

2023 Study on Assessing Innovation in Philippine Business and Industry (Results of the 2021 PIDS Survey of Innovation Activities)

JOSE RAMON G. ALBERT, FRANCIS MARK A. QUIMBA, RAMONETTE B. SERAFICA,
JANA FLOR V. VIZMANOS NEIL IRWIN S. MORENO,
ABIGAIL E. ANDRADA, MIKA MUÑOZ AND ANGELO C. HERNANDEZ

Outline

1. Introduction

- Innovation
- 2022 Survey of Innovation Activities

2. Results

- Key Statistics on Innovation
- Determinants of Innovation
- Effects of Innovation and Sources of Cooperation
- Barriers to Innovation
- Support for Innovation
- Platform Use

3. Policy Issues and Ways Forward

1. Introduction

Innovation

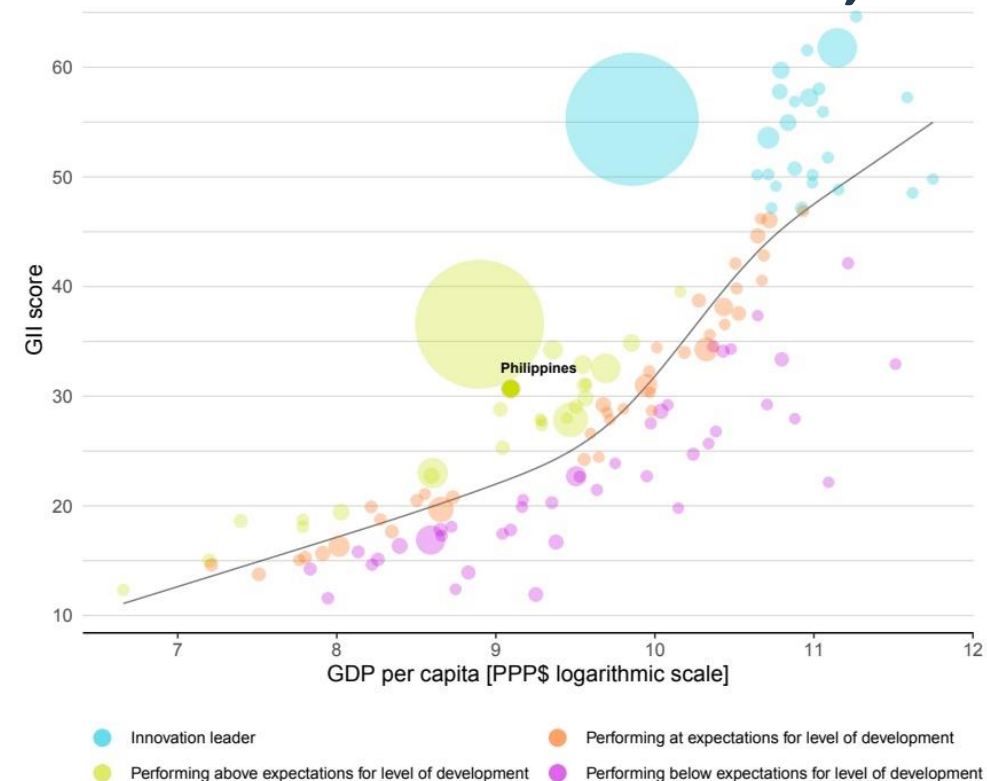
- involves implementing **new** or significantly improved **goods** and **services**, production **processes**, **marketing**, or **organizational** methods for adding value
- viewed as major driver of economic output, productivity, and competitiveness and rising living standards even as early as 1950s (Solow, 1956; Swan, 1956);
- its importance highlighted for global and national development frameworks amid megatrends like Fourth Industrial Revolution (FIRe)
 - SDG9: “build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation”
 - In PH, several laws on innovation, viz., (a) Philippine Innovation Act (PIA) or R.A. No. 11293, Innovative Startup Act or R.A. No. 11337

1.1. How does PH fare in Innovation?

2022 Global Innovation Index (GII)

Year	GII Rankings		
	Overall	Innovation Inputs	Innovation outputs
2022	59	76	51
2021	51	72	40
2020	50	70	41
2019	54	76	42

GII Score and GDP per pax: PH and other countries, 2022



1.2. 2023 Study on Assessing Innovation in Philippine Business and Industry

Study Objectives :

- to examine innovative performance of economic actors across all major sectors of the economy, including the extent of the platform economy,
- to collect, and analyze innovation data that are internationally comparable data , systems-oriented and policy-relevant
- to provide policy recommendations for fostering innovation

1.2. 2022 Survey of Innovation Activities (SIA)

➤ Survey Objectives :

- To describe the types of innovations engaged in by firms;
- To determine the factors of innovation performance, barriers to innovation, and effects of innovation of firms; and
- To provide information on use of digital platforms

➤ Conducted by PH Institute for Development Studies (PIDS) with assistance of Ph Statistics Authority (PSA)

- Third survey on innovation (pilot 2009 survey conducted by DOST with PSA and PIDS; 2015 SIA conducted by PIDS with PSA)

➤ 11,500 firms targeted for 2022 SIA (91.2% response rate); firms selected with probability proportional to size

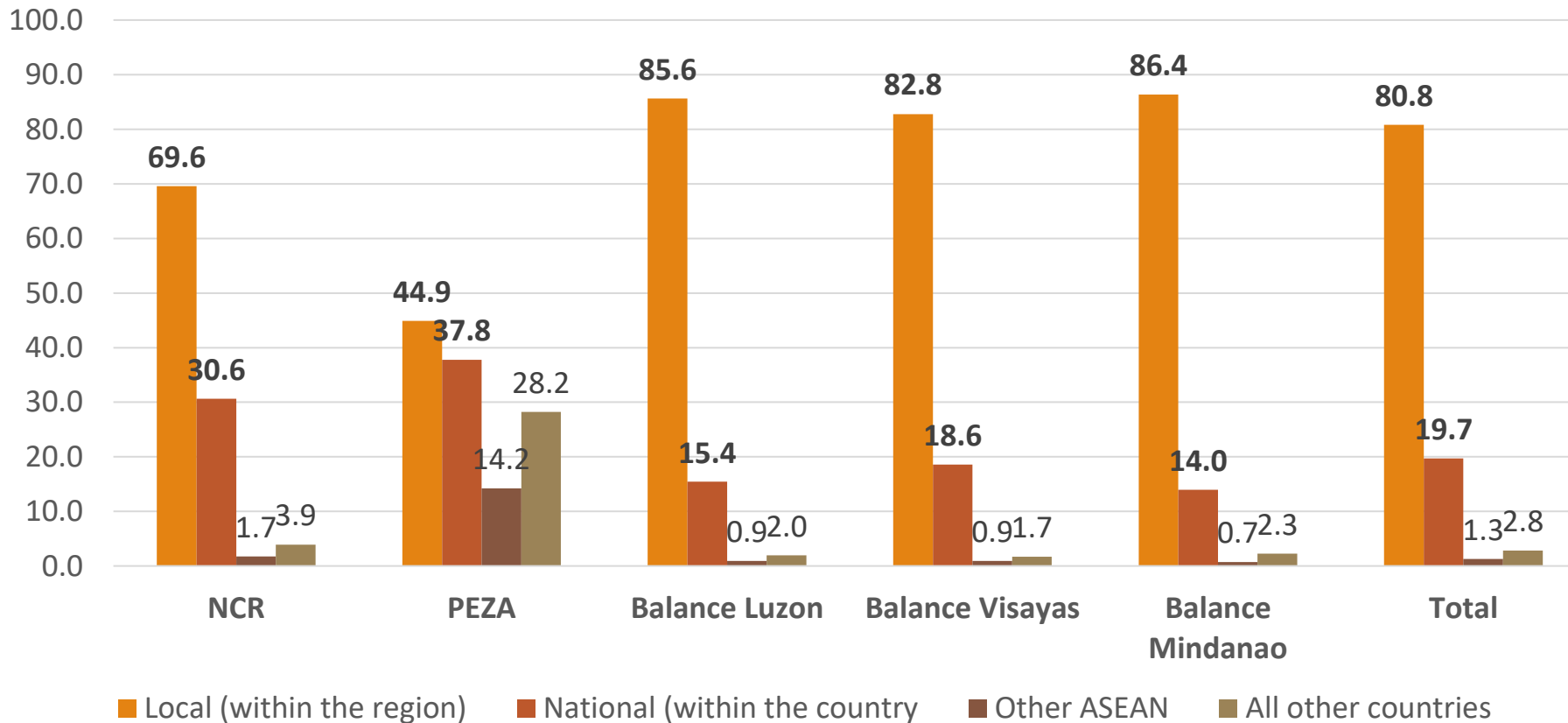
- Some 618 sampled firms were also interviewed in 2015 SIA

1.2.1 Profile of Establishments

Major Sectors	Sub-Sectors in 2015 SIA					Total
	Food Manufacturing	Other Manufacturing	ICT	BPO	(NEW)	
Agriculture					457 (1.0%)	457 (1.0%)
Industry	928 (5.2%)	1200 (3.8%)			728 (1.4%)	2,856 (10.4%)
Services			630 (0.9%)	287 (0.7%)	6,259 (87.0%)	7176 (13.9%)
Total	928 (5.2%)	1200 (3.8%)	630 (0.9%)	287 (0.7%)	7,444 (89.3%)	10,489 (100.0%)

1.2.1 Profile of Establishments (cont'd)

Geographic Markets of Establishments, by Geo Domain



- About **four fifths** of firms **have local markets**, two fifths have national markets, about 1.3% have markets in ASEAN and 2.8% have markets outside ASEAN.
- PEZA firms have the largest markets outside for ASEAN and all other countries.

1.2.1 Profile of Establishments

Total Employment

	Agriculture	Industry	Services	Total
Male	120,875	1,007,419	4,027,107	5,155,401
Female	40,632	689,323	4,447,122	5,177,077
Both Sexes	161,506	1,696,742	8,474,229	10,332,478

- Bulk of employment in services for both sexes.
- Most employed in the age group 25-34 (except for males in Agri, in the group 35-44)

Distribution by Age

AGE	Sex	Agriculture	Industry	Services	Total
Below 18	Male	0.1	0.1	0.4	0.3
	Female	0.0	0.1	0.2	0.1
18-24 years	Male	11.4	12.4	15.4	14.7
	Female	12.1	16.9	17.7	17.6
25-34 years old	Male	28.5	35.3	44.2	42.1
	Female	28.1	41.1	48.2	47.1
35-44 years	Male	32.0	29.6	25.3	26.3
	Female	25.1	26.4	21.2	21.9
45-54 years	Male	19.5	16.9	11.0	12.3
	Female	22.2	12.1	9.5	10.0
65-64 years	Male	8.0	5.2	3.3	3.8
	Female	11.3	3.1	2.8	2.9
65 years & over	Male	0.5	0.6	0.4	0.4
	Female	1.1	0.3	0.3	0.3

1.2.1 Profile of Establishments

Employment Distribution by Education

Highest Educational Attainment	Sex	Agriculture	Industry	Services	Total
At most Primary	Male	26.7	13.5	8.6	10.7
	Female	10.1	10.7	8.6	9.1
At most secondary	Male	30.8	31.3	15.1	18.1
	Female	17.5	35.0	11.5	14.7
Post-secondary non-tertiary or Short-cycle tertiary education	Male	19.8	29.9	16.6	18.5
	Female	14.3	20.3	12.3	13.4
Bachelor level education	Male	9.4	18.2	15.3	15.5
	Female	8.5	12.5	17.0	16.6
Masters or doctoral level education	Male	9.9	7.4	7.7	7.7
	Female	18.1	7.8	7.2	7.4

- In Agriculture, only a fifth (**19.4%**) of males have bachelor's degrees or higher; compared to a fourth in industry (25.6%) and 22.9% in services
- Among women in firms in Agriculture, **26.6%** have bachelor's degrees or higher, while the comparable rate in Industry and Services is 20.3% and 24.3%, respectively.

