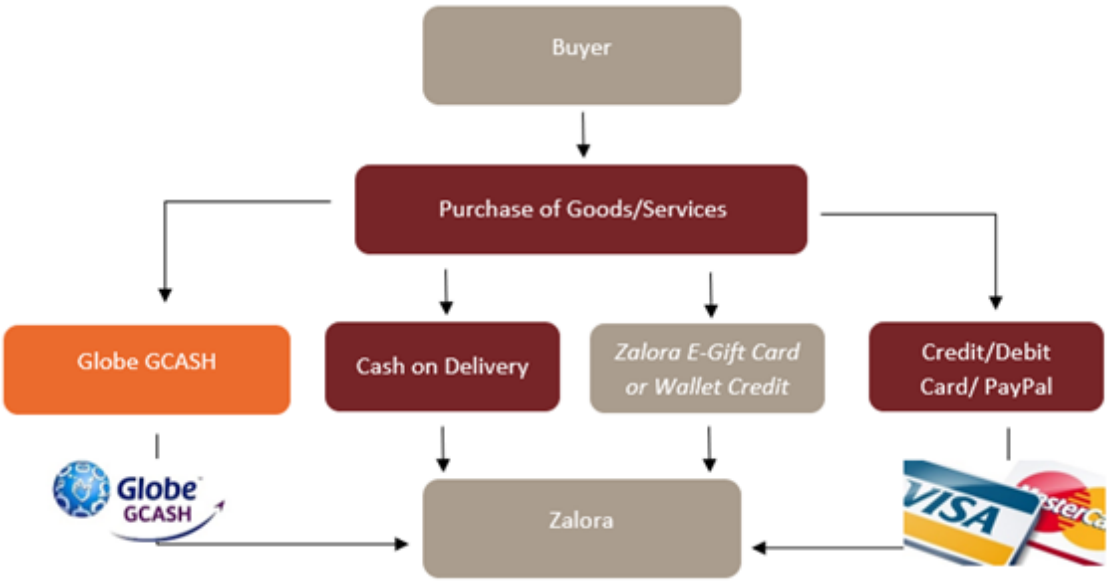
Source: PayMaya Website (https://www.paymaya.com/) and Inquirer (https://business.inquirer.net/258412/chinas-tencent-kkr-invest-paymaya-developer)

Table 11: Financial Ecosystem for Globe's GCashKonek2Card App

Financial Institution	Globe GCash (G-Xchange Inc.) **Regulators of FI**: BSP, Philippine Payments Management Inc., NPC Investors, incubators and accelerator: Alibaba, Ant Financial
Tech Companies	Mynt (Globe Fintech Innovations, Inc.) Emerging technologies and tools: Mobile App, EMV, QR Code **Consumers and Users**: Buyers with No Debit/Credit Card, Merchants
Infrastructure	Subscriber's internet provider, GCash's remittance partner, Visa/MasterCard (Point of Sale EMV), Alipay QR
Startups	Mynt (Globe Fintech Innovation)

Source: GCash Website (https://www.gcash.com/frequently-asked-questions/) and TechCrunch (https://techcrunch.com/2017/02/20/ant-financial-mynt/)

Figure 17. Payment Option for Zalora Philippines



Author's illustration. Information are from Zalora Payments' website (https://support.zalora.com.ph/hc/en-us/articles/206187256-Payment-Options)

Merchants and payment system providers do not have to go through negotiating the markups or "Merchant Discount Rate".[76] There is no additional cost for GCash or PayMaya if they have their own POS terminal (both for cards or QR Codes) in the merchant. The introduction of Quick-Response (QR) Codes paved the way for buyers and merchants to simply use their mobile phones for monetary transactions. With the majority of the population not having a credit/debit card, e-payment services function as an alternative option for the unbanked and underserved.[77]

Digital payment services uptake has provided the payment system to online marketplaces such as Lazada and Zalora (Euromonitor, 2018). **Figure 17** below illustrates the Payment Option for Zalora Philippines. The company has four payment options: Cash-on-Delivery, Credit/Debit Card/PayPal, Zalora E-Gift Card or Wallet, and Globe GCash. While Zalora has these payment options, a bulk of the online purchases is still paid by Cash-On-Delivery.

4.6.3 Competition Issues

The rise of financial technology is inevitable. With both government and private financial institutions working hand in hand, the Philippines is on its way to realize financial inclusion. However, financial technology in the Philippines is still in its developmental stage. Looking at the framework and illustrations above, there are instances of overlapping ownership in the Financial Technology ecosystem and consolidation of position in the value chain; notably that telco companies are spearheading e-payment platforms. If Ayala has an ownership stake in GCash e-payments, Ayala also has ownership at Zalora Philippines. GCash kiosk, where users can do monetary transactions such as Cash-In and Cash-out, are spread-out in Ayala malls. On the other hand, PayMaya is not as equally visible in Ayala Malls as compared to other malls. PayMaya is not available in Zalora payment options as well. This is a sign of vertical integration in the value chain. However, it might be too early to conclude that there are indeed anti-competitive practices within the fintech ecosystem. The government must understand how e-commerce related firms work, specifically for cross-ownership, in handling issues on merger and acquisition.

Initially, GCash only accepted Globe mobile accounts to be registered in a GCash account. But eventually, the system now accepts mobile accounts from all

Table 12: Some of the laws/regulations affecting Digital Financial Services

Non-bank entities Regulations
• BSP Circular 942 (20 January 2017) provides guidelines relating to operations and reporting obligations (to BSP/AMLC) of non-bank entities engaged in remittance, money changing, or foreign exchange dealing.
E-Money Issuance Regulations
• BSP Circular 649 (09 March 2009) provides the guidelines governing the issuance of electronic money (e-money) and the operations of electronic money issuers (EMI) in the Philippines[78] • BSP Circular 704 (22 December 2010) provides the guidelines on outsourcing of services by Electronic Money Issuers to Electronic Money Network Service Providers
Financial Technology (FinTech)/ Digital Finance Ecosystem[79]
• BSP Circular 944 (6 February 2017) regulates entities that use virtual currency as the underlying instrument for remittance. Regulating virtual currency entities signifies the BSP's acknowledgement of virtual currency as an innovative instrument that can facilitate the speed and affordability of remittance and payment transactions. • BSP Circular 949 (15 March 2017) provides guidelines on social media risk management that advocate responsible use of social media by BSP Supervised Financial Institutions (BSFIs), recognizing that social media presents vast potential benefits and opportunities for greater economic advancement and financial inclusion.
Regulations and Laws on Banking and Finance
• BSP Circular 808 (22 August 2013) provides the guidelines on information technology risk management for all banks and other BSP-supervised institutions • BSP Circular 854 (9 October 2014) revised the subsection of the Manual Regulation for Banks on minimum capitalization of banks. • Data Privacy Act of 2012 (RA 10173) seeks to protect all forms of information, be it private, personal, or sensitive. It covers all set of operations performed upon personal information • Credit Information System Act of 2008 (RA 9510) establish a comprehensive and centralized credit information system for the collection and dissemination of far and accurate information about credit, specifically credit standing and track record of borrowers. • National Payment Systems Act (RA 11127) allows the BSP to the payment systems and exercise supervisory and regulatory powers for the purpose of ensuring stability and effectiveness of the monetary and financial systems.[80] • Anti-Money Laundering Act (RA 9160) aims to protect the integrity and confidentiality of bank accounts and to ensure that the Philippines shall not be used as a money laundering site for the proceeds of any unlawful activity. • BSP Circular 950 (15 March 2017) allows covered institutions to implement reduced Know-Your-Customer (KYC) rules for certain low-risk accounts and use technology for face-to-face contact requirements.[81]

