

The background of the slide is a grayscale aerial photograph of a city skyline. A prominent feature is a tall building with a clock tower on top, likely the Manila City Hall. The text is overlaid on this image.

Competition and E-commerce in the Philippines

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16 March 2017; Singapore

Symposium on E-Commerce, ASEAN Economic Integration, and Competition Policy and Law
ISEAS Yusof Ishak Institute and Competition Commission Singapore

The views expressed here are those of the authors and do not necessarily represent or reflect the views of the Philippine Competition Commission (PCC).



Presentation Outline

1. Background
2. E-commerce Activity in Philippine Businesses
3. E-commerce, Competition and Productivity:
Philippine Data
4. Issues and Challenges



Background

- **E-commerce is growing globally**
 - To reach USD 1.3 Trillion worth of goods (9.6% of total) in 2017 (*Euromonitor International*)
- **E-commerce in the Philippines is still at a nascent stage**
 - Less than 1% of total commerce in PH (*Better Than Cash Alliance*)
 - *UNCTAD B2C E-commerce Index 2016*: PH ranked 89th out of 137 countries



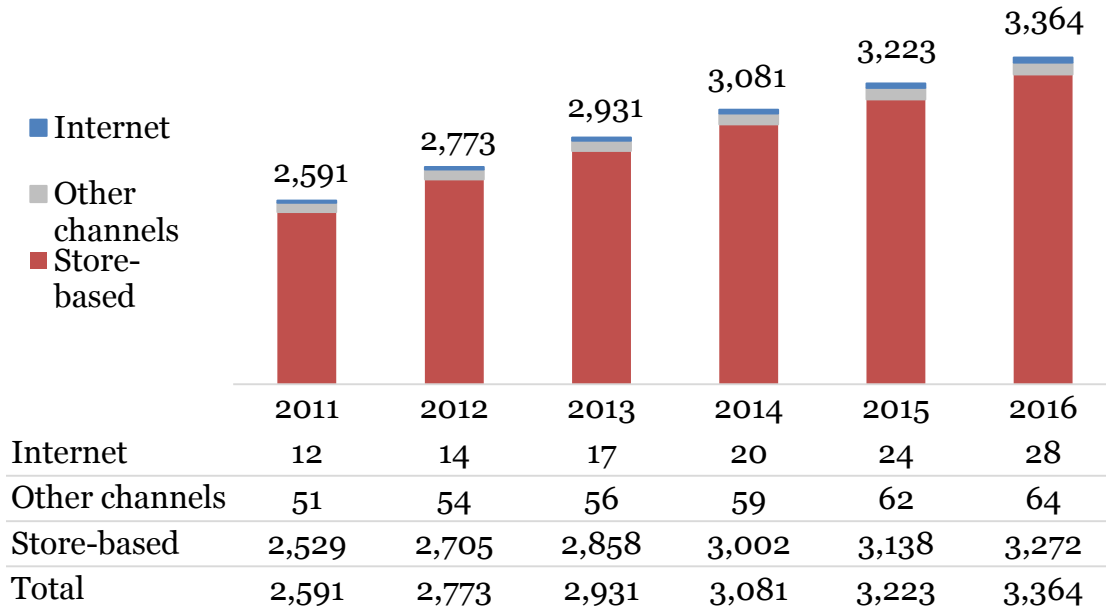
E-commerce & Businesses (1)

- **Take-up of e-commerce is limited despite large and growing no. of internet and mobile phone users.**
 - 2015: 40.7% internet penetration, 118.26% mobile cellular subscription (World Development Indicators 2017)
 - 10% of adult online consumers shop online; 75% shop instore (Google Consumer Barometer Report 2015)
- **E-commerce and businesses**
 - Affects traditional firms and industries
 - Rise of new business models (eg, online platforms – Lazada, Zalora; sharing-economy services – Uber, Airbnb)



E-commerce & Businesses (2)

