

25 April 2016

Public Announcement of the “Preliminary Report on the Fourth Round of the Japanese National Innovation Survey (J-NIS 2015: Japanese National Innovation Survey 2015)”

National Institute of Science and Technology Policy (NISTEP) of the Ministry of Education, Culture, Sports, Science and Technology (MEXT) (Director General: Nobuaki KAWAKAMI) has conducted the Japanese National Innovation Survey (J-NIS) in order to examine the state and trend of innovation activities of the private firms in Japan since FY2002. It has recently conducted the fourth round of the survey (the reference period: FY2012–FY2014), and publishes the preliminary result on it.

Main Results from this Round of the Survey

The survey results show that there were little change in the ratios of the numbers of realising innovations during this period in Japan as a whole in comparison with those in the previous round of the survey (the reference period: FY2009–FY2011). Nevertheless, the ratio of the number of realising product innovation is lower than those of realising other types of innovation, such as process, organisational, and marketing innovations, and is likely to be decreasing. It is expected that more firms will introduce products and/or services in future for maintaining the Japanese industrial competitiveness.

The “Japanese National Innovation Survey (J-NIS)” is a Japanese official statistical survey (a General Statistical Survey). It is conducted on the basis of the international standards for collecting and interpreting innovation data, the “Oslo Manual,” that was a joint publication of OECD and Eurostat. The question items of the J-NIS correspond to those of the Community Innovation Survey (CIS), which has been conducted in European countries. OECD has published the “OECD Science, Technology and Industry Scoreboard” etc., which include international comparisons of several indicators on the basis of survey data in many countries including Japan.

The target population of the J-NIS 2015 were private enterprises with 10 or more regular persons employed, except for those in some economic activities. The survey questionnaire was distributed to the samples of 24,825 enterprises, which were selected with the stratified sampling based on the enterprise industrial classification and the enterprise size class from the frame population of 380,224 enterprises. Finally, the survey was responded by 12,526 enterprises (response rate: 51%).

The final report of the J-NIS 2015 is scheduled to be published in summer of 2016.

For Inquiries:

National Institute of Science and Technology Policy (NISTEP)
First Theory-Oriented Research Group

Contacts: Tomohiro IJICHI and Yuya IKEDA

TEL: +81-3-3581-2396

FAX: +81-3-3503-3996

E-mail: jnis4@nistep.go.jp

1) Ratios of the firms realising innovations (FY2012–FY2014)

The ratio of the firms realising process innovation¹ in the period FY2012–FY2014 slightly increased in comparison with that in the period FY2009–FY2011. In particular, the ratio the firms realising process innovation in manufacturing increased from 20% to 25%. Although, as a whole, the ratios of the firms realising innovations are not changed so much, the ratio of the firms realising product innovation² is lower than the ratio of the firms realising process, organisational³, and marketing innovations⁴. Furthermore, the ratio of the firms realising product innovation in the period FY2012–FY2014 (12%) decreased in comparison with that in the period FY2009–FY2011 (14%).

Exhibit 1. Ratios of the firms realising innovations (to all the firms) (Unit: %)

	Realising product innovation		Realising process innovation	
	Fourth round	Cf. Third round	Fourth round	Cf. Third round
Total	12	14	15	12
<i>Of which:</i> Small-sized enterprises	11	12	14	10
Medium-sized enterprises	16	19	20	17
Large-sized enterprises	27	25	28	25
Manufacturing	19	20	25	20

	Realising organisational innovation		Realising marketing innovation	
	Fourth round	Cf. Third round	Fourth round	Cf. Third round
Total	24	22	22	24
<i>Of which:</i> Small-sized enterprises	22	20	21	23
Medium-sized enterprises	29	29	23	25
Large-sized enterprises	42	43	31	32
Manufacturing	29	29	23	23

Notes: The reference periods of the third and fourth rounds are FY2009–FY2011 and FY2012–FY2014, respectively. The small-sized enterprises, the medium-sized enterprises, and the large-sized enterprises are the firms with 10–49, 50–249, and 250 and more regular persons employed, respectively.