1.2.2 Innovation: Operational Definition

What makes an establishment innovation active?

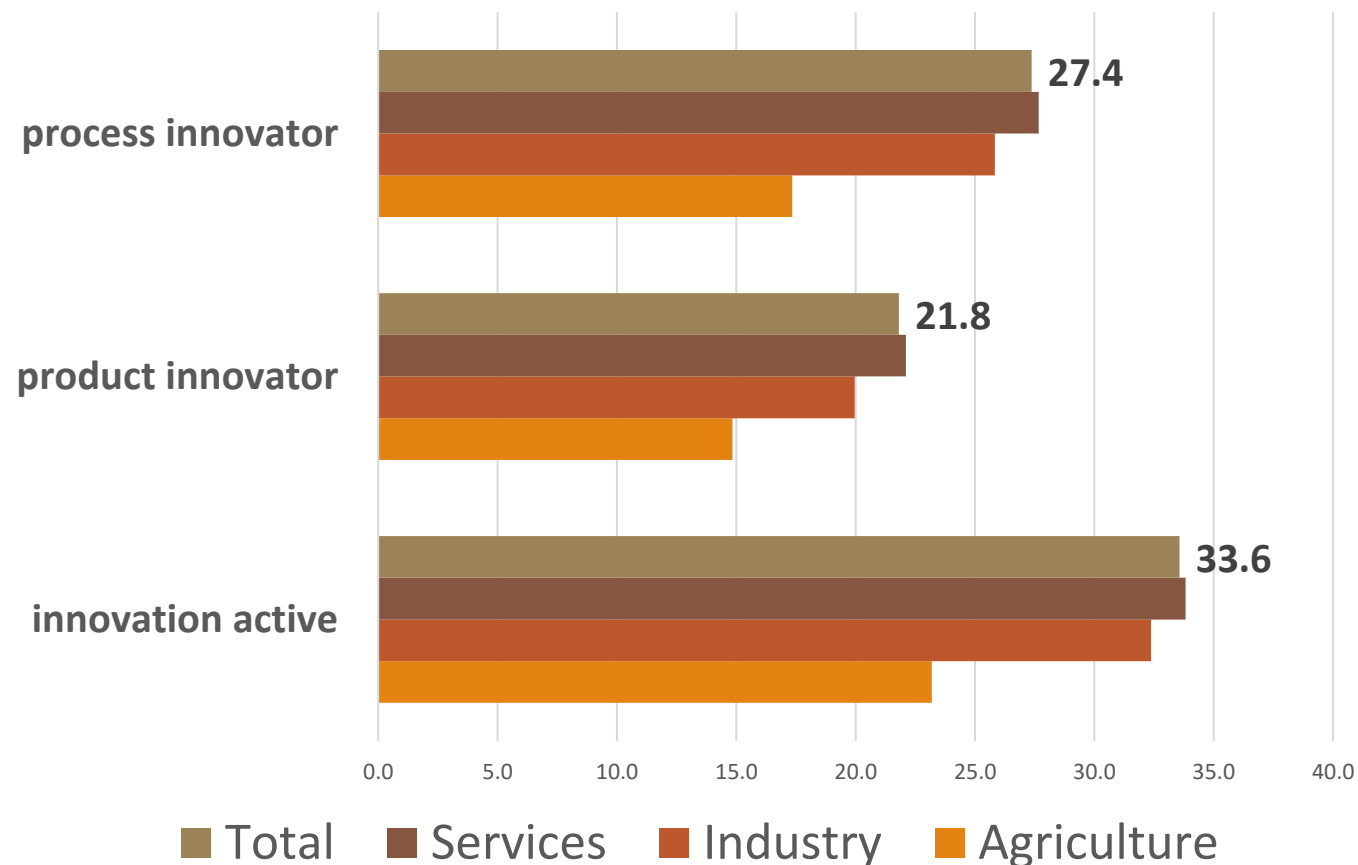
- 1. Product innovation:** new or significantly improved good/service
- 2. Process innovation:** new production process, distribution method or support activity for goods/service
- 3. Expenditure on Innovation Activity:** R&D, training, external knowledge machinery, equipment or software linked to innovation, market introduction and other preparations to implement innovations
- 4. Engaged in abandoned or ongoing innovation projects**

Wider forms of Innovation:

- Organizational innovation
- Marketing innovation

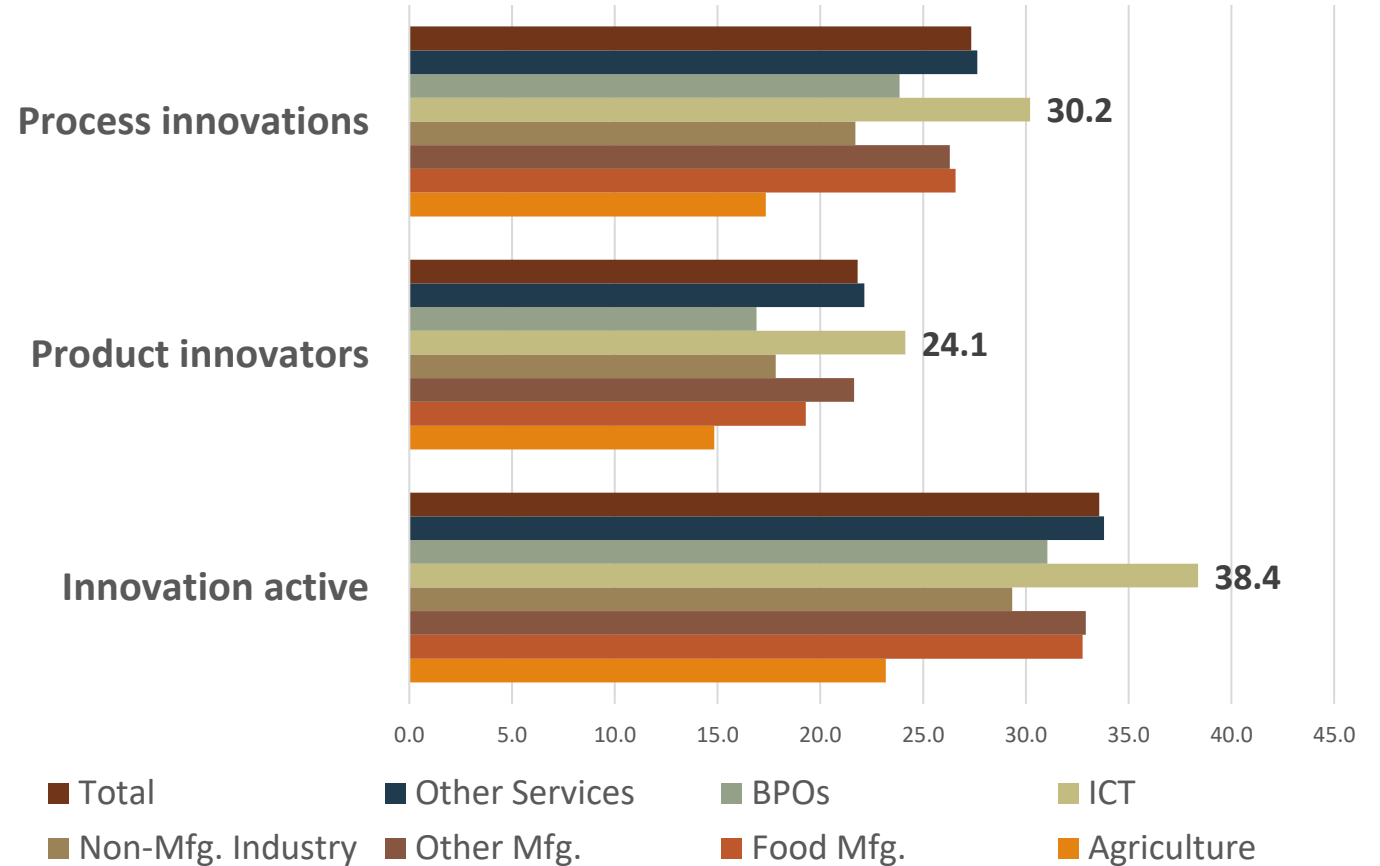
2.1. Key Statistics on Innovation

About a third (33.6%) of firms are innovation active, about a fifth (21.8%) are product innovators and a quarter (27.4%) are process innovators.