Source: BSP and Chambers and Partners

76 It is the percentage of the transaction amount that the acquiring bank charges to the merchant for providing authorization to accept credit cards.
77 The Sun 2011
78 About The BSP n.d.
79 About The BSP n.d
80 Valente 2018
81 About The BSP n.d.

networks to be registered and connected in a GCash account. No competition issues are found in the kiosk or loading station of e-payments. The monopoly of a player in the value chain does not necessarily mean blocking of entry of new players. Rather, this is just a particular example of a first-mover in the market. Competition issues become more apparent if there are multiple ownership or affiliation in the e-payments value chain. The cases of Zalora and Lazada, two of the largest e-commerce platforms in the country, are examples of such. GCash is the only e-payment available in both Zalora and Lazada. Zalora Philippines is partly owned by Ayala; while Lazada's majority owner Alibaba, has entered a partnership with Globe via Alibaba's affiliate, Ant Financial, to enhance the GCash payment system. As the Philippine digital financial ecosystem is still developing, technology is constantly changing, and the fintech arena remains fluid for the regulators. Hence, the digital financial regulatory regime is still in its inception stage as well. (Gulapa Law Office, 2018) The government, specifically BSP, has recognized the role of fintech and committed the establishment of its regulatory framework. BSP issued circulars regarding fintech in 2017 (see **Table 12**).

The National Payment Systems Act was enacted in October 2018 and a series of BSP circulars were issued recently thereafter. With this, policymakers must be wary of the impact of such government policies and must not repeat the same approaches on regulating e-remittance services such as Smart Padala, which eventually hampered the growth of the e-remittance market in the country.

Another issue would be the application of specific government regulation to all financial products, including products not covered by the regulation. For example, the Credit Information Systems Act (CISA) targets to centralize all data about credit (Credit Information Corporation, 2016) Therefore, all e-finance platforms which offer credit to its users are required to conduct a comprehensive KYC mechanism upon registration. However, CISA remains in effect even when the user will use the app solely for payment transactions. Data collection of monetary transactions is part of calculating the credit score rating, but this is irrelevant if the purpose of using the app is only for buying or selling goods and services. Alongside CISA, KYC is also important for checking any unlawful activities under the Anti-Money Laundering Act (AMLA). However, AMLA may be impeding BSP's financial inclusion agenda. Regulators should find a compromise (i.e., loosen requirements for e-finance users with small transactions) between those aforementioned policies to determine mutual gains without compromising their respective objectives.

On a good note, the ease of developing an e-finance platform is a sign that there are minimal requirements for the company. There are no regulations with regard to platform development. For e-finance apps, BSP only oversees if there is a monetary transaction taking place. Aside from the usual complications under traditional financial services, the regulatory environment for digital financial services can be considered as facilitative and adaptive to changes.

5. Competition and regulatory issues for further study

5.1 Regulating the last mile

Courier services play a crucial role in the e-commerce value chain. It could be argued that it is more important than the online payment system since e-commerce can still take place even if payment is done offline (e.g., cash on delivery).

The Postal Regulations Division (PRD) of the DICT regulates courier activities. It has the authority to supervise, regulate and control the operations of private express and/or messenger delivery service firm's franchises or permits and to impose fines. It also issues messenger's work license.

It used to be part of the DOTC and still adopts regulations crafted nearly twenty years ago, namely:

- **DOTC Department Circular No. 2001-01** on "Rules and regulations in the Processing, Hearing and Adjudication of Applications for Authority to Operate Private Express and/or Messengerial Delivery Service, and in the Investigation of Complaints in Connection with the Operation of such services" and in
- **DOTC Administrative Order No. 2001-01** on "Guidelines for the Uniform Application of Penalties for Offenses Committed by Authorized and/or Illegal Private Express and/or Messengerial Delivery Service (PEMEDES) Firms or their Employees").

Under the current regulations, it has jurisdiction over anti-competitive practices. Among the grave offenses currently listed in Administrative Order No. 2001-01 is "Engaging in ruinous or unfair competition with other firms similarly engaged in the private express and/or messengerial delivery services" (Rule III.A.12). In the AO, **Unfair or ruinous competition** "refers to any immoral/illegal practice of soliciting clients/ mailings of other firms using or offering rates lower than rates approved by the Secretary/Committee, prying on the trade secret(s) of a grantee, bribery of his employees, hiring other's employees on moonlighting basis, misrepresentation, interference with the fulfillment of his contractual obligations, or any malicious interference with this business. To be unfair and ruinous, the competition must result in injury to another grantee thought activity that are contrary to good practice, fairness, and honest dealing, or otherwise unlawful. Securing two (2) or more permits/authority to operate messengerial services by one (1) person/family/association etc. is considered unfair competition."

The DICT/PRD is in the process of reviewing these regulations to update, among other things, fees (such as registration, supervision and regulation fees), penalties, and also clarify vague provisions and other grey areas. This is an opportunity for the Philippine Competition Commission to work with the PRD to more clearly delineate their respective roles as competition and industry regulators.

With the rise in e-commerce, the regulation of courier services faces more challenges. Most critical is the proliferation of unlicensed companies and/or messengers. There are currently around 120 authorized PEMEDES firms (e.g., JRS, LBC). Since the processing of new applications was suspended in the mid-2000s, the newly established companies offering courier services are likely operating illegally or without a permit from the PRD. While competition guarantees that prices are kept in check and that choices are available, the delivery of goods must be reliable and trust-worthy for e-commerce to flourish. The regulation of licensed firms is also a big challenge since the PRD does not have the manpower to monitor firms throughout the country. Another problem with door-to-door delivery is the potential for domestic trade-in (or delivery of) illegal or prohibited goods.

Despite its critical role in the e-commerce ecosystem, the PRD is not at all mentioned in the E-commerce Roadmap. It is not clear to what extent it is given priority by the DICT, which incidentally, does not have any other regulatory function. Except for the name of the Officer-in-Charge, no information on the PRD and its functions can be found on the DICT website. It is possible that the PRD is not in the right government agency that can fully appreciate its importance and provide policy direction as well as institutional support.