2) Realising product innovation, by enterprise size class and economic activity

In terms of types of realising product innovation, 10% of firms made the “introduction of a new or significantly improved good” to all the firms, and 6% of firms the “introduction of a new or significantly improved service,” respectively. The ratio of the firms introducing a new or significantly improved good was higher in manufacturing (17%) and in information and communication (17%) rather than other economic activities. The ratio of the firms introducing a new or significantly improved service was also higher in information and communication (17%) rather than other economic activities.

Exhibit 2. Ratios of the firms realising product innovation (to all the firms), by enterprise size class (Unit: %)

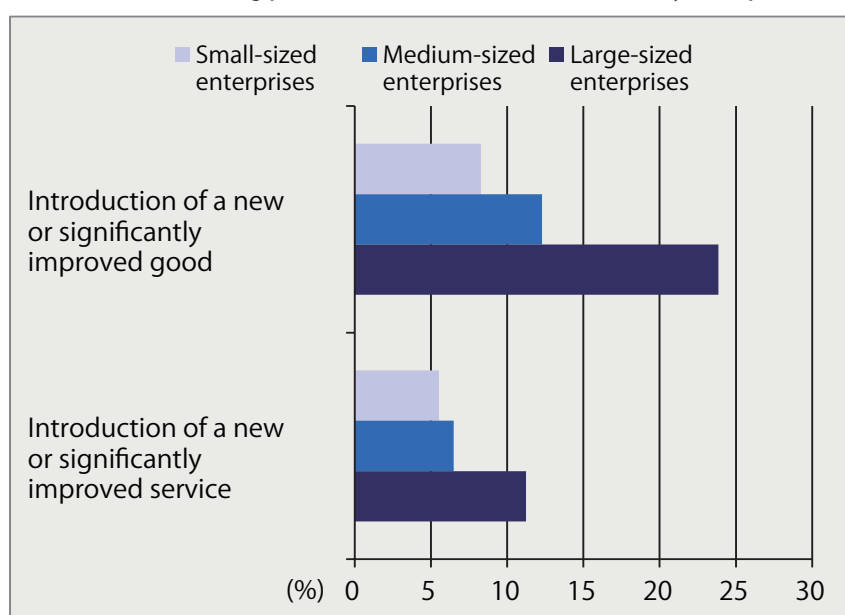


Exhibit 3. Ratios of the firms realising product innovation (to all the firms), by enterprise size class and economic activity (Unit: %)

	Realising product innovation		
		Introduction of a new or significantly improved good	Introduction of a new or significantly improved service
Total	12	10	6
<i>Of which:</i> Small-sized enterprises	11	8	6
Medium-sized enterprises	16	12	6
Large-sized enterprises	27	24	11
Agriculture and forestry	14	14	4
Fisheries	6	6	1
Mining and quarrying of stone and gravel	6	6	0
Construction	4	3	2
Manufacturing	19	17	4
Electricity, gas, heat supply and water	5	3	2
Information and communications	25	17	17
Transport and postal activities	4	2	4
Wholesale	15	13	6
Retail trade	11	8	9
Finance and insurance	14	4	13
Other services	6	3	5

Notes: The reference periods of the fourth round is FY2012–FY2014, respectively. The small-sized enterprises, the medium-sized enterprises, and the large-sized enterprises are the firms with 10–49, 50–249, and 250 and more regular persons employed, respectively. Other services comprise Postal services (Major group 86 of the Japan Standard Industrial Classification, Revision 12 (JSIC Rev.12)), Waste disposal business (Major group 88), Machine, etc repair services, except otherwise classified (Major group 90), and Miscellaneous business services (Major group 92).

3) Realising process innovation, by enterprise size class and economic activity

In terms of types of realising process innovation, 9% of firms made the “implementation of a new or significantly improved production process” to all the firms. The ratio of the firms implementing a new or significantly improved production process was higher in manufacturing (19%) rather than other economic activities. Next, 8% of the firms made the “implementation of a new or significantly improved supporting activity for production processes or delivering methods etc.”. The ratio of the firms implementing a new or significantly improved supporting activity for production processes or delivering methods etc. was higher in manufacturing (11%), wholesale trade (11%), and information and communication (10%).