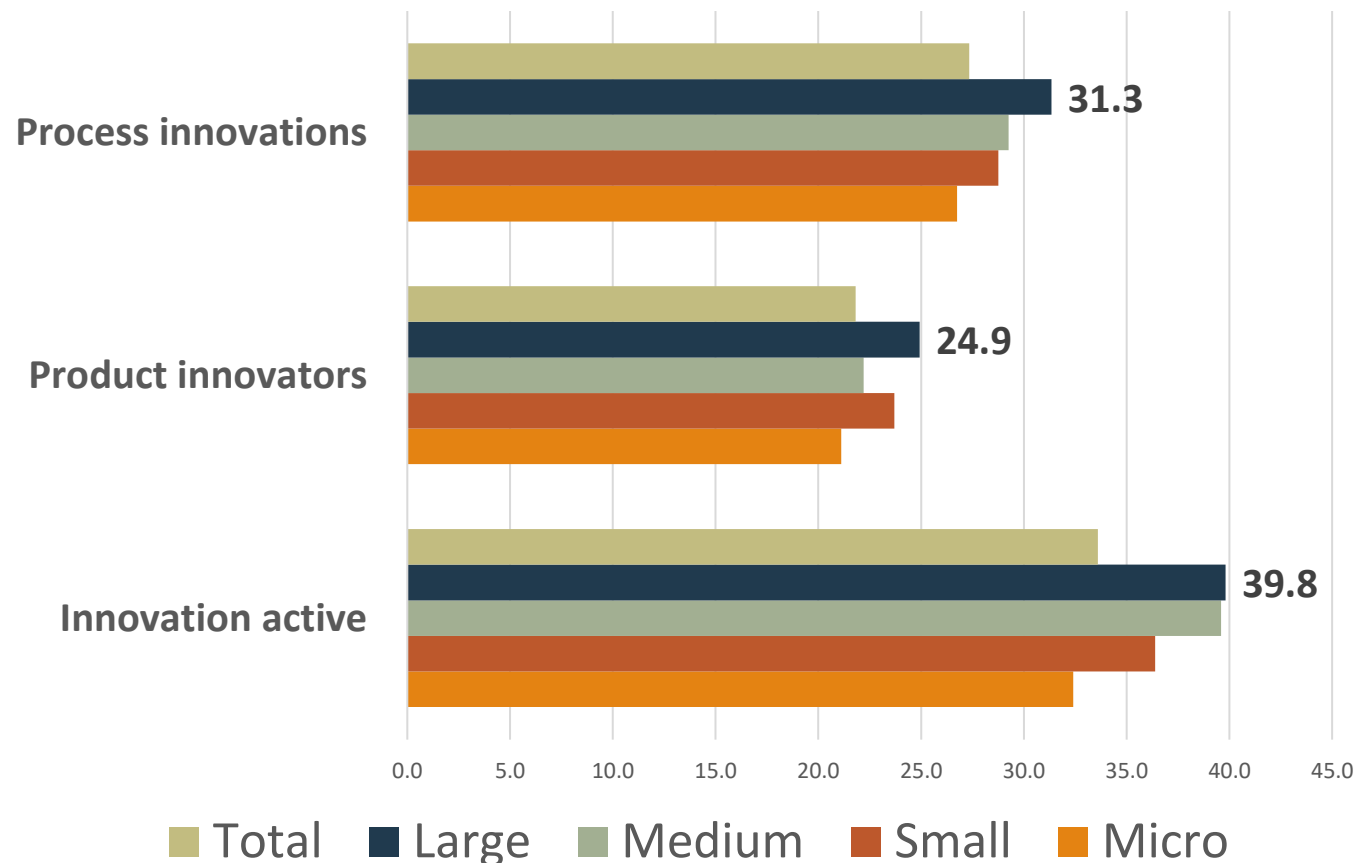
2.1. Key Statistics on Innovation

- About two-fifths of firms in ICT are innovation active; compared to only a quarter of firms in Agriculture.
- A quarter of firms in ICT are product innovators; less than a fifth of the Agriculture sector firms are product innovators.
- 30.2% of firms in ICT, 26.6% in Food Manufacturing and 26.3% in Other Manufacturing are process innovators



2.1. Key Statistics on Innovation

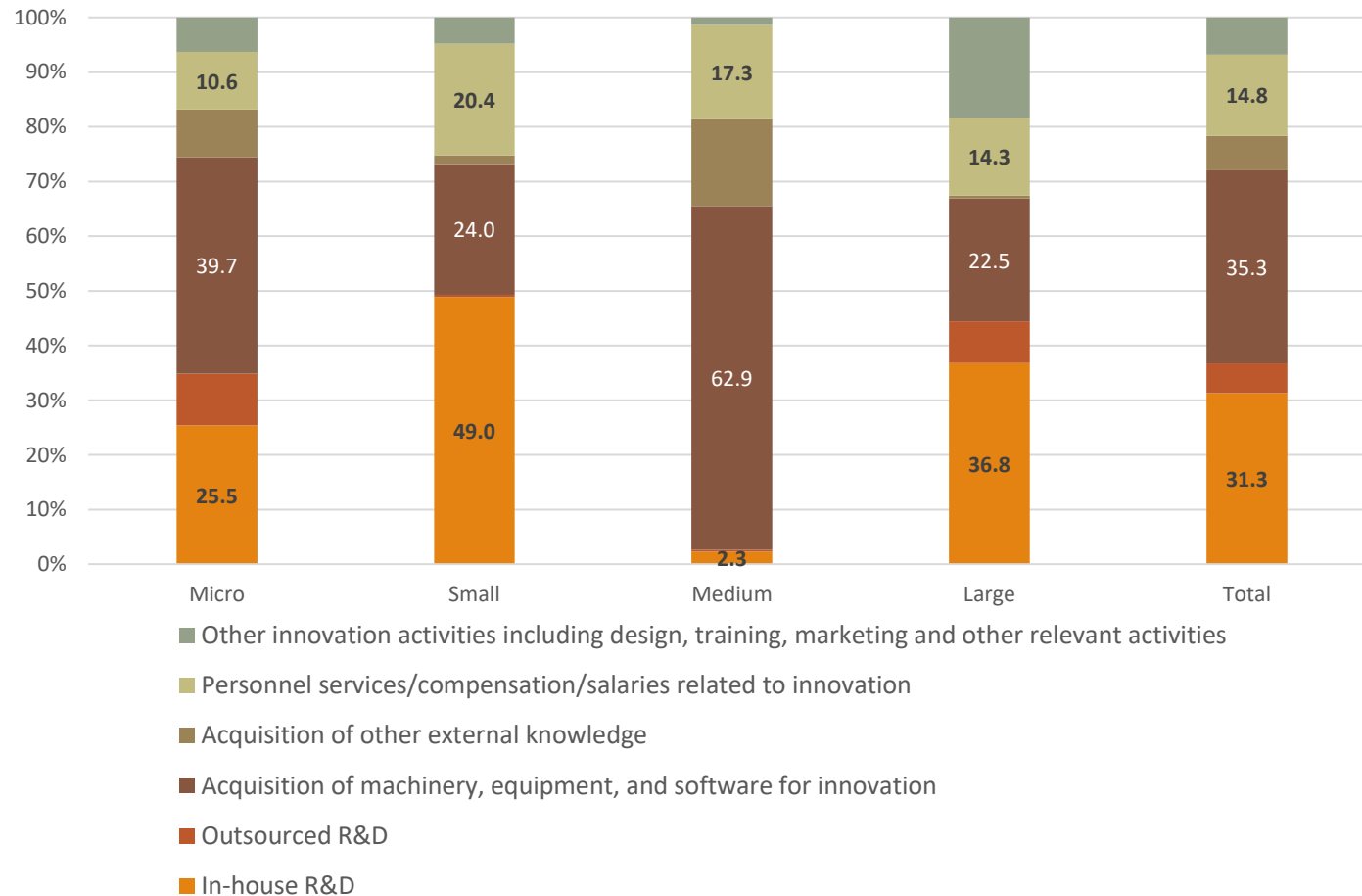
- Almost two-fifths of large firms are innovation active compared to a third of MSMEs.
- Large firms also engage more on product and process innovation than their smaller counterparts.



2.1.1. Expenditures in Innovation

- **Large firms spend 13.2 million PHP, on average, on innovation, 10.3x the average spending of all firms (1.28 Million PHP).**
 - Medium firms spend 12.4M PHP while small firms spend 1.6M PHP.
 - Micro firms spend 803 K PHP—0.7% of their total gross sales, about 60 percent of that for all establishments (1.3%).
- **Across sectors, ICT firms on average spend the most at 7.9M PHP, followed by Non- Mfg Ind (2.4M PHP), other Manufacturing (1.9M PHP)**
 - Agri sector spends highest relative to gross sales at 11.5% compared to that of next, ICT at 3.7%.
- **(Balance) Luzon firms spend 1.6M PHP followed by Visayas and NCR at 1.5M PHP;—Mindanao spends 0.09 M PHP.**

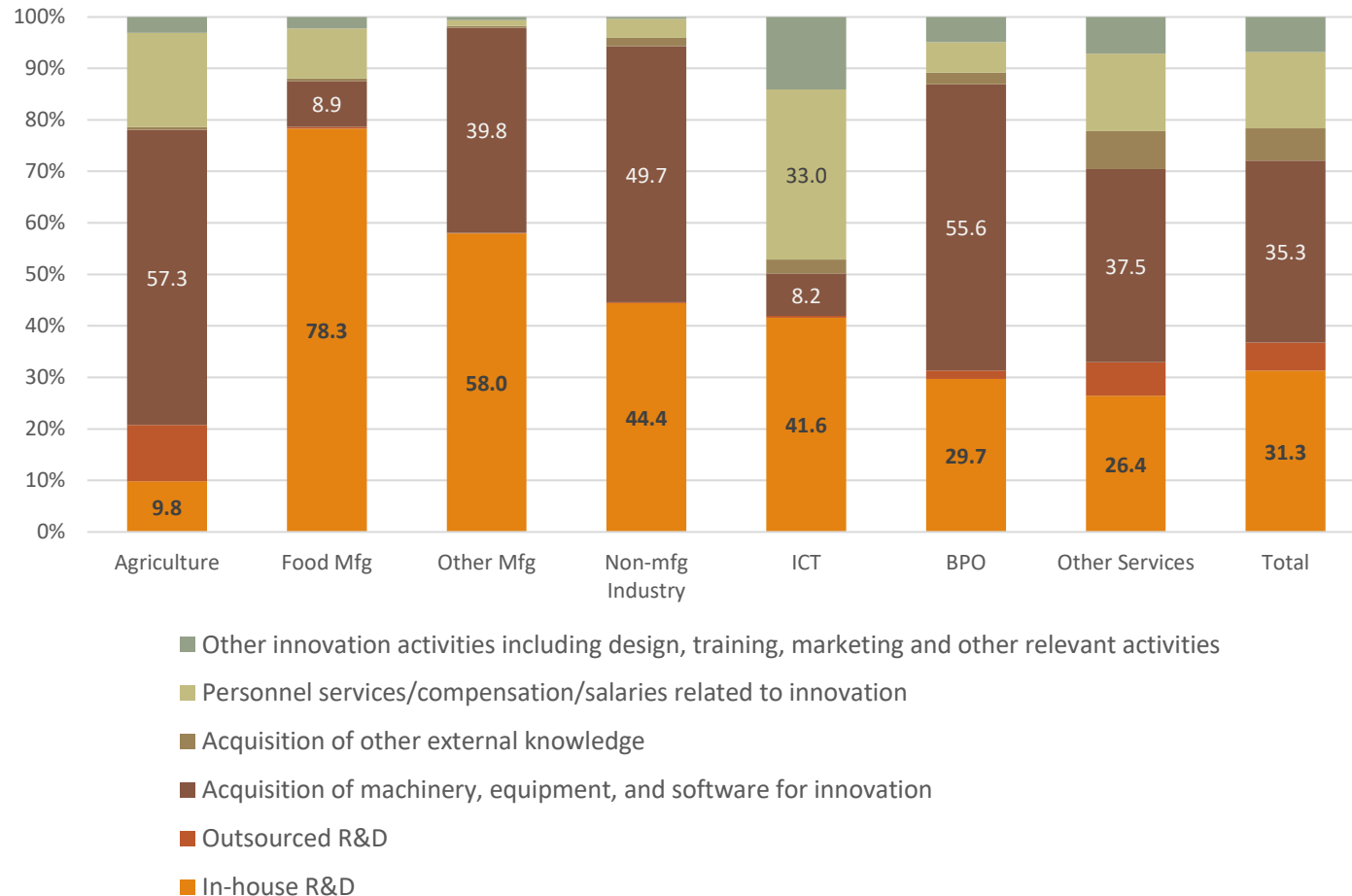
2.1.1. Expenditures in Innovation



Top 3 innovation investments

1. Acquisition of machinery, equipment and software (35.3%)
2. In-house R&D (31.3%)
3. Personnel services/compensation/salaries related to innovation (14.8%)

2.1.1. Expenditures in Innovation



- Among manufacturing and ICT sectors, in-house R&D was the primary innovation activity.
- Agriculture and the rest of services mainly spend on acquiring machinery, equipment, and software.