The regulation of PEMEDES used to be vested with the Postmaster General. Presidential Decree. 240 issued in 1973 authorized the Postmaster General to supervise, regulate and control the operations of PEMEDES firms and to issue, grant, extend, suspend, or cancel franchises or permits. When the Philippine Postal Corporation was created in 1992 under Republic Act No. 7354, the authority to regulate the postal delivery services industry was then transferred to the Secretary of the DOTC.

Over time, the communications functions of the DOTC were separated from transportation to be aligned with the emerging field of Information Technology. First was the creation of the Commission on Information and Communication Technology (CICT) in 2004 through Executive Order No. 269, which was attached to the Office of the President. Then, in 2011 the CICT was moved under the Department of Science and Technology (DOST) and renamed as the Information and Communications Technology Office (ICTO) (Executive Order No. 47).[82] Finally, in 2016, the DICT was created to act as the primary policy, planning, coordinating, implementing, and administrative entity of the government that will plan, develop and promote the national ICT development agenda (Republic Act No. 10844).

Throughout these changes, the regulatory functions for postal delivery services moved along with communications. It was actually during the move to CICT when the processing of new applications for PEMEDES permits was suspended and has not resumed since then.

Is the current institutional set-up optimal for the industry and e-commerce more broadly? Courier services used to be an important modality for communication as letters were sent between individuals. However, this has been greatly reduced with the adoption of modern information and communication technologies. Instead, the demand for courier services has shifted to parcel delivery propelled by the growth of e-commerce.

Even the International Standard Industrial Classification of All Economic Activities (ISIC) has been updated to reflect the structural transformations in the economy. In the old system (i.e., ISIC 3.1/PSIC 1994), Transportation, Storage, and Communications were under the same section. Furthermore, Postal and Telecommunications services were combined under one division. However, in the new and latest revision (ISIC 4/PSIC 2009) Telecommunications was moved and combined with Information Technology (Communications and Information) while Postal and courier activities remained part of Transportation and Storage suggesting that in it is more closely aligned with the transportation industry rather than communications.[83]

5.2 Industry classification and the applicable laws

According to the Philippine E-commerce Roadmap 2016-2022 (DTI, p. 21):

"A number of e-commerce players from other countries have been inquiring on how they can do business here in the Philippines. However, retail e-commerce is considered as subject to the provisions of Republic Act No. 8762 or the 'Retail Trade Liberalization Act of 2000', while e-commerce platforms setting up just their warehousing and distribution systems in the country may fall under the jurisdiction of the SEC.

For retail e-commerce, which is not capital-intensive, the minimum paid-up capital of US$2.5 million for foreign enterprises is deemed too high.

82 Toral, 2016
83 Sadly, the PSA still reports GDP results using PSIC 1994.

There may be a need to issue Frequently Asked Questions (FAQs) to clarify which of the existing legislations or regulations are applicable for specific types of e-commerce businesses."[84]

As discussed previously, under the Retail Trade Liberalization (RTL) Act an enterprise with paid-up capital of less than US$2,500,000 shall be exclusively owned by Filipino citizens and corporations wholly-owned by Filipino citizens. However, it is not always clear if the RTL law applies. Depending on the nature of the business, the SEC could consider the e-commerce business as being engaged in mass media in which case no foreign equity is allowed or engaged in advertising which means foreign equity is allowed only up to 30%. See **Box 7** on equity limitations.

On the issue of whether a foreign-owned company can provide a digital platform for advertisements and sales, according to the SEC (SEC-OSG No. 14-06), a business is engaged in mass media when it uses the internet to sell products and services to the public.[85] Based on this, the operation of an online platform to market or sell third party products and services is restricted only to Philippine nationals.[86] It would seem that e-commerce falls within this category. Interestingly, Lazada, the biggest e-commerce website in the country was able to register with 100% foreign ownership with paid-up capital of less than US$2.5 million indicating that the SEC does not consider the company to be engaged in mass media, advertising or even retail services within the purview of the RTL law. See **Box 8**.

As presented earlier, statistically (i.e., PSIC 2009) Lazada is classified under "Retail Sale via Internet" and part of the retail sector. However, statistical definitions and legal definitions (or interpretations) are not necessarily the same. A terminology that has been used to explain why firms like Lazada may not be covered by the RTL Law is that it is a 'marketplace' – a term that is part of the e-commerce jargon but not actually defined in law or statistics.[87] Another perspective is that firms engaged in new types of products, services, or business models typically brand themselves as a "technology company". Some say that, among other things, it helps avoid questions about foreign ownership. Of course, the recent case(s) involving Rappler has made foreign investors very cautious. Although the newly released 11th Foreign Investment Negative List (FINL) liberalized

Box 7. Relevant sections from the 11th Foreign Investment Negative List (FINL)

No Foreign Equity

Mass media, except recording (Art. XVI, Sec. 11 of the 1987 Constitution; Presidential Memorandum dated 05 May 1994) and internet business (DOJ Opinion No. 40, s. 1998)
Note: DOJ Opinion No. 40 (s. 1990) uses the term "Internet Business" to refer to internet access providers that merely serve as carriers for transmitting messages, rather than being the creator of messages/information.

Retail trade enterprises with paid-up capital of less than US$2,500,000 (Sec. 5 or RA No. 8762)
Note: Full foreign participation is allowed for retail trade enterprises: (a) with paid-up capital of US$ 2,500,000 or more provided that investments for establishing a store is not less than US$830,000; or (b) specializing in high end or luxury products, provided that the paid-up capital per store is not less than US$250,000 (Sec. 5 of RA No. 8762)

Up to Thirty Percent (%) Foreign Equity

Advertising (Art. XVI, Sec. 11 of the Constitution)

Box 8. Case: Lazada

Registered as 'Lazada E-services Philippines, Inc.'
Industry Classification: e-commerce
Website address: www.lazada.com.ph
Paid-up capital: P8,511,214

	No of stockholders	Type of Shares	Number of Shares	Par/Stated Value	Amount (PhP)	% of Ownership
Filipino	2	Common	2	1.00	2.00	
				Total PHP	2.00	
Foreign						100.00
German	2	Common	8,511,210	1.00	8,511,210.00	
Turkish	1	Common	1	1.00	1.00	
Norwegian	1	Common	1	1.00	1.00	
		Total	8,511,212	Total PHP	8,511,212.00	
				Total Paid-Up PHP	8,511,214.00	

Source: 2016 Information Sheet from the SEC

84 DTI Philippines
85 https://business.inquirer.net/171449/internet-sale-is-mass-media. The same SEC opinion also defined when a business is engaged in advertising. See http://www.accralaw.com/publications/charter-limits-online-sales.
86 http://www.syciplaw.com/Documents/LegalResources/TEL15_Chapter%2024_Philippines.pdf
87 According to one source "An online marketplace is a website or app that facilitates shopping from many different sources. The operator of the marketplace does not own any inventory, their business is to present other people's inventory to a user and facilitate a transaction. eBay is the ultimate example of an online marketplace, they sell everything to everybody." Source: https://www.forbes.com/sites/richardkestenbaum/2017/04/26/what-are-online-marketplaces-and-what-is-their-future/#68a29893284b

Box 9. Excerpt from McKinsey's 'Competing in a world with sectors without borders'[88]

Rakuten Ichiba is Japan's single largest online retail marketplace. It also provides loyalty points and e-money usable at hundreds of thousands of stores, virtual and real. It issues credit cards to tens of millions of members. It offers financial products and services that range from mortgages to securities brokerage. And the company runs one of Japan's largest online travel portals—plus an instant-messaging app, Viber, which has some 800 million users worldwide. Retailer? Financial company? Rakuten Ichiba is all that and more—just as Amazon and China's Tencent are tough to categorize as the former engages in e-commerce, cloud-computing, logistics, and consumer electronics, while the latter provides services ranging from social media to gaming to finance and beyond.