Exhibit 4. Ratios of the firms realising process innovation (to all the firms), by enterprise size class (Unit: %)

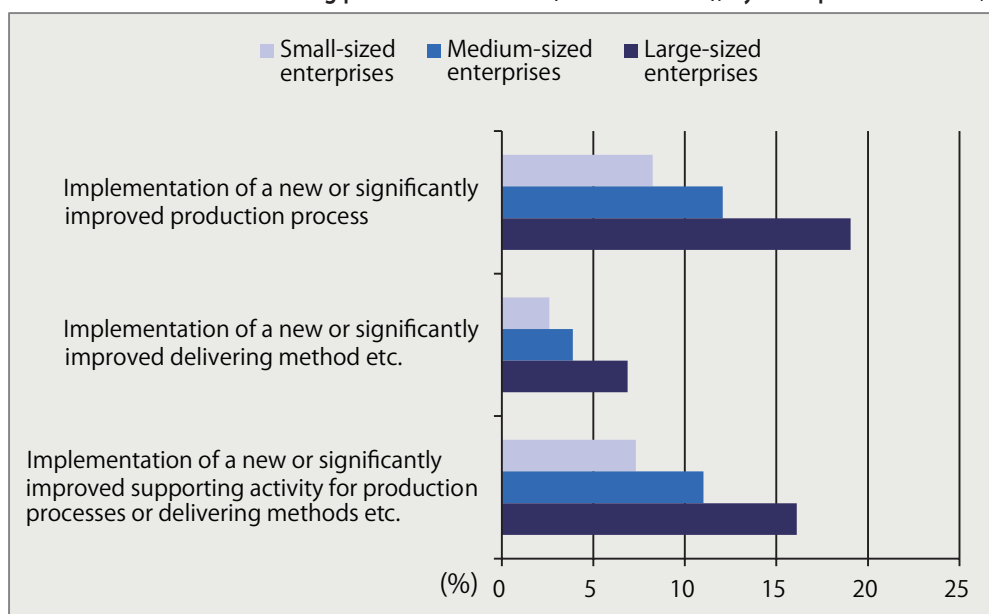


Exhibit 5. Ratios of the firms realising process innovation (to all the firms), by enterprise size class and economic activity (Unit: %)

	Realising process innovation			
		Implementation of a new or significantly improved production process	Implementation of a new or significantly improved delivering method etc.	Implementation of a new or significantly improved supporting activity for production processes or delivering methods etc.
Total	15	9	3	8
<i>Of which:</i> Small-sized enterprises	14	8	3	7
Medium-sized enterprises	20	12	4	11
Large-sized enterprises	28	19	7	16
Agriculture and forestry	19	13	4	6
Fisheries	10	7	2	5
Mining and quarrying of stone and gravel	10	9	2	1
Construction	7	4	1	4
Manufacturing	25	19	3	11
Electricity, gas, heat supply and water	9	5	1	5
Information and communications	16	9	2	10
Transport and postal activities	11	3	4	9
Wholesale	18	7	6	11
Retail trade	11	6	3	7
Finance and insurance	13	7	1	9
Other services	10	4	1	7

Notes: See Exhibit 3.

4) Realising organisational innovation, by enterprise size class and economic activity

In terms of types of realising organisational innovation, 19% of firms made the “implementation of a new method in the enterprise’s workplace organisation” to all the firms. The ratio of the firms implementing a new method in the enterprise’s workplace organisation was higher in finance and insurance (32%) and information and communications (29%) rather than other economic activities. And, the ratio of the firms with the “implementation of a new business practice in the enterprise” was also higher in finance and insurance (24%) and information and communications (21%). In addition, the ratio of the firms with the “implementation of a new method in the enterprise’s external relations” was higher in information and communications (18%) and finance and insurance (15%).