2.1.2. Wider Forms of Innovation

- **Three-eighths (37.1%) of firms are engaged in organizational innovation.**
 - About half (47.8%) of large firms as well as medium firms (54.0%) engage in organizational innovation. Among ICT and BPO firms, 41.0% and 43.4%, respectively have organizational innovations.
- **About a third (36.2%) of firms have marketing innovations. Nearly all (97.7%) are equipped w/ knowledge management practices.**
- **A quarter (25.8%) of firms are aware of government innovation policy and a tenth (9.7%) have availed public financial support for innovation.**
- **A quarter (25.8%) of innovation active firms filed for intellectual property rights**

2.1.3. Innovation in Govt Procurement Contracts

- Only 3.5% of firms undertook innovation as part of a govt contract,
 - of which about half (46.0%) did so as innovation was required from contract.
- Regulatory barriers are the biggest reported challenge in providing innovative goods and services to the public procuring entity:

Proportion of firms reporting challenges:

- Regulatory barriers : 38.8%
- Unavailability of the good or service in the local market : 27.8%
- Inability to meet the technical specifications in the contract : 23.8%
- Others : 18.8%

2.2. Determinants of Innovation

Logistic Regression Results

VARIABLES	Innovation Active	Product Innovation	Process Innovation	Organizational Innovation	Marketing Innovation
Log(Firm Size)	+***	+***	+***	+***	+***
Age of Firm	+***	+***	+***	+***	+***
Share of employees with a post baccalaureate degree	+***	+***	+***	+***	+
Local Market Share	-***	-***	-***	-***	-***
Foreign Ownership	+*	+	+***	-***	+**
Share of Female Employment	+***	+***	+***	+***	-***

*= Significant at 0.10 level ; **=significant at 0.05 level ; ***=significant at 0.01 level

2.2. Determinants of Innovation (cont'd)

Logistic Regression Results

VARIABLES	Innovation Active (n=8,733)	Product Innovation (n=8,708)	Process Innovation (n=8,474)	Organizational Innovation (n=7,420)	Marketing Innovation (n=8,583)
GeoDomains					
<i>NCR</i>	_***	-	_***	+	_***
<i>Balance Luzon</i>	_***	+***	-	+	_***
<i>Visayas</i>	+***	+***	+***	+***	-
<i>Mindanao</i>	+***	+***	+***	+***	+
<i>PEZA</i>	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
Sectors					
<i>Agriculture</i>	_***	_***	_***	_***	_***

*= Significant at 0.10 level ; **=significant at 0.05 level ; ***=significant at 0.01 level

2.2. Determinants of Innovation (cont'd)

Logistic Regression Results

VARIABLES	Innovation Active (n=8,733)	Product Innovation (n=8,708)	Process Innovation (n=8,474)	Organizational Innovation (n=7,420)	Marketing Innovation (n=8,583)
Sectors (cont'd)					
<i>Food Mfg</i>	+***	***	+***	***	***
<i>Other Mfg</i>	***	***	***	***	***
<i>Non-mfg Industry</i>	***	***	***	***	***
<i>ICT</i>	+	-	***	*	***
<i>BPO</i>	***	***	***	+	***
<i>Other Services</i>	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
Knowledge Management	+***	+***	+***	+***	+***
_cons	***	***	***	***	***

*= Significant at 0.10 level ; **=significant at 0.05 level ; ***=significant at 0.01 level

2.2. Determinants of Innovation (cont'd)

Summary of Econometric Model Results

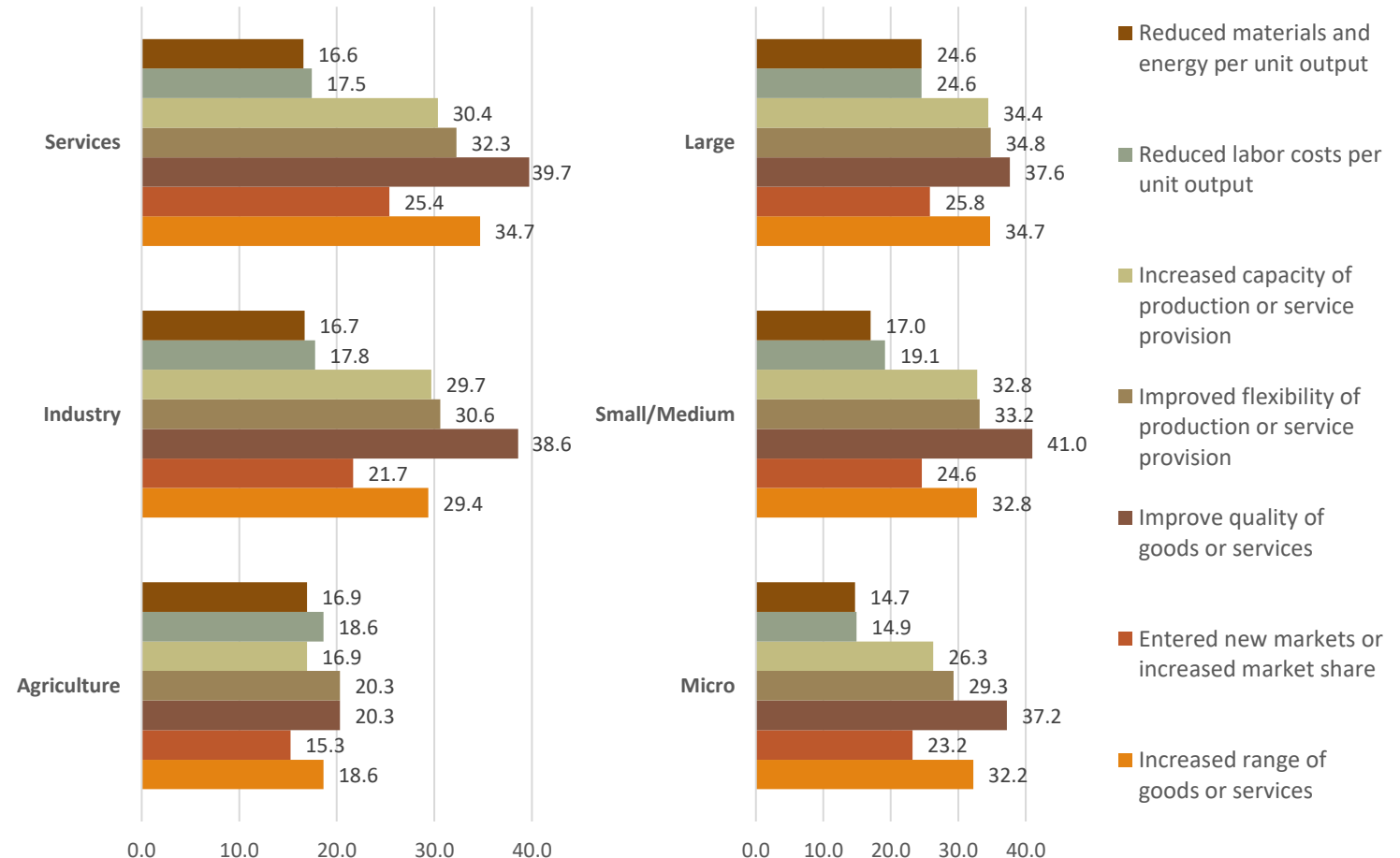
- **Share of employees with post bacc degrees are positively significant** for innovation activity, product innovation, process innovation and organizational innovation (0.01% LOS)
- **Foreign ownership matters** on innovation activity (0.10), process innovation (0.01), organizational innovation (0.01), and marketing innovation (0.05)
- Firms in NCR are less likely to be innovation active (0.01), process innovator (0.01), or marketing innovator (0.01)
- Firms in Agriculture, Other Mfg, and Industries other than Mfg are less likely to be innovation active, product innovators, process innovators, org innovators, or marketing innovators (0.01)
- **Knowledge management practices remains a positive significant factor** (0.01) of innovation activity, process innovation, product innovation and wider forms of innovation.

2.3. Effects of Innovation

- **Effects of innovation are mainly customer-driven.**
- **Product oriented effects (about 25-40%) are more often highly rated than process related effects (about 14-33%).**
 - BPO firms often cited product effects of Improved quality of goods and services and Increased range of goods or services.
 - BPO firms often cited process effects of improved flexibility and increased capacity of production/service provision.