Retailing in the Philippines by sales channel



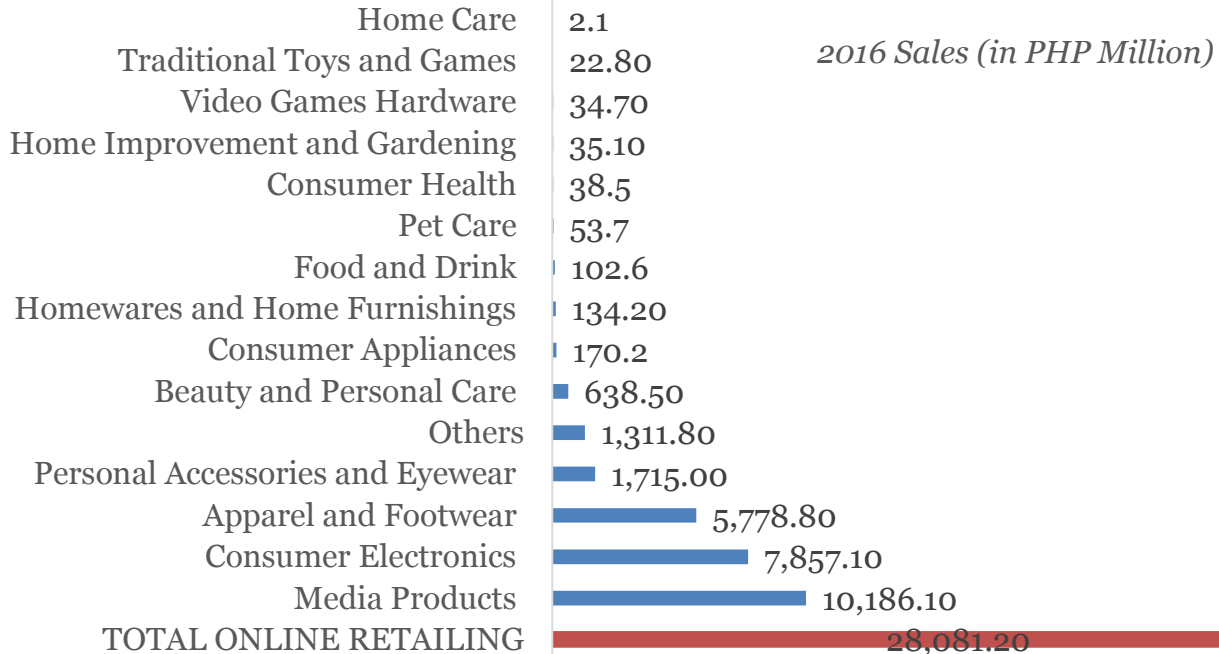
Note: Units are in PHP billion.

Source: Euromonitor International 2016



E-commerce & Businesses (3)

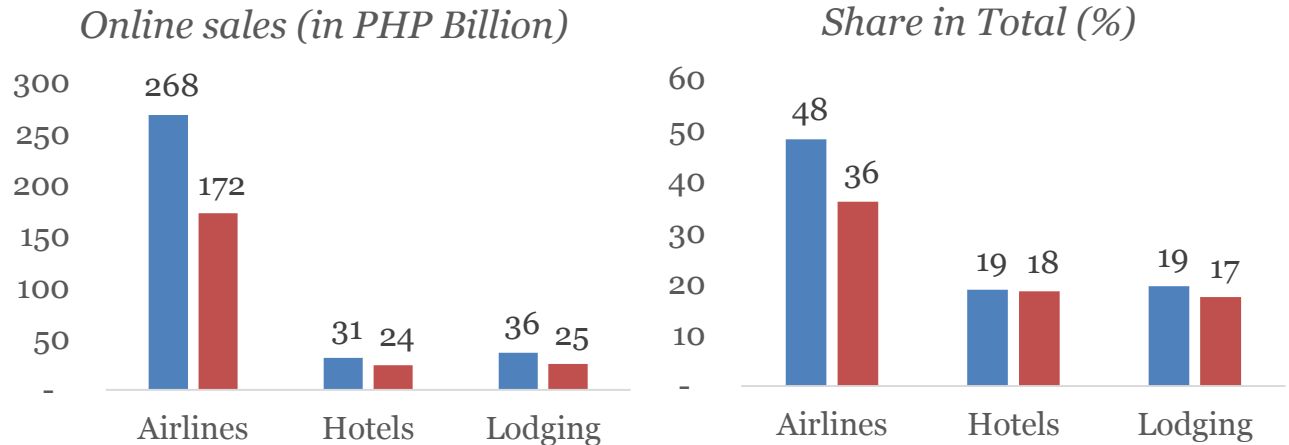
Retailing in the Philippines by categories