Organizations such as these—digital natives that are not defined or constrained by any one industry—may seem like outliers. How applicable to traditional industries is the notion of simultaneously competing in multiple sectors, let alone reimagining sector boundaries? We would be the first to acknowledge that opportunities to attack and to win across sectors vary considerably and that industry definitions have always been fluid: technological developments cause sectors to appear, disappear, and merge. Banking, for example, was born from the merger of money exchange, merchant banking, savings banking, and safety-deposit services, among others. Supermarkets unified previously separate retail subsectors into one big "grocery" category. Changes such as these created new competitors, shifted vast amounts of wealth, and reshaped significant parts of the economy. Before the term was in vogue, one could even say the shifts were "disruptive."

Yet there does appear to be something new happening here. The ongoing digital revolution, which has been reducing frictional, transactional costs for years, has accelerated recently with tremendous increases in electronic data, the ubiquity of mobile interfaces, and the growing power of artificial intelligence. Together, these forces are reshaping customer expectations and creating the potential for virtually every sector with a distribution component to have its borders redrawn or redefined, at a more rapid pace than we have previously experienced.

Source: https://www.mckinsey.com/business-functions/mckinsey-analytics/our-insights/competing-in-a-world-of-sectors-without-borders (2017)

'internet business', there are still conflicting ownership rules that will need to be resolved.[89] While the equity restrictions are in and of themselves serious barriers to entry, the different regulations applied to increasingly converging industries further discourage entry, particularly from foreign investors. Traditional industry boundaries are radically being redefined with digitization (See **Box 9**). The regulatory environment may no longer be compatible with reality and just serve to maintain artificial boundaries that hamper both competition and innovation.

5.3 Restrictive regulations

Since the enactment in 2000 of the "deceptively named"[90] Retail Trade Liberalization Law only 22 foreign retailers have registered (pre-qualified) with the DTI-BOI as of 2016.[91] Recognizing the need to liberalize the sector, there is a move in Congress, supported by the NEDA, to amend the minimum capital requirement. This development may encourage FDI into the sector. However, there are other measures in RA 8762 that need attention as they could negate the liberalization intent of the

Box 10. Other restrictive provisions in the RTL law[92]

Promotion of locally manufactured products

SEC. 9. Promotion of Locally Manufactured Products. - For ten (10) years after the effectivity of this Act, at least thirty percent (30%) of the aggregate cost of the stock inventory of foreign retailers falling under Categories B and C and ten percent (10%) for Category D shall be made in the Philippines.

Comment: Evidence must be provided on the effectiveness of this requirement which could act as a barrier to entry. Mandating a certain share of inventory to be sourced locally could discourage the entry of potential firms if local products are not competitive in terms of price and quality. If the policy objective is to support Philippine-made products, a better approach would be for the government to provide direct assistance to local producers so that they can be integrated into the supply chain of big retailers – whether foreign or local. This would help increase the total value of locally manufactured products being sold not only domestically but possibly even in overseas markets where the foreign retailer operates if the local producers are able to meet their requirements/standards and be part of their global value and supply chains.

Prohibition activities of qualified foreign retailers

SEC. 10. Prohibited Activities of Qualified Foreign Retailers. - Qualified foreign retailers shall not be allowed to engage in certain retailing activities outside their accredited stores through the use of mobile or rolling stores or carts, the use of sales representative, door-to-door selling, restaurants and sari-sari stores and such other similar retailing activities: Provided, that a detailed list of prohibited activities shall hereafter be formulated by the DTI.

Comment: The policy objective behind this measure is not clear. It appears to limit the ability of foreign retailers to innovate and introduce a new service, a new delivery system or engage in marketing innovation (e.g., adopting new sales channels). In addition, if the restriction only applies to foreign retailers then it would distort the market's level playing field.

Source: Comments on House Bill No. 4595 "An Act Amending Republic Act No. 8762, Otherwise Known As The Retail Trade Liberalization Act, And For Other Purposes" submitted By PIDS

88 Atluri, V., Dietz, M., & Henke, N. 2017
89 See https://business.inquirer.net/260474/conflicting-internet-ownership-rules
90 Teehankee (2016)
91 List of Foreign Retailers Prequalified as of December 2016 (http://boi.gov.ph/sdm_downloads/list-of-foreign-retailers-prequalified-as-of-december-2016/). There are reports of other foreign new retailers that are registering under the RTL law. See, for example, https://business.mb.com.ph/2017/04/09/boi-approves-ikeas-entry-as-foreign-retailer/ and http://boi.gov.ph/foreign-investor-remains-bullish-on-the-philippine-retail-market/
92 Philippine Institute for Development Studies

Figure 18. Lina Group of Companies

Logistics	Information Technology Solutions	Business Process Management	Environment
AIR21 GO21 Maaasahan! UFL CARGOHAUS NMM LGC LOGISTICS UBE EXPRESS	e-konek PILIPINAS shopinas	Credit Solutions & Business Alliances, Inc. Linaheim UBE MEDIA PANAHON TV LINAHEIM Lina Farm ExpertLink	WMI SOLARLINA

Source: http://www.lina-group.com/business/ (accessed on November 15, 2018)

Figure 19. Shopinas home page

Source: https://www.shopinas.com/ (accessed on November 15, 2018)

Box 11. FAQ - Buying in Shopinas

Delivery

⊟ Can I track my order?

Yes. Once you received your tracking number. You can now use this to track your order at www.air21.com.ph.

You're notified by text. An automated SMS lets you know when we delivered your order.
The items you buy is shipped via Air21, the safest and most reliable shipping company.