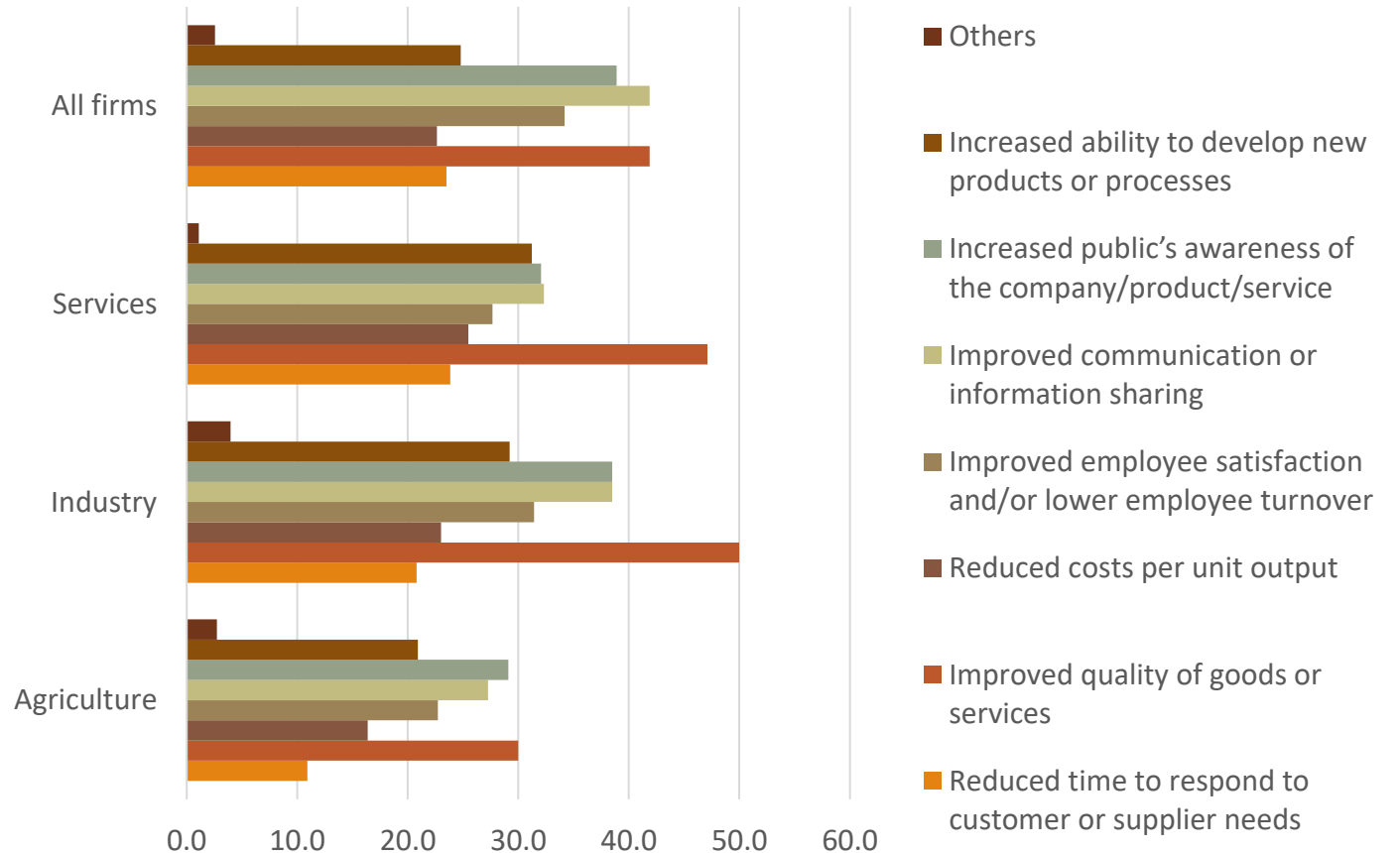
2.3. Effects of Innovation

- Product- and process-oriented effects are more likely to be rated as 'high' by industry and services firms than agriculture firms.
- Agriculture firms perceive the importance of innovation in improving labor productivity and efficient use of materials and energy.
- The importance of process-oriented effects is more apparent among large firms
- Compared to large firms, a higher percentage of small and medium firms rated the effects on quality of goods and services as 'high'.



2.3. Effects of Innovation

- Organizational innovation was mainly perceived to substantially contribute to following:
 - Improving quality of goods and services (41.9%)
 - Improving communication or information sharing (41.9%)
 - Increasing public awareness of the company/product/service (38.9%)
- Compared to industry and services sectors, organizational innovators in agriculture are less likely to rate the effects of organizational innovation as 'high'.



2.4. Cooperation Partners on Innovation

- Most establishments reported internal sources (31.0%) and market sources, especially clients (33.8%) as the most important sources for information on innovation.
- Two fifths of large firms rated internal sources (43.6%) and customers (38.8%) as highly important for innovation, while among MSMEs, the corresponding proportions were 30.7% and 33.7%, respectively.
- Meanwhile, institutional sources of innovation and knowledge, particularly government (8.1%) or public research institutes (8.1%) or associations (9.3%), were considered by firms, to be of low importance on information on innovation.

2.4. Cooperation Partners on Innovation

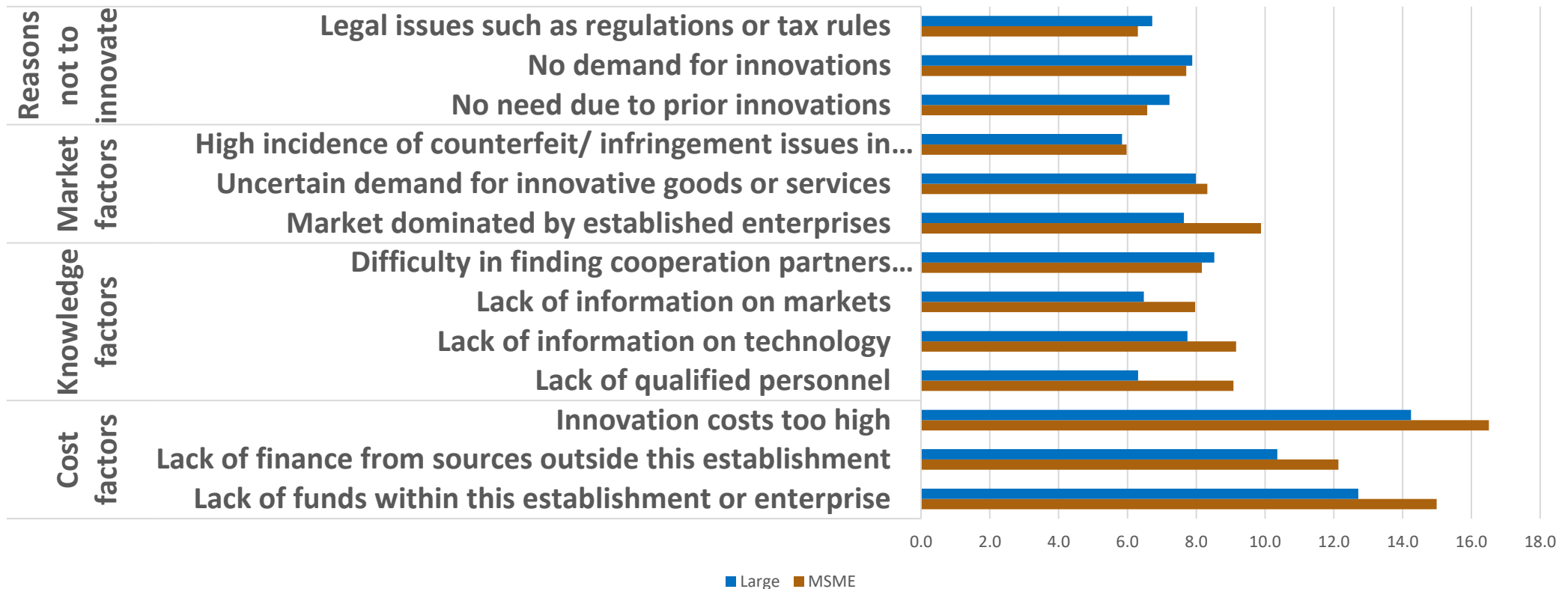
Type of Cooperation Partner	PH	Other ASEAN	All Other Countries
Other establishments within enterprise	11.5	0.6	0.6
Suppliers of equipment, materials, components, or software	11.3	0.9	0.9
Clients or customers in private sector	12.2	0.5	0.4
Clients or customers in public sector	11.7	0.1	0.0
Competitors or other estab w/in sector	10.6	0.2	0.1
Consultants, commercial laboratories, or private R&D institutes	9.9	0.2	0.0
Universities/higher education institutions	9.7	0.0	0.0
Government or public research institutes	10.0	0.0	0.0

Most
Frequent
Partners

Least
Frequent
Partners

2.5. Barriers to Innovation - High importance

All firms, by size



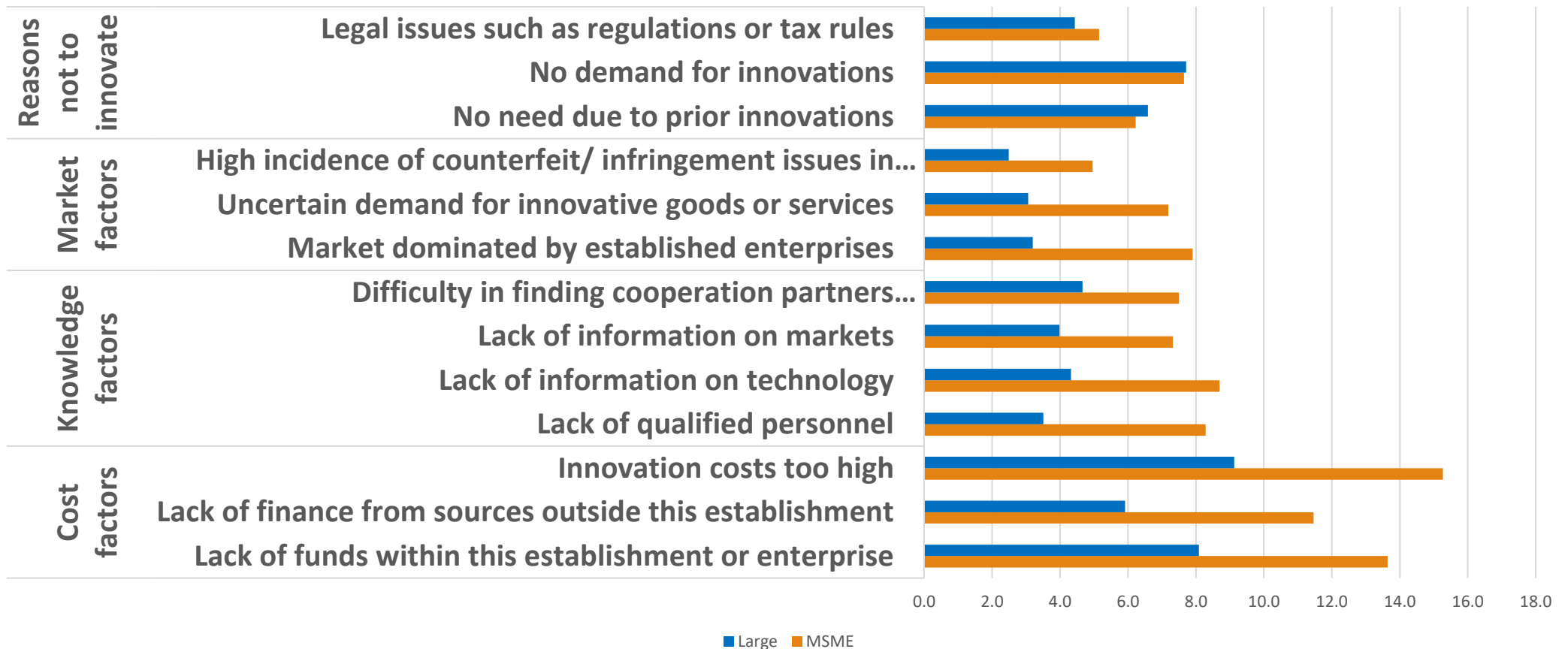
2.5. Barriers to Innovation - High importance