Exhibit 6. Ratios of the firms realising organisational innovation (to all the firms), by enterprise size class (Unit: %)

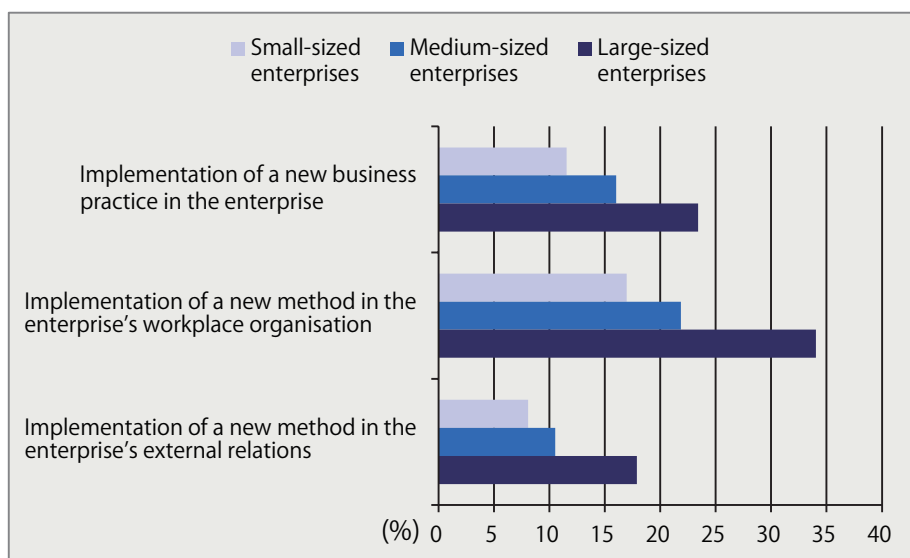


Exhibit 7. Ratios of the firms realising organisational innovation (to all the firms), by enterprise size class and economic activity (Unit: %)

	Realising organisational innovation			
		Implementation of a new business practice in the enterprise	Implementation of a new method in the enterprise's workplace organisation	Implementation of a new method in the enterprise's external relations
Total	24	13	19	9
<i>Of which:</i> Small-sized enterprises	22	12	17	8
Medium-sized enterprises	29	16	22	11
Large-sized enterprises	42	23	34	18
Agriculture and forestry	24	13	18	7
Fisheries	11	5	9	5
Mining and quarrying of stone and gravel	11	3	8	5
Construction	18	8	13	7
Manufacturing	29	15	21	10
Electricity, gas, heat supply and water	22	8	17	8
Information and communications	39	21	29	18
Transport and postal activities	21	10	15	9
Wholesale	28	15	21	9
Retail trade	20	10	15	7
Finance and insurance	39	24	32	15
Other services	26	10	21	7

Notes: See Exhibit 3.

5) Realising marketing innovation, by enterprise size class and economic activity

In terms of types of realising marketing innovation, 12% of firms made the “implementation of a new sales channel” to all the firms. The ratio of the firms implementing new sales channel was higher in agriculture and forestry (20%), wholesale trade (20%), and information and communications (19%) rather than other economic activities. Next, 11% of firms made the “implementation of a new medium or technique for product promotion” to all the firms. The ratio of the firms implementing a new medium or technique for product promotion was higher in finance and insurance (20%), information and communications (17%), and retail trade (16%).

Exhibit 8. Ratios of the firms realising marketing innovation (to all the firms), by enterprise size class (Unit: %)