Source: https://www.shopinas.com/pages/faq (accessed on November 15, 2018)

Box 12. FAQ - Selling in Shopinas

Delivery

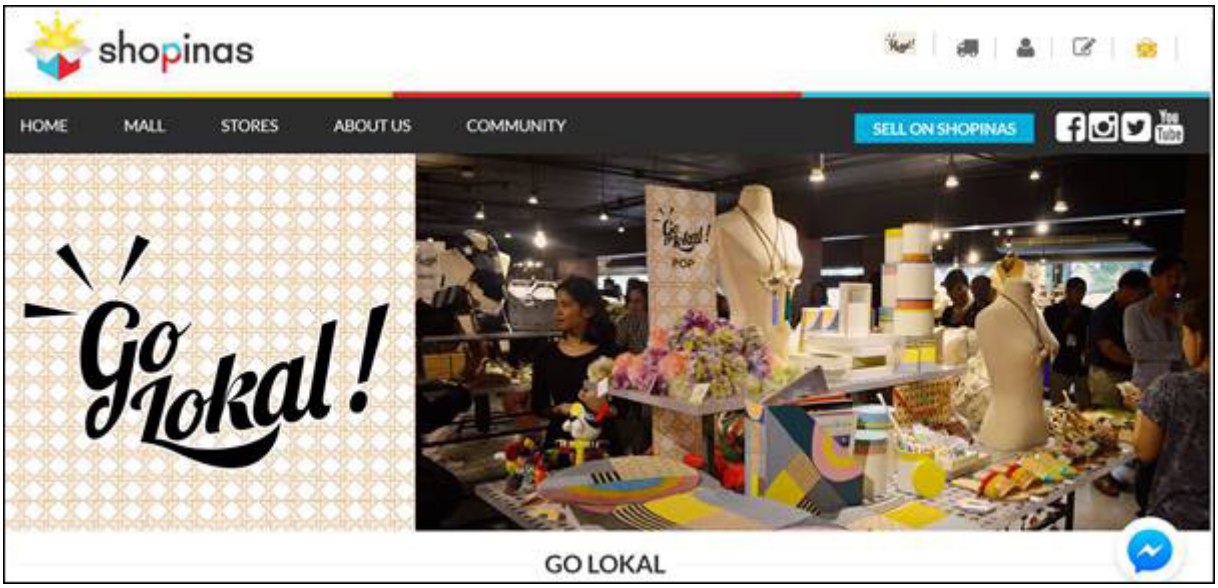
⊞ I have a new order/s. How will the item be picked up?

⊟ Should I get my own courier?

Shopinas will take care of payment and logistics, no need to worry.

Source: https://www.shopinas.com/pages/faq (accessed on November 15, 2018)

Figure 20. Go Lokal page in Shopinas



Source: https://www.shopinas.com/go-lokal (accessed on November 15, 2018)

amendments and diminish the gains from further market opening. See **Box 10**.

In addition to retail services, other segments of the e-commerce value chain are also governed by foreign ownership restrictions. See Barcenas, et al. (2017) which reviewed trade and investment restrictions in distribution, multimodal transport, and logistics services.

5.4 Dealing with affiliates

The earlier case study on financial services described the cross-ownership and vertical relationship between firms engaged in retail, e-commerce, telecommunications, and fintech. Another example of affiliated companies in the digital commerce ecosystem involves an e-commerce platform and a logistics service provider. The Lina Group of Companies is a conglomerate with commercial interest in various industries ranging from logistics, information technology, food, environment, waste management, business process outsourcing, travel, communications, and media.[93] See **Figure 18**.

Shopinas, an end-to-end e-commerce website, is part of the Lina Group of Companies (see **Figure 19**). The logistics provider of Shopinas is Air21 which is also part of the Lina Group.[94]

Shopinas.com provides end-to-end solutions with its own logistics partner and payment gateways that facilitate financial transactions. If you use Shopinas whether as a shopper or a seller, delivery will only be handled by Air21. See **Boxes 9 and 10**. If you click on the truck (delivery) icon, it will direct you to the Air21 website.

The government has entered into this exclusive arrangement as well. In March this year, the DTI signed a Memorandum of Agreement (MOA) with Shopinas for the latter to be official ecommerce interface of Go Lokal.[95] See **Figure 20**.

Go Lokal is an initiative headed by the DTI which sets up retail stores showcasing the products from the many MSMEs found all over the Philippines.[96] The agreement involves Shopinas providing the DTI's Go Lokal project a designated e-commerce microsite where they can prominently display and sell the products of various partner MSMEs. Under the MOA, AIR21 is the official logistics provider which covers shipping and warehousing as well.

OneStore (https://onestore.ph/) is another e-commerce portal that promotes local products and caters primarily to Philippine consumers. According to its website, "oneSTore helps the Department of Science and Technology's assisted MSMEs to widen the scope of their target market." Currently, the logistics services are limited to partner providers, namely: Air21 and 2GoExpress.

As noted in the financial services case, a deeper examination of the cross-ownership and vertical relationships is needed to determine possible anti-competitive conduct involving affiliated firms. For other government agencies which are tasked to pursue development objectives, another issue is whether they should enter into exclusive partnerships for public programs and projects. To promote wider participation of MSMEs in e-commerce, government agencies must ensure that its partnerships are not limited to select companies. In the case of express delivery services, the PHLPost has the most extensive domestic acceptance, distribution, and delivery network in the country.[97] As a GOCC, it has post

93 Insular Life 2014
94 http://www.air21.com.ph/main/history.php
95 http://www.lina-group.com/2018/03/dti-go-lokal-and-shopinas-air21-partner-to-expand-the-reach-of-local-businesses/
96 http://golokal.dti.gov.ph/
97 PHLPost 2014

offices located in every town, city, and in some barangays nationwide including missionary post offices. PHLPost also has worldwide linkages through its membership in the Universal Postal Union and the Asian Pacific Postal Union.[98]

5.5 Telcos and OTTs

An over-the-top (OTT) application is any app or service that provides a product over the Internet and bypasses traditional distribution. Services that come over the top are most typically related to media and communication and are generally, if not always, lower in cost than the traditional method of delivery.[99] Examples of OTTs include Skype, Netflix, YouTube, Facebook, Grab, Zalora, etc.

Figure 21 shows a stylized Electronics Communications Market (ECM) and examples of the different business models employed by an OTT (Peitz, et al. (2014):

- OTT1: Subscription model - end users pay for the provision of a service. Examples include Netflix or Spotify where users pay a fee to have access to movies or music, respectively.
- OTT2: Advertisement model - end-users access to the service for free as the platform is sustained by revenues coming from advertising. An example could be YouTube or Facebook where users have access to contents for free and are exposed to advertising.
- OTT3: Access model - content or app developers pay the platforms to reach end-users. For instance, the App Store is a digital store where developers can place their applications to reach iOS users.

An OTT being a digital platform enables two or more distinct types of participants to interact more readily and realize gains from trade or other interaction. The groups need each other in some way but cannot capture the value from their mutual attraction on their own. Network effects are realized directly and indirectly (Evans 2007, 2018; Peitz, et al. 2014):

- Positive direct network effects - arise when the utility of a group of users increases with the rise in the users belonging to the same group. An example is a social network such as Facebook where the value to a member increases with the number of contacts they can reach.