Innovation Active firms, by size

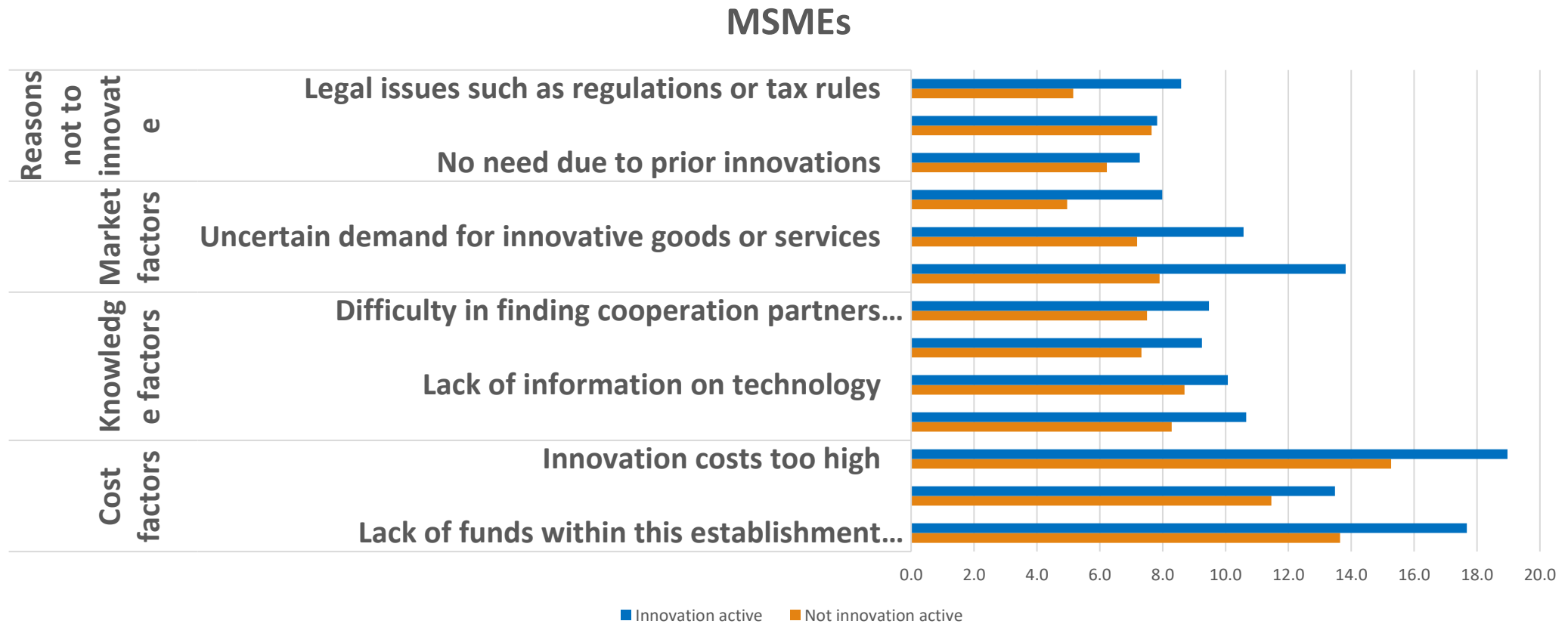


2.5. Barriers to Innovation - High importance

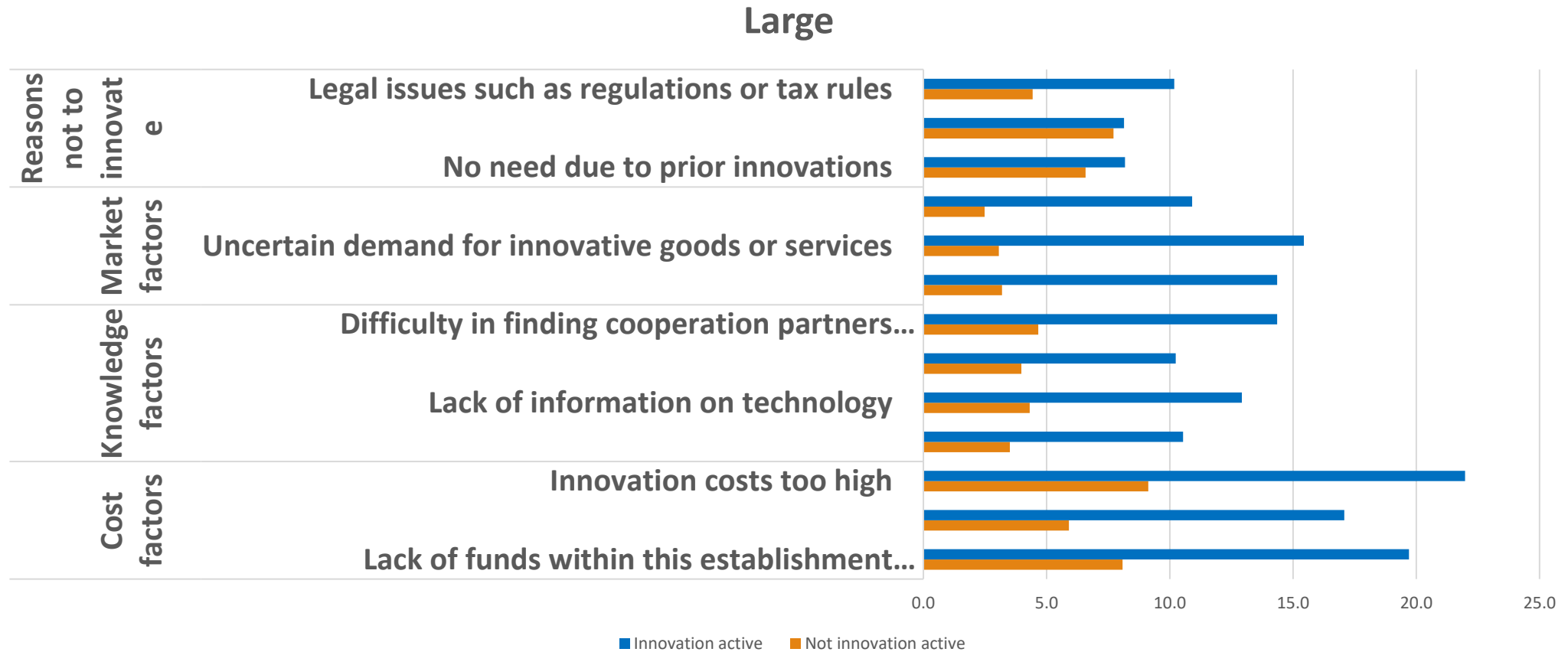
Not innovation active firms, by size



2.5. Barriers to Innovation - High importance



2.5. Barriers to Innovation - High importance



2.5. Barriers to Innovation - High importance

All firms, by sector



2.6. Support for Innovation

- One in every 4 firms were aware of government innovation policies:
 - 82% of these firms were aware of DTI policies, 25% were aware of DOST while 20% were aware of DICT
 - Only 13.6% availed govt assistance on their innovation activity
- Tax deductions were top-rated among highly important incentives for both MSMEs and large firms, regardless of location; same goes for Industry and Services
- Firms in both Industry and Services sectors also consider tax credits highly important; Services prefer more training while Industry leans more on tax holidays among their top 3 highly important incentives
- Agri firms highly prefer direct subsidies, training, and technical support
- NCR firms consider tax-related incentives to be highly important

2.6. Support for Innovation (cont'd)

Government Support	Size		Sector			Total
	MSME	Large	Agriculture	Industry	Services	
R&D Funding	6.2%	10.0%	8.5%	7.0%	6.2%	6.3%
Training	8.8%	15.2%	12.1%	8.5%	8.9%	8.9%
Direct Subsidies	7.9%	10.8%	12.4%	8.2%	7.9%	7.9%
Tax Deduction	11.3%	22.1%	12.1%	13.0%	11.2%	11.4%
Tax Credits	8.8%	18.3%	10.1%	11.0%	8.7%	9.0%
Tax Holidays	8.4%	19.5%	9.3%	10.9%	8.2%	8.5%
Duty free importation	5.8%	14.6%	6.5%	7.7%	5.7%	5.9%
Technical support/advice	7.8%	15.0%	12.3%	8.8%	7.7%	7.9%
Infrastructure support	6.5%	11.5%	11.4%	7.9%	6.3%	6.5%
Subsidized loans	7.1%	10.5%	9.9%	8.2%	7.0%	7.2%
Loan Guarantees	7.8%	11.7%	11.0%	8.9%	7.7%	7.9%
Others	0.1%	0.1%	0.2%	0.2%	0.1%	0.1%

**Top 3
Government
Programs
Regarded as
“highly
important”**

1. Tax deduction
2. Tax credits
3. Training

2.7. Platform Use

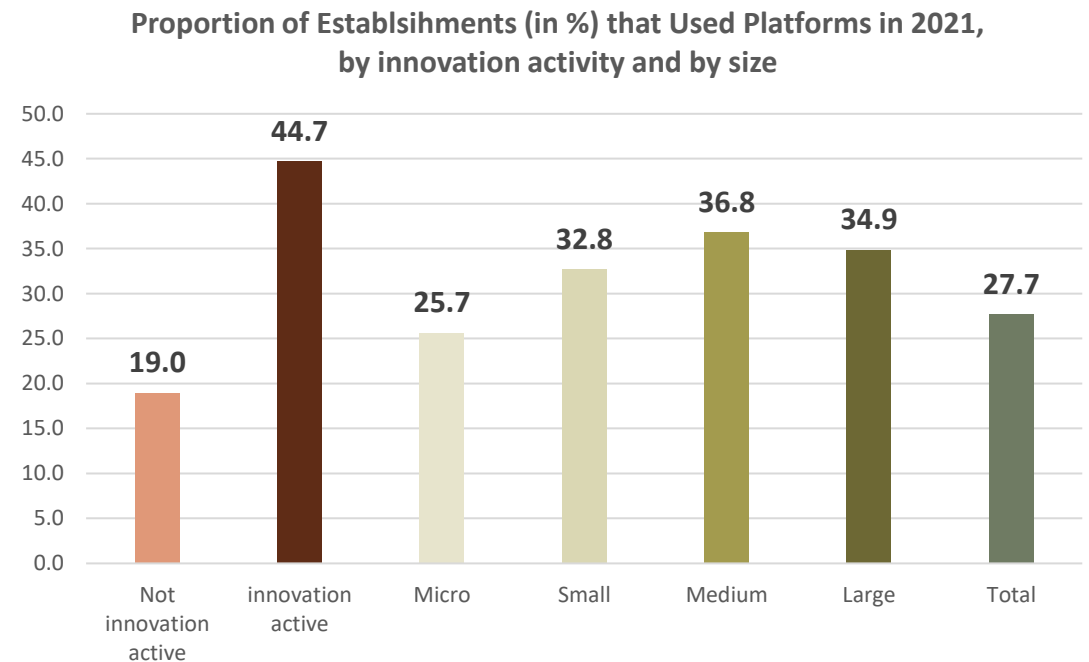
Operational Definition: An internet platform is a digital intermediary and infrastructure that brings together various parties (such as sellers and buyers of products and services) through the internet to interact, thereby matching supply and demand in a multi-sided market.