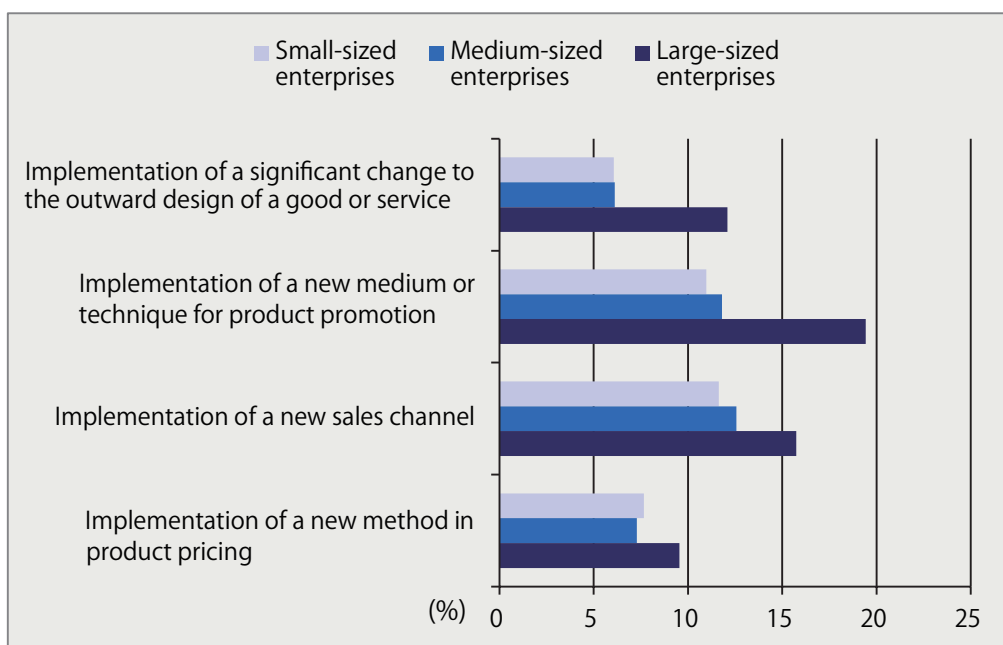


Exhibit 9. Ratios of the firms realising marketing innovation (to all the firms), by enterprise size class and economic activity (Unit: %)

	Realising marketing innovation				
		Implementation of a significant change to the outward design of a good or service	Implementation of a new medium or technique for product promotion	Implementation of a new sales channel	Implementation of a new method in product pricing
Total	22	6	11	12	8
Of which:					
Small-sized enterprises	21	6	11	12	8
Medium-sized enterprises	23	6	12	13	7
Large-sized enterprises	31	12	19	16	10
Agriculture and forestry	25	9	13	20	9
Fisheries	13	5	5	10	5
Mining and quarrying of stone and gravel	15	2	3	6	9
Construction	13	3	7	7	4
Manufacturing	23	8	10	14	8
Electricity, gas, heat supply and water	10	1	5	4	4
Information and communications	31	11	17	19	12
Transport and postal activities	11	1	5	6	6
Wholesale	29	7	14	20	9
Retail trade	24	9	16	11	8
Finance and insurance	28	5	20	14	4
Other services	11	2	6	6	5

Notes: See Exhibit 3.

6) High hampering factors for realising innovation or reasons of no innovation activity⁵, by enterprise size class and economic activity

In terms of kinds of hampering factors in high degree, i.e. critical hampering factors, for realising innovation or reasons of no innovation activity, 14% of firms experienced the “lack of competent employees” to all the firms. The ratio of the firms experienced the “lack of competent employees” was higher in agriculture and forestry (17%), information and communications (17%), transport and postal activities (17%), fisheries (15%), and other services (15%) rather than other economic activities. Next, 11% of firms experienced the “pursuits of short-term turnovers or profits” to all the firms, and 9% of firms the “lack of good ideas”. The ratios of the firms experienced those factors/reasons had little difference in enterprise size class. The ratios of the firms experienced those factors/reasons were higher in information and communications (19% and 14%), respectively.

Exhibit 10. Ratios of the firms having high hampering factors for realising innovation (to all the firms), by enterprise size class (Unit: %)