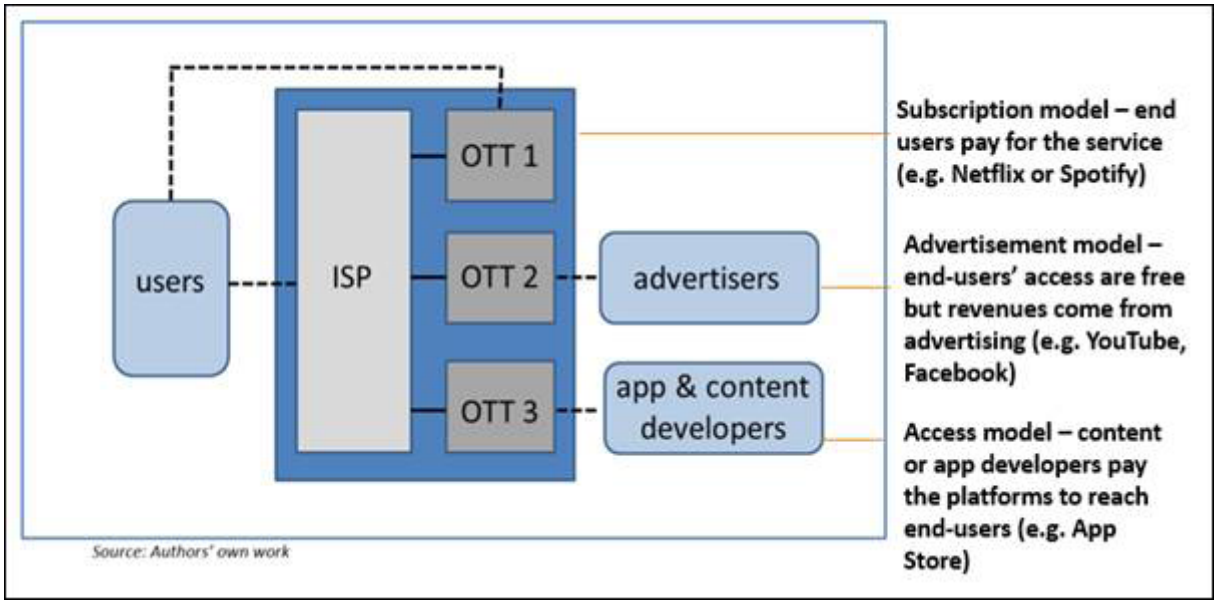
- Positive indirect network effects (or cross-group externalities) – take place when the utility of a group of users increases with the growth of the other group of users which use the same platform. For instance, the utility of using a mobile operating system (OS) increases with the number of developers producing applications for that OS.

As the Figure shows, access to users is made possible by the Internet Services Provider (ISP).

5.5.1 "Old" (legacy) competition issues

In the Philippines, an ISP is considered a Value-added Service (VAS) provider. According to the Public Telecommunications Policy Act of the Philippines (RA 7925), a VAS is an entity which, relying on the transmission, switching and local distribution facilities of the local exchange and inter-exchange operators, and overseas carriers, offers enhanced services beyond those ordinarily provided for by such carriers. A VAS is not required to secure a franchise from Congress and a Provisional Authority/Certificate of Public Convenience and/or Necessity (PA/CPCN) from the NTC. However, an ISP is not allowed to put up its network. Instead, a non-telco entity that

Figure 21. Stylized Electronic Communications Market and the different business models of OTTs



Source: Peitz, et al. (2014)

98 https://www.phlpost.gov.ph/page.php?id=41
99 Techopedia

wishes to offer Internet services shall rely on "the transmission, switching and local distribution facilities of the local exchange and inter-exchange operators, and overseas carriers."[100] At the same time however, the telecom company can also provide value-added services. See **Box 13**.

Box 13. Relevant provision in RA 7925 on the VAS[101]

Section 11. Value-added Service Provider. - Provided that it does not put up its own network, a VAS provider need not secure a franchise. A VAS provider shall be allowed to competitively offer its services and/or expertise, and lease or rent telecommunications equipment and facilities necessary to provide such specialized services, in the domestic and/or international market in accordance with network compatibility.

Telecommunications entities may provide VAS, subject to the additional requirements that:

(a) prior approval of the Commission is secured to ensure that such VAS offerings are not cross-subsidized from the proceeds of their utility operations;

(b) other providers of VAS are not discriminated against in rates nor denied equitable access to their facilities; and

(c) separate books of accounts are maintained for the VAS.

Source: RA 7925

The PCC may wish to investigate if the NTC is indeed able to enforce Section 11 of RA 7925 to ensure that Section 11(a) to (c) has not been violated. According to Mirandilla-Santos (2016), the current structure makes smaller telecommunications companies (telcos) and ISPs prone to anti-competitive practices by the large telcos who not only control the infrastructure and wholesale pricing but are also allowed to compete in the same retail market as their client ISPs. Big telcos tend to charge high interconnect/transit rates to competitors and smaller telcos/ISPs. Thus, smaller ISPs and end-users have to contend with high wholesale and retail costs. If there is no cross-subsidy and discrimination as prescribed in RA 7925 Section 11, the ISP of the telcos would be charged the same as its competitors.

5.5.2 "New" competition issues with the rise of OTTs

Similar to the possible anti-competitive practice between telcos and ISPs described above, a new element with the rise of OTTs is the competition between Telco-affiliated vs non-telco affiliated OTTs as well as between OTTs and affiliate companies of telcos.

Since the law allows telcos to compete with ISPs and their affiliate OTTs to compete with non-affiliated OTTs, the commercial arrangements may be less favorable to the latter. Besides, the data held by telcos can also act as a barrier to entry as described earlier. **Box 14** provides an example of how the subscriber data of telcos can help enhance the provision of other services, for example, financial services.

Box 14. OTT use of Telco's customer data

Cash Credit is a fin-tech company currently operating in Bulgaria, South Africa, and the Philippines. The company partners with various data providers such as telcos, utility companies, and banks to offer micro credit to end users as well as provide innovative lending-score technology to different financial institutions.

In the Philippines, Cash Credit has partnered with the leading telco, Smart Communications Inc. and its digital arm Voyager Innovations. Considered a micro-loaning body regulated by the SEC, it provides personal loans ("Pera Agad") exclusively for SMART and TNT subscribers.

According to its CEO, the partnership with the telecommunications operator creates mutually beneficial synergy to deliver their service. The telco has (1) greater reach which brings costs down, (2) comprehensive data on subscribers that Cash Credit can use for credit worthiness assessment, and (3) an established brand which provide security to the customer. In turn, the telco benefits from the partnership in terms of (1) ability to provide inclusive financial service (2) better knowledge of subscribers which they can use to offer other services, and (3) additional revenue through a revenue sharing arrangement since Cash Credit uses the data of the telco and part of their infrastructure.

Source: https://peraagad.com/

Given that Philippine telcos are owned by conglomerate companies with interests in different industries, the terms and conditions of telcos in sharing subscriber data with affiliated and non-affiliated companies may determine the extent to which new OTTs can enter a market and truly disrupt traditional industries.