- Examples of an internet platform include (a) social media platforms such as Facebook, YouTube, Instagram, Viber, and LinkedIn; (b) e-commerce platforms such as Lazada, Shopee, and Zalora; (c) other platforms such as Google (search engine); Grab, Lalamove and Angkas (ride-sharing or logistics services); Netflix, Youtube and Spotify (media-streaming); Airbnb (accommodation services); CrowdFlowers and Microworkers (crowdwork); Zoom and Webex (video conferencing); Gcash, Paymay, Paypal, Coins (e-money)

2.7. Platform Use (cont'd)

A quarter (27.7%) of firms used platforms in 2021:

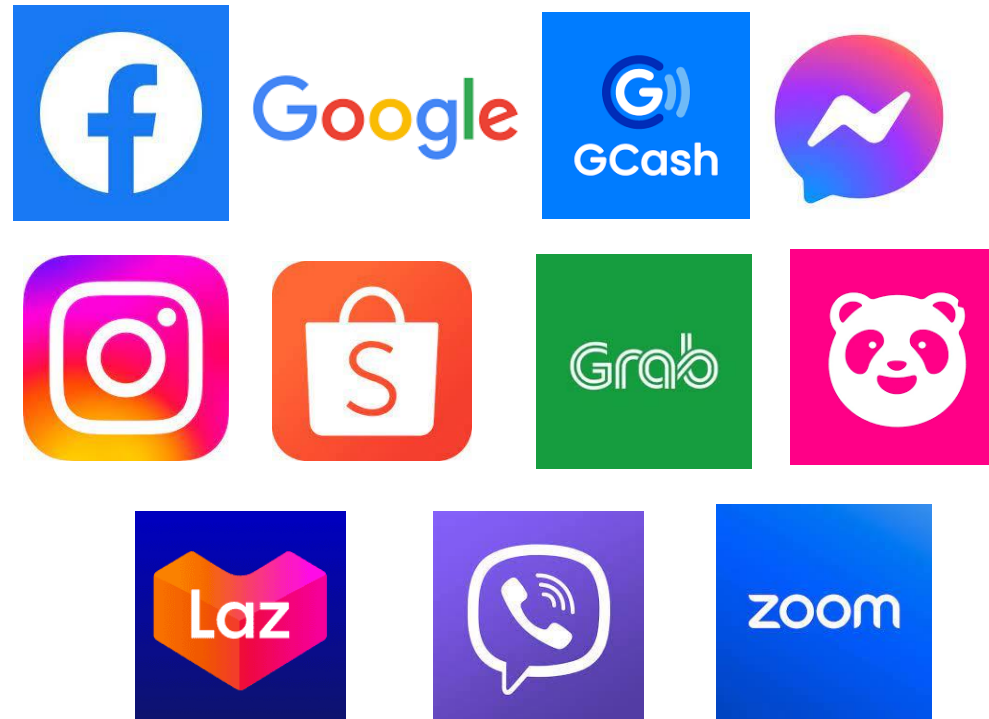
- By innovation activity, nearly half (44.7%) of innovation active firms used platforms compared to a fifth (19.0%) among firms that are not innovation active.
- A bigger share of medium (36.8%) and large firms (34.9%) used platforms in 2021 compared to micro (25.7%) and small (32.8%) establishments.



2.7. Platform Use (cont'd)

Top 12 Platforms Used by Firms that Used Platforms in 2021

1. Facebook (24.3%)
2. Google (2.4%)
3. Gcash (2.3%)
4. Messenger (2.2%)
5. Instagram (2.0%)
6. Shopee (2.0%)
7. Grab (2.0%)
8. Food Panda (1.8%)
9. Lazada (1.7%)
10. Website (1.3%)
11. Viber (1.2%)
12. Zoom (1.0%)



2.7. Platform Use (cont'd)

Among platform users:

- A third (33.8%) own/manage platform/s
- About half (52.0%) sell products/ services
- A quarter (24.3%) purchase products/ services
- More than half (55.2%) advertise firm or firm's products/ services

	Agriculture	Industry	Services	Total
Own/ manage platform/s	35.1	35.3	33.7	33.8
Sell products/ services	62.5	53.0	51.9	52.0
Purchase products/ services	31.4	36.1	23.3	24.3
Advertise firm or firm's products/ services	46.1	53.2	55.4	55.2

2.7.1. Platform Owners

According to platform owners, their platforms have the following features:

- a. Media streaming : 7.0%
- b. Messaging/Communication : 20.6%
- c. Social networking sites : 25.5%
- d. Marketplace : 8.7%
- e. Crowdsourced content : 1.2%
- f. Jobs platform : 4.4%
- g. Fintech : 7.2%
- h. Search advertising : 7.3%
- i. Food delivery : 5.7%
- j. Transportation network : 3.0%
- k. Travel booking : 1.7%
- l. Education platform : 1.3%
- m. Innovation platform : 2.9%
- n. Others 1.4%

2.7.1. Platform Owners (cont'd)

Three fifths (59.3%) of platform owners report that their platforms were open to third-party users:

- a. Advertisers : 6.3%
- b. Buyers : 11.3%
- c. Sellers : 5.8%
- d. Content consumers : 3.5%
- e. Content producers : 1.3%
- f. App developers : 1.6%
- g. App users : 2.9%
- h. Employers : 7.8%
- i. Workers : 8.2%
- j. Drivers : 3.0%
- k. Riders : 4.9%
- l. Couriers : 3.9%
- m. Payment channel : 4.3%
- n. Others : 1.3%

2.7.1. Platform Owners (cont'd)

- From January 2021 to December 2021, the share of platforms that :
 - a. Aimed to match users based on their expectations : 12.7%
 - b. Matched requests of users but the transaction is carried outside the platform : 9.7%
 - c. Acted as a marketplace : 18.8%
 - d. Facilitated interactions by providing the appropriate tools or instruments : 8.6%
- A tenth (10.3%) of platforms are part of the sharing economy (that allow sharing of access to underused/unused goods and services)

2.7.1. Platform Owners (cont'd)

- The proportion of owners of platforms who report that the drivers of growth of the platform are :
 - a. More customers : 14.5%
 - b. More transactions : 23.3%
 - c. More content : 6.0%
 - d. Others : 2.4%
- Geographics markets of internet platforms in 2021 :
 - a. Local : 23.6%
 - b. National : 12.5%
 - c. ASEAN : 1.5%
 - d. Countries other than ASEAN : 2.3%

2.7.1. Platform Owners (cont'd)

- Average Revenue of Platform Owners for 2021 from national and international trade/cross-border transactions is 141 Million PHP and 8.7 Million PHP, respectively

Major Sector	Average Revenue (in Million PHP)	
	Local	International
Agriculture	72.7	
Industry	535.0	7.3
Services	109.0	8.8
Total	141.0	8.7

Revenues generated with

- Admission fees : 2.1%
- Membership fees : 1.5%
- Subscription fees : 1.1%
- Transaction fees : 7.8%
- Data monetization : 0.3%
- Service and product sales: 17.5%
- Commission-based : 2.0%
- Advertisement based : 3.5%
- Riders : 1.4%
- Couriers : 1.0%
- Others : 3.3%

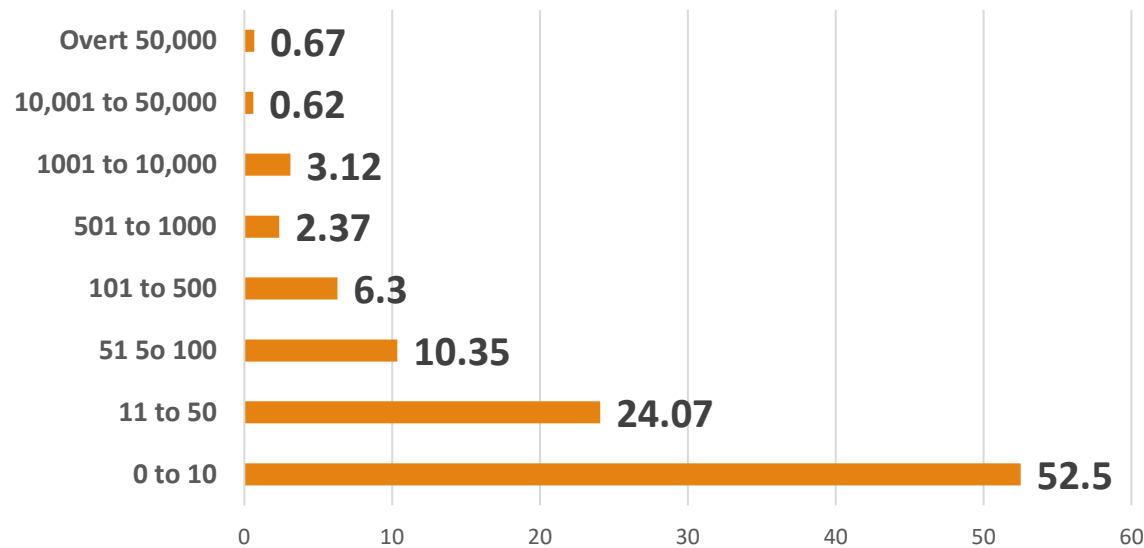
2.7.1. Platform Owners (cont'd)

- More than half (54.7%) of platform owners report that the platform set the prices and circumstances of logistics. A fifth (19.4%) suggest it is a third party, and a quarter (25.8%) say it is others (most of whom report the owner/management).
- Factors that affected the prices or circumstances of logistics in 2021 :
 - a. Fixed rate : 9.3%
 - b. Demand : 11.0%
 - c. Location : 14.5%
 - d. Choice of courier : 4.6%
 - e. Payment method : 4.8%
 - f. Others : 4.1%

2.7.1. Platform Owners (cont'd)

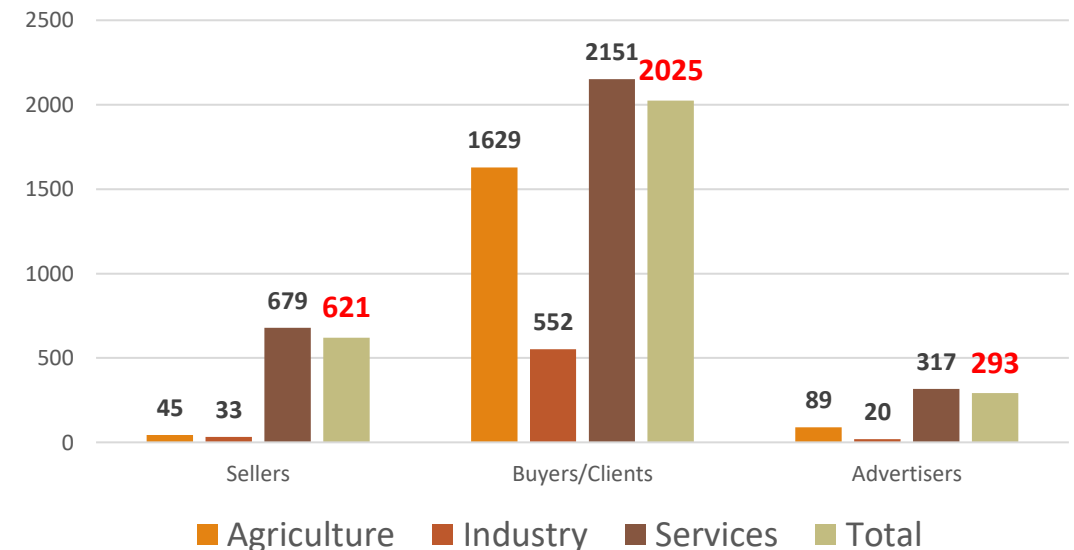
- Half (52.5%) of platforms report daily transactions 10 or below; a quarter (24.1%) between 11 to 50

Proportion of Firms (in Percent) by Number of Daily Transactions



- In 2021, average number of clients, sellers and advertisers was 2025, 621, 293, respectively

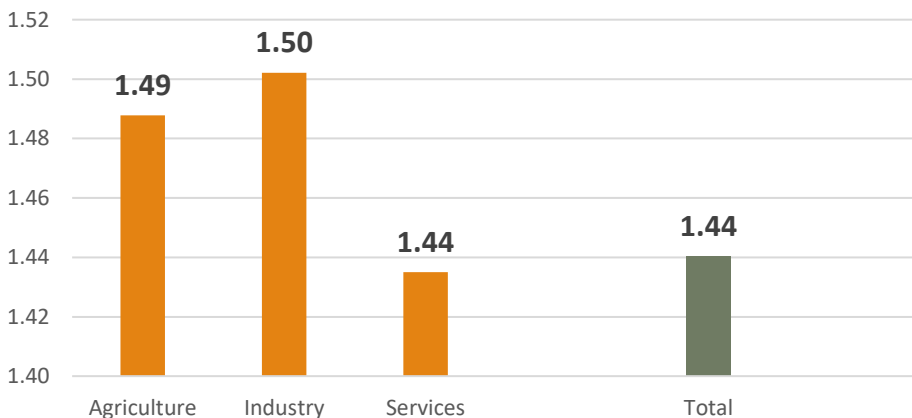
Average Platform Engagement in 2021, by Major Sector



2.7.1. Platform Owners (cont'd)

- More than half (55.9%) of platforms advertised in their own platforms. Average share of foreign ownership of platforms is 1.4%.