Source: Euromonitor International 2016

E-commerce & Businesses (4)

Travel sector in the Philippines



Source: Euromonitor International 2016

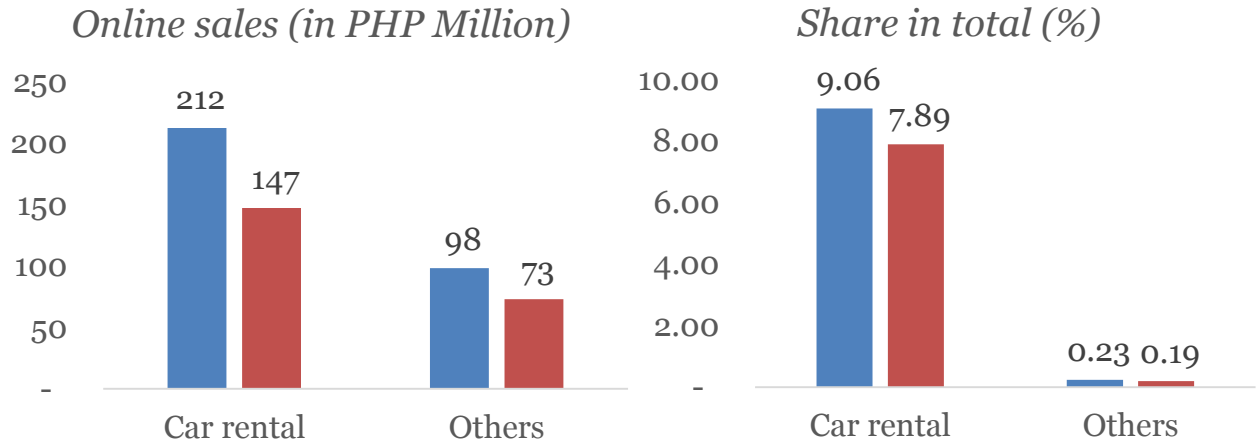
■ 2015

■ Yearly average, 2010-2015



E-commerce & Businesses (5)

Transportation sector in the Philippines



Source: Euromonitor International 2016



How does the interplay of
e-commerce use and *competition*
affect *firm productivity*?



E-commerce, Competition & Firm Productivity (1)

- How does e-commerce improve firm productivity?
 1. Saves time and costs
 - Lower distribution costs (Lal & Sarvary 1999; Van Cayseele & Degryse 2000; Wadhvani 2000; De Prince & Ford 1999)
 - Lower input costs (Degraeve & Roodhooft 2001; Konings & Roodhooft 2002; Sinha 2000; Benjamin & Wigand 1995; Whyte 2000; Aberdeen Group 2001)
 - Lower transaction costs (Garicano and Kaplan 2003)
 2. Increases productivity of inputs
 - E.g., R&D and labor (Liu et al. 2013; Berstchek et al. 2006; Kraemer et al. 2005)
 3. Intensifies market competition



E-commerce, Competition & Firm Productivity (2)

- How does the prospect of competition due to e-commerce encourage firm productivity?
 - 2 competing strands:
 1. More competition implies greater incentive to be **efficient** (Blanchflower & Machin 1996; Levinsohn 1993; Nickell 1996; Angelucci et al. 2000)
 2. Increased competition does not imply increase in **efficiency** (Bakos & Brynjolfsson 2000; Ulph & Vulkan 1999)



E-commerce Activity of Philippine Businesses (1)

VOLUME I

ISSN 1656-4979

2012 CENSUS OF PHILIPPINE BUSINESS AND INDUSTRY



AGRICULTURE, FORESTRY AND FISHING



Republic of the Philippines
PHILIPPINE STATISTICS AUTHORITY
Manila

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PLEASE ENTER ON THE APPROPRIATE SPACE OR BOX THE DATA REQUESTED.