100 Republic Act No. 7925, 2013
101 Republic Act No. 7925, 2013

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6. Appendix A. E-commerce business models in terms of inventory management

In terms of inventory management and sourcing products, e-commerce business models include (Source://www.ecommerceceo.com/types-of-ecommerce-business-models/):

Drop Shipping

A Drop Shipping business model is a retail model where businesses don't have to care about the fulfilment costs. The model involves a partnership with a wholesale supplier who stocks inventories and delivers the goods on your behalf directly to the customers.

Barriers to entry in this type of e-commerce business is low. All one has to do is to is to create a platform listing the products for sale and handle the marketing of the business. The inventory, delivery, and handling are taken care of by the drop shipper. There is an extra charge for this though, but this is better than piling up an inventory of products with no guaranteed demand.

This type of eCommerce business model is suited for businesses which do not have much investment in buying and storing inventory, prefer mobility over fixed business locations, and prefer to focus more on the marketing of the business.

However, there are certain limitations to the drop shipping business model. These include a lot of competition, low profit margins since many businesses sell the same product, and heavy dependency on the drop-shipper

Dropshipping works on the principles of aggregator business model where you focus on building a brand for your organization while the actual product or service is delivered by someone else under your brand.

The orders are given to the drop shipper as and when they arrive. This is done either through autom
ated or manual emails, calls, or spreadsheet files, which is decided in the contract between the business and the wholesale supplier. There are many dedicated dropshipping business websites. These include Shopify, Aliexpress, etc.

Wholesaling and Warehousing

Operating a wholesaling and warehousing eCommerce business model is comparatively simpler when compared to dropshipping. This business model runs on the principles of offline wholesaling. That is, products are bought directly from the manufacturer or the middleman at discounted rates, stored in enterprise's warehouse, and then sold at profitable prices. This business model suits businesses with guaranteed demand.

Setting up and maintaining a wholesaling and warehousing eCommerce business model requires a lot of investment and supervision. This type of eCommerce business model is suited for businesses which want every aspect of their business in their control, deal in exclusive products, have guaranteed demand for their products, want to sell products in volume, and want to cater to other businesses (B2B).

However, there are certain limitations to the wholesaling and warehousing business model. These include the need for large upfront investment; potential for losses if demand is low, and dependence on sale volumes to generate profits.

Private labeling and manufacturing

If businesses have an idea for their perfect product, but do not have the cash or desire to build their own factory, this might be the right ecommerce business model. Companies that manufacture products offsite for sale send the plans or prototypes to a contracted manufacturer who produces the product to meet customer specifications and can either ship directly to the consumer, to a third party such as Amazon, or to the company selling the final product.

On-demand manufacturing allows for the quick change of suppliers if problems with product quality are encountered. The startup costs are minimal, and if businesses are interested in potentially opening their own production facilities later on, Drop Shipping is a good way to test a new product or concept are encountered.

White labeling

White labeling is similar. A product that is already successfully sold by another company with white label options is chosen. The package and label is designed, and then the product is sold. This is common in the beauty and wellness industries, but more difficult to encounter in other niches. Since companies set a minimum product quantity, there is a risk of being stuck with unsold products where demand may be low.

7. Appendix B. E-commerce sales by subclass

The following tables provide further information on the industries at the sub-class or 5-digit level that engaged in e-commerce in 2015.

Manufacturing (2015)

PSIC 2009	Economic Activity	E-commerce sales (in Thou pesos)
C	Manufacturing	132,921
C10304	Quick-freezing of fruits and vegetables	S
C10490	Manufacture of vegetable and animal oil and fats, n.e.c.	S
C10623	Manufacture of cereal breakfast foods obtained by roasting or swelling, etc.	S
C10722	Sugar refining	S
C10760	Manufacture of food supplements from herbs and other plants	S
C10794	Manufacture of infant or dietetic foods containing homogenized ingredients	S
C12010	Manufacture of cigarettes	689
C12020	Manufacture of cigars	
C13119	Preparation of textiles, n.e.c.	S
C13932	Manufacture of mats (including mattings) of textile materials	S
C14199	Manufacture of wearing apparel, n.e.c.	8,313
C15250	Manufacture of wooden footwear and accessories	S
C16270	Manufacture of wooden wares	S
C19900	Manufacture of other fuel products	S
C20113	Manufacture of inorganic salts and compounds	112,500
C20222	Manufacture of varnishes, lacquers, shellac and stains	S
C20301	Manufacture of synthetic or artificial filament yarn	S
C20302	Manufacture of man-made filament tow or staple fibers, except glass fiber	S
C22203	Manufacture of plastic furniture fittings	S
C22207	Manufacture of linoleum and hard surface floor coverings	S
C23931	Manufacture of vitreous china tableware and other kitchen articles of a kind commonly used for domestic or toilet purposes	S
C23992	Manufacture of asbestos products	S
C25912	Powder metallurgy	S
C25935	Manufacture of molding boxes for metal foundry	S
C25999	Manufacture of miscellaneous fabricated metal products, n.e.c.	8,412
C26110	Manufacture of electronic valves and tubes	S
C26511	Manufacture of radar equipment, radio remote control apparatus	S
C26800	Manufacture of magnetic and optical media	S
C27112	Manufacture of electrical transformers	3,007
C27405	Manufacture of lighting sets used for Christmas trees and the like	S
C27901	Manufacture of battery chargers, solid state	S
C28150	Manufacture of ovens, furnaces and furnace burners	S
C28180	Manufacture of power-driven hand tools	S
C28195	Manufacture of machinery for cleaning or drying bottles or other containers or for aerating beverages	S
C28252	Manufacture of presses, crushers and similar machinery used to make wine, cider, fruit juices or similar beverages	S
C29202	Manufacture of trailers and semi-trailers	S
C30913	Manufacture of tricycles and parts thereof	S
C30922	Manufacture of invalid carriages, motorized and non-motorized	S

Manufacturing (2015) *continued*

PSIC 2009	Economic Activity	E-commerce sales (in Thou pesos)
C32950	Manufacture of artificial flowers, fruits and foliage	S
C33130	Repair of electronic and optical equipment	S
C33200	Installation of industrial machinery and equipment	S

Note: s – suppressed
Source: 2015 Annual Survey of Philippine Business and Industry (ASPBI) - Manufacturing: Final Results Reference Number: 2018-161 Release Date: Friday, June 8, 2018 (https://psa.gov.ph/content/2015-annual-survey-philippine-business-and-industry-aspbi-manufacturing-final-results on October 28, 2018)

Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles (2015)