Average percent share of foreign ownership in platforms, by major sector



- Type of funding obtained in 2021 :

- Financing from friends and family : 4.1%
- Grants : 1.4%
- Loans : 7.0%
- Crowdfunding : 0.3%
- Personal Savings : 12.3%
- Business angels: 3.1%
- Venture capital : 8.3%
- Business incubators: 2.1%

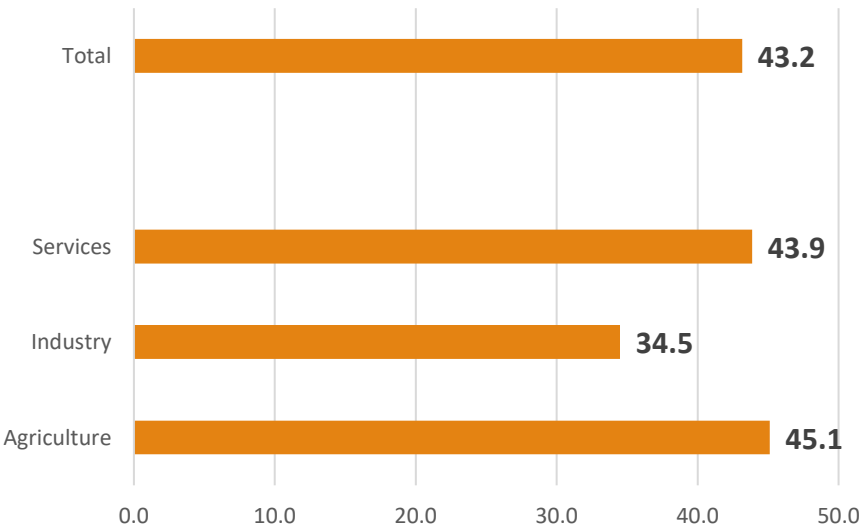
- Type of taxes paid in 2021 :

- Income tax : 22.9%
- Corporate tax : 12.3%
- Value-added tax : 18.1%
- Withholding tax : 17.2%
- Others : 1.6%
- None : 2.5%

2.7.1. Platform Owners (cont'd)

- Two-fifths (43.2%) of platforms collected users' data

Percent of platforms that collected users' data in 2021



- Users Data collected:

- Personal identification data : 10.8%
- Payment data : 7.8%
- Product transaction data : 6.8%
- Service transaction data: 7.5%
- Content consumption : 0.9%
- Personal expression data : 1.6%
- Search queries : 3.9%
- Browsing data : 2.4%
- Friends and groups followed : 2.0%
- Phone contacts : 6.1%
- Device/connection data : 2.3%
- Location data : 5.0%

- Users' data utilized:

- To optimize platform app/website : 4.7%
- To provide better user experience : 8.1%
- To advertise : 6.5%
- To operate, maintain, and provide features and functionality of the platforms' products and services : 6.9%
- To communicate with users : 8.3%
- To personalize content and information : 3.1%
- To measure traffic and usage trends : 2.5%
- To develop new services : 3.3%
- To attract more users and increase their usage of the platform : 4.0%
- To fix technology problems : 1.6%
- For safety and security : 1.9%

2.7.1. Platform Owners (cont'd)

- Most employees (84.3%) directly employed for platform operations in 2021 have bachelors degree or higher, especially in Services (85.6%).

Highest Educational Attainment	Sex	Major Sector			
		Agriculture	Industry	Services	Total
Primary or less	Male	76	1358	3970	5404
	Female	0	301	2007	2307
Beyond primary but less than bachelors	Male	274	15972	68599	84846
	Female	79	5169	102586	107834
Bachelors or higher	Male	89	7722	303721	311532
	Female	132	7540	753593	761266

- Work arrangements:
 - Full time : 4.7%
 - Part time : 8.1%
 - Flexible : 6.5%
 - Compressed workweeks : 6.9%
 - Telecommuting : 8.3%
 - Job sharing: 3.1%

2.7.1. Platform Owners (cont'd)

- Less than half (44.9%) of platforms reported that users needed to set up an account to be able to access products/services on the platform in 2021.
- Type of verification process required for platform clients in 2021:
 - a. Knowledge-based Authentication (security questions) : 8.1%
 - b. Two-factor Authentication (code sent to email/mobile number) : 10.2%
 - c. Biometric Verification (facial, voice, iris, fingerprint recognition) : 2.8%
 - d. Submission of valid IDs : 9.9%
 - e. Photo and video documentation : 3.2%
 - f. Personal appearance/interview : 11.2%
 - g. Video interview : 1.0%
 - h. Others : 4.75%

2.7.3. Platform Sellers, Clients and Advertisers

- Nearly all firms that reported themselves as platform sellers, clients and advertisers did not answer pertinent sections in questionnaire.

PLEASE ENTER ON THE APPROPRIATE SPACE OR BOX THE DATA REQUESTED		Page 23
22. GENERAL INFORMATION ON PLATFORM USE (cont.)		
C. Which of the following were the uses of an online platform for this establishment in 2021?		
Mark (✓) applicable box/es.		LN NO
a <input type="checkbox"/> Own/manage platform/s (Accomplish Item 23A.)		05
b <input type="checkbox"/> Sell products/services (Accomplish Item 24A.)		
c <input type="checkbox"/> Purchase products/services (Accomplish Item 25A.)		
d <input type="checkbox"/> Advertise firm or firm's products/services (Accomplish 26A.)		

. mdesc var_24* if var_22A==2

Variable	Missing	Total	Percent Missing
var_24A	7,450	7,451	99.99
var_24B	7,447	7,451	99.95
var_24C	7,448	7,451	99.96
var_24Da	7,451	7,451	100.00
var_24Db	7,451	7,451	100.00
var_24Dc	7,451	7,451	100.00
var_24Dd	7,451	7,451	100.00
var_24De	7,451	7,451	100.00
var_24Df	7,451	7,451	100.00
var_24Dg	7,451	7,451	100.00
var_24Dh	7,450	7,451	99.99
var_24Di	7,451	7,451	100.00
var_24Dj	7,451	7,451	100.00
var_24Dk	7,451	7,451	100.00
var_24Dl	7,451	7,451	100.00
var_24Dm	7,451	7,451	100.00

3. Policy Issues and Ways Forward

- **Policies must be formulated to address the barriers to innovation**
 - Cost factors
 - Knowledge factors
 - Market factors
 - Legal issues such as regulations or tax rules

3. Policy Issues and Ways Forward

Alignment of RA 11293 provisions with the factors affecting innovation

The Philippine Innovation Act (R.A. 11293)	Cost factors	Knowledge factors	Market factors	Legal issues such as regulations or tax rules
Section 12. Micro, Small and Medium Enterprise (MSME) Innovation		X	X	
Section 13. Innovation Centers and Business Incubators		X		
Section 15. Strategic Research, Development and Extension (RD&E) Programs		X		
Section 16. Innovation Instruments		X		
Section 17. Whole of Government Approach Note: A joint web portal will be created with information on innovation policies, strategies, programs, including services, grants, and financial assistance for related trainings.		X		
Section 18. Diaspora for Innovation and Development		X		
Section 19. Intellectual Property System and Management			X	X
Section 20. Advocacy and Community Education		X		
Section 21. Innovation Fund Note: Grants can be accessed by NGAs, LGUs, SUCs, and GOCCs but public private partnerships are also encouraged.	X			
Section 22. Innovation Development Credit and Financing	X			
Section 23. Credit Quota	X			
Section 24. Removing Barriers to Innovation				X
Section 25. Innovation Alliances		X		
Section 26. Government Procurement			X	

3. Policy Issues and Ways Forward

- **Fostering innovation through re-skilling and upskilling**
Clear relationship between skills of employees and innovation activity of firms
- **Push for digitalization in government and the private sector**
Pandemic pushed firms to digitalize and use platforms, but extent of platform use still can be improved; policy/programs on digital skills needed
- **Strengthening linkages between knowledge producers and users**
Govt needs to promote free exchange of ideas and flow of knowledge from outside companies while large firms need to cooperate for innovation.
- **Improving support for innovative activities of businesses**
Through innovative processes or technologies, establishments can streamline their operations, reduce waste, and optimize resource utilization.

3. Policy Issues and Ways Forward

- **Targeting assistance to MSMEs**
MSMEs need support to become larger-sized, more productive firms.
- **Adopting a whole of government (society) approach**
Although previous administration made use of term WOG in policy documents, but it was unclear what this meant. Often WOG used only as mechanism for “meetings” to bring people and institutions together; sharing of data and knowledge with WOG/S paradigm needed
- **Recognizing role of regulatory frameworks in promoting or inhibiting innovation especially amid likely increased use of artificial intelligence (AI)**
Regulators and legislators should examine extent to which regulations are barriers to innovation, and encouraging monopolistic positions in markets ; regulatory framework may be needed to manage the use of AI

3.1. Final Words

- Support needed for S&T, R&D and innovation (e.g., Science for Change)
- Government support must be focused on:
 - removing barriers/bottlenecks to innovations in regulatory frameworks;
 - providing meaningful and impactful support to innovators (esp. MSMEs);
 - investing in required technology, infra, and people (skills)
 - instituting reforms in education, investment climate and trade
 - formulating complementary policies that reduce regulatory burden, enforce competition, and promote openness to trade and investment
- A national innovation framework and plan of action is to be developed by agency under NEDA to facilitate interactions of players in innovation ecosystems. This should be developed urgently, with proper M&E mechanisms
- Important to regularly monitor the extent of innovation activities (and platform use) to manage innovation ecosystem



Philippine Institute for Development Studies
Surian sa mga Pag-aaral Pangkaunlaran ng Pilipinas

Service through
policy research

End of talk

 inquiries@pids.gov.ph ; jalbert@pids.gov.ph

 [/PIDS.PH](https://www.facebook.com/PIDS.PH)

 [@PIDS_PH](https://twitter.com/PIDS_PH)

 <http://www.pids.gov.ph>