INCOME AND EXPENSE ACCOUNT (cont.)

13. Expense in 2012

TYPE OF EXPENSE	VALUE IN PESOS (Omit centavos)	LN NO
I. Research and development (R&D) expense <i>(Amount spent on any systematic, scientific and creative work undertaken to increase the stock of knowledge and the use of this knowledge to create new or improved products, processes, services, and other applications.)</i>		34
m. Environmental protection expense <i>(Amount spent for the prevention, reduction and elimination of pollution as well as any degradation of the environment such as environmental protection services like wastewater treatment, reforestation, etc.)</i>		35
n. Royalty fee <i>(Expense for trademarks, copyrights, patents or secrecy.)</i>		36
o. Franchise fee <i>(Expense made for license to make, distribute or sell a product or service.)</i>		37
p. Payouts <i>(Amount expended as prize in gambling and betting operations.)</i>		38
q. Amortization		39
r. Depreciation		40
s. Other expense (sum of 1 to 5)		41
1. Foreign exchange losses		42
2. Charitable donations and grants		43
3. Bad and doubtful debts <i>(Report net of bad debts recovered.)</i>		44
4. Loss from sale of investment assets and marketable securities		45
5. Others (sum of a to c) Specify:		46
a) _____		47
b) _____		48
c) _____		49
Total Expense (sum of a to s)		50

E-COMMERCE

PERCENT TO TOTAL
INCOME

LN
NO

14. Sales from E-Commerce Transactions in 2012

E-Commerce refers to the selling of products or services over electronic systems such as the Internet Protocol-based networks and other computer networks, Electronic Data Interchange (EDI) network, or other on-line system.

EXCLUDE: Orders received via telephone, facsimile or e-mails

01

Continued on Page 9

E-commerce Activity of Philippine Businesses (2)

E-COMMERCE	PERCENT TO TOTAL INCOME	LN NO
<p>14. Sales from E-commerce Transactions in 2012</p> <p><i>E-commerce refers to the selling of products or services over electronic systems such as the Internet Protocol-based networks and other computer networks, Electronic Data Interchange (EDI) network, or other on-line system.</i></p> <p>EXCLUDE: Orders received via telephone, facsimile or e-mails</p>	<p>_____ %</p>	<p>01</p>

<p>EXCLUDE: Orders received via telephone, facsimile or e-mails</p> <p>on-line system</p> <p>computer networks, electronic data interchange (EDI) network, or other</p>	<p>_____ %</p>	
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E-commerce Activity of Philippine Businesses (3)

in billion PHP	2012			2013		
	Total Revenue	E-commerce Revenue	Share of E-commerce to Revenue (%)	Total Revenue	E-commerce Revenue	Share of E-commerce to Revenue (%)
Agriculture	138	-	-	148	-	-
Industry	5,908	19	0.32	5,872	7	0.12
Services	7,905	60	0.76	7,702	39	0.51
TOTAL	13,951	79	0.57	13,723	47	0.34

Source: 2013 ASPBI and 2012 CPBI, Philippine Statistics Authority

- E-commerce accounts for **less than 1%** of total business revenues
- E-commerce activity is highest in the services sector, and non-existent in the agriculture sector.