PSIC 2009	Economic Activity	E-commerce sales (in Thou pesos)
G	Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	2,560,527
G45101	Sale of passenger motor vehicles	4,629
G45304	Retail sale of motor vehicles tires and batteries	208,940
G46209	Wholesale of farm, forest and marine products, including seeds and animal feeds, hides and skins, leather, etc., n.e.c.	633
G46421	Wholesale of medicinal and pharmaceutical products	49,202
G46429	Wholesale of miscellaneous consumer goods, n.e.c.	96,619
G46495	Wholesale of handicraft products	50,904
G46510	Wholesale of computers, computer peripheral equipment and software	37,526
G46524	Wholesale of printed circuits	s
G46526	Wholesale of telephone and communications equipment including parts and accessories	6,340
G46527	Wholesale of blank audio and video tapes and diskettes, magnetic and optical disks (cds, dvds)	s
G46591	Wholesale of commercial machinery and equipment	55,095
G46594	Wholesale of professional and scientific and measuring and controlling equipment	145,697
G46636	Wholesale of electrical materials	1,186
G47411	Retail sale of computers	767,170
G47422	Retail sale of audio and video equipment	56,321
G47593	Retail sale of household appliances, articles and equipment	19,688
G47722	Retail sale of medical, surgical and orthopedic goods/instruments and dental supplies	21,962
G47734	Retail sale of jewelry, watches and clocks	28,031
G47913	Retail sale via internet	1,010,585

Note: s-suppressed
Source: 2015 Annual Survey of Philippine Business and Industry (ASPBI) - Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles Sector For All Establishments: Final Results Reference Number:
2017-343 Release Date: Monday, April 2, 2018 (https://psa.gov.ph/content/2015-annual-survey-philippine-business-and-industry-aspbi-wholesale-and-retail-trade-0 on October 28, 2018)

Transportation and Storage (2015)

PSIC 2009	Economic Activity	E-commerce sales (in Thou pesos)
H	Transportation and Storage	31,495,464
H49205	Operation of school buses/shuttle	s
H49209	Transport via buses, n.e.c.	s
H49333	Tank truck delivery services	s
H49339	Freight transport operation, by road, n.e.c.	s
H49400	Transport via pipeline	s

Transportation and Storage (2015) *continued*

PSIC 2009	Economic Activity	E-commerce sales (in Thou pesos)
H50123	Towing and pushing services on coastal and trans-oceanic waters	s
H50210	Inland passenger water transport	s
H50220	Inland freight water transport	s
H51101	Domestic air passenger transport	s
H51102	International air passenger transport	s
H51203	Non-scheduled air freight transport	s
H52102	Grain warehouses	s
H52103	Customs bonded warehouses	234,830
H52241	Containerized cargo handling, auxiliary activity to land transport	s
H52244	Cargo handling, auxiliary activity to air transport	s
H52291	Freight forwarding services	229,471

Note: s-suppressed

2015 Annual Survey of Philippine Business and Industry (ASPBI) - Transportation and Storage Sector For All Establishments: Final Results Reference Number: 2017-352 Release Date: Friday, May 4, 2018 (https://psa.gov.ph/content/2015-annual-survey-philippine-business-and-industry-aspbi-transportation-and-storage-0 on October 28, 2018)

Accommodation and Food Service Activities (2015)

PSIC 2009	Economic Activity	E-commerce sales (in Thou pesos)
I	Accommodation and Food Service Activities	4,892,268
I55101	Hotels and motels	3,943,124
I55102	Resort hotels	871,662
I56101	Restaurants	77,482

Note: s-suppressed

2015 Annual Survey of Philippine Business and Industry (ASPBI) - Accommodation and Food Service Activities Sector For All Establishments: Final Results Reference Number: 2017-263

Release Date: Friday, October 27, 2017 (https://psa.gov.ph/content/2015-annual-survey-philippine-business-and-industry-aspbi-accommodation-and-food-service on October 28, 2018)

Information and Communication (2015)

PSIC 2009	Economic Activity	E-commerce sales (in Thou pesos)
J	Information and Communication	2,000,265
J58110	Book publishing	139,167
J58120	Publishing of directories and mailing lists	63,787
J59110	Motion picture, video and television programme activities	647
J60102	Radio program production	s
J61101	Wired (landline) services	910,269
J61109	Other wired telecommunications activities	89,926
J61201	Wireless landline services	s
J61203	Wireless internet access services (e.g., internet service provider, broadband)	7,398
J61300	Satellite telecommunications activities	509
J61901	Telephone access in facilities open to the public service activities	s
J62010	Computer programming activities	617,412
J62020	Computer consultancy and computer facilities management activities	169,789
J63112	Website hosting services	1,362
J63120	Web portals	s

Administrative and Support Service (2015)

PSIC 2009	Economic Activity	E-commerce sales (in Thou pesos)
N	Administrative and Support Service Activities	895,024
N77295	Renting of electrical appliances	s
N77303	Renting of air transport equipment	s
N79110	Travel agency activities	117,249
N79901	Activities of booking offices	17,140
N79904	Package tour reservation activities	s
N79909	Other reservation service and related activities, n.e.c.	s
N82191	Photocopying service activities	2,202
N82211	Customer relationship management activities	243,913
N82212	Sales and marketing (including telemarketing) activities	386,582
N82219	Other call centers activities (voice), n.e.c.	140
N82226	Medical transcription activities	120,054
N82227	Legal services activities	s
N82228	Supply chain management activities	s
N82295	Intellectual property research and documentation activities	s
N82296	Security outsourcing activities	s
N82300	Organization of conventions and trade shows	7,744

Note: s – suppressed

2015 Annual Survey of Philippine Business and Industry (ASPBI) - Administrative and Support Service Activities Sector For All Establishments: Final Results Reference Number: 2017-342

Release Date: Saturday, December 30, 2017 (https://psa.gov.ph/content/2015-annual-survey-philippine-business-and-industry-aspbi-administrative-and-support-0 on October 28, 2018)

Education (2015)

PSIC 2009	Economic Activity	E-commerce sales (in Thou pesos)
P	Education	784
P85592	Other private education, n.e.c.	784

2015 Annual Survey of Philippine Business and Industry (ASPBI) - Education Sector For All Establishments: Final Results Reference Number: 2017-334 Release Date: Friday, December 29, 2017

https://psa.gov.ph/content/2015-annual-survey-philippine-business-and-industry-aspbi-education-sector-all on October 28, 2018

Arts, Entertainment and Recreation (2015)

PSIC 2009	Economic Activity	E-commerce sales (in Thou pesos)
R	Arts, Entertainment and Recreation	22,431
R93292	Operation of recreation parks, beaches, including renting of facilities such as bathhouses, lockers, chairs etc.	22,431

2015 Annual Survey of Philippine Business and Industry (ASPBI) - Arts, Entertainment and Recreation Sector For All Establishments: Final Results Reference Number: 2017-337 Release Date: Friday, December 29, 2017 https://psa.gov.ph/content/2015-annual-survey-philippine-business-and-industry-aspbi-arts-entertainment-and-0 October 28, 2018

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25/F Vertis North Corporate Center 1, North Avenue, Quezon City 1105 Philippines

www.phcc.gov.ph

+632.8771.9722

queries@phcc.gov.ph