Model

Firm Value Added = $f(\text{Capital, Labor, E-commerce, Competition, X})$

- \mathbf{X} is a vector of control variables on firms (i.e. age, size, investments, R&D expenses, industry effects)
- OLS regressions at the firm-level; analysis is limited among firms found in subclasses with existing e-commerce activity (n=8000+)



Data

- **Dataset: 2012 Census of Philippine Business and Industry (CPBI) Establishment-Level Data**
 - Only 277 out of 219,201 establishments had e-commerce transactions
 - 258 of the 277 (93%) are micro, small and medium enterprises (MSMEs)
 - 234 of the 277 (84%) are found in unconcentrated subclasses (i.e. HHI below 1500)



Summary Statistics

Variable	Obs	Population Obs	Mean	Std. Dev.	Min	Max
Value Added	8231	24083	34,300,000	1,340,000,000	(1,490,000,000)	202,000,000,000
E-commerce Revenues	8231	24083	3,116,797	345,000,000	0	52,700,000,000
Labor Compensation	8231	24083	14,000,000	142,000,000	0	13,100,000,000
Assets	7690	21423	30,000,000	508,000,000	0	49,800,000,000
Market Share	8231	24083	0.34	2	0	100
HHI	8231	24083	451	668	32	10,000
R&D Expenditures	8231	24083	81,572	4,111,864	0	537,000,000
Investments	8231	24083	2,555,795	70,300,000	0	6,500,000,000
Age	7978	23490	14	15	0	287

Source: 2012 CPBI Establishment-Level Data, Philippine Statistics Authority

Note: Variables corresponding to monetary terms are in PHP.



Regression Results (1)

	Model 1	Model 2	Model 3	Model 4
Log E-commerce Revenues	0.097 (0.017)****	0.002 (0.005)	-0.003 (0.006)	0.006 (0.020)
Log Labor Compensation		0.909 (0.013)****	0.885 (0.014)****	0.891 (0.023)****
Log Assets		0.068 (0.011)****	0.066 (0.010)****	0.076 (0.013)****
Market Share			0.341 (0.053)****	0.310 (0.049)****
Log HHI			0.068 (0.021)****	0.037 (0.038)
Market Share * Log HHI			-0.040 (0.007)****	-0.037 (0.006)****
Log Ecommerce Revenues *				0.001
Market Share				(0.001)
Log Ecommerce Revenues *				-0.002
Log HHI				(0.004)

Regression Results (2)

Log R&D Expenditures				0.007 (0.007)
Log Investments				0.002 (0.003)
Age				-0.001 (0.001)
With Firm Size Dummies?				Yes
With Industry Dummies?				Yes
Constant	14.419	0.803	0.779	0.808
R ²	0.0058	0.8567	0.8617	0.8642
N	7,944	7,381	7,381	7,295
Population Size	22,927	20,274	20,274	20,081

Note: * $p < 0.15$; ** $p < 0.1$; *** $p < 0.05$; **** $p < 0.01$; The numbers in parentheses are standard errors.



Regression Results (3)

(1) E-commerce is not (yet) significant in explaining firm productivity among Philippine businesses

- Cost-efficiency gains from e-commerce depends in part on the e-commerce adoption of other firms
- Other factors (e.g. inadequate infrastructure for e-commerce)

(2) Competition significantly impacts firm productivity

- An increase in market share is associated with an increase in firm productivity, but only below a certain level of HHI



Issues and Challenges (1)

1. Slow and expensive internet access

- Average connection: 4.2 Mbps v. 11.4 Mbps in Asia Pacific (Akamai 2016)
- Cost of fixed broadband: 7.53% of GNI v. 5% affordability of threshold (UN International Telecommunications Union 2016)

2. Minimal take-up of e-payment service

- 73% respondents no credit or debit card; cash on delivery (C.O.D.) most commonly used payment method (Nielsen 2016)
- 1% of monthly payments are electronic; 99% cash and checks (Better Than Cash Alliance 2016)



Issues and Challenges (2)

3. Consumer issues on security, privacy and trust

- 68% of respondents do not trust giving credit card info; 66% doubt personal info are kept secure and confidential (Nielsen 2016)
- Lack of trust: reason provided by 17% of surveyed adults without formal bank accounts (World Bank 2015)

4. Challenges in logistics: complicated customs processes and fragmented geography



Issues and Challenges (3)

5. **Limited understanding on how e-commerce works among prospective entrepreneurs**
6. **Implications on competition assessment are avenues for future research.**





Thank you.

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