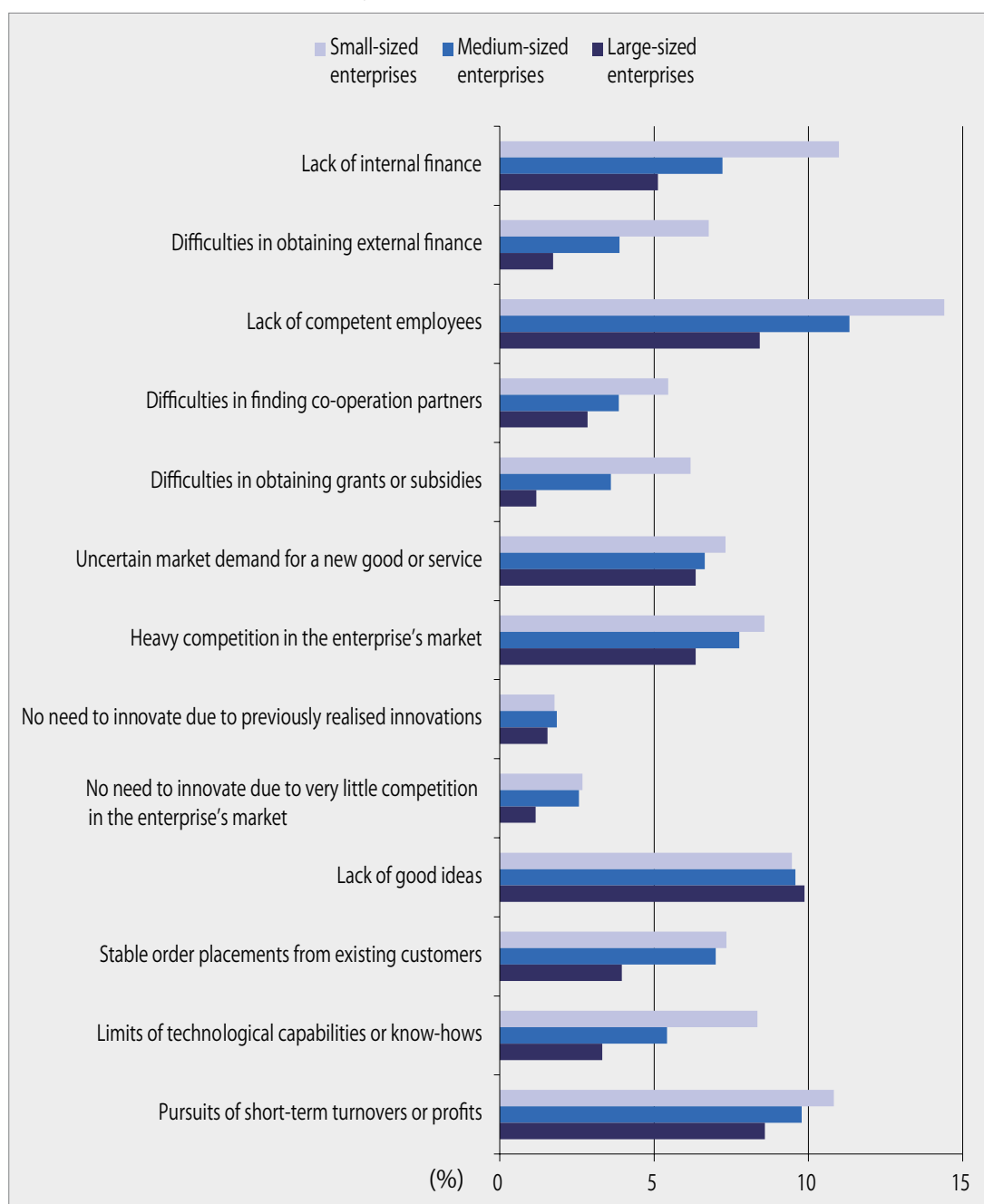


Exhibit 11. Ratios of the firms having high hampering factors for realising innovation (to all the firms), by enterprise size class and economic activity (Unit: %)

	Lack of internal finance	Difficulties in obtaining external finance	Lack of competent employees	Difficulties in finding co-operation partners	Difficulties in obtaining grants or subsidies	Uncertain market demand for a new good or service	Heavy competition in the enterprise's market	No need to innovate due to previously realised innovations	No need to innovate due to very little competition in the enterprise's market	Lack of good ideas	Stable order placements from existing customers	Limits of technological capabilities or know-hows	Pursuits of short-term turnovers or profits
Total	10	6	14	5	6	7	8	2	3	9	7	8	11
Of which:	11	7	14	5	6	7	9	2	3	9	7	8	11
Small-sized enterprises	7	4	11	4	4	7	8	2	3	10	7	5	10
Medium-sized enterprises	5	2	8	3	1	6	6	2	1	10	4	3	9
Large-sized enterprises	15	7	17	5	7	7	6	2	2	11	10	10	10
Agriculture and forestry	11	7	15	7	6	4	5	2	2	6	4	6	9
Fisheries	6	3	5	1	1	4	3	1	6	4	10	6	7
Mining and quarrying of stone and gravel	8	6	12	3	4	6	8	3	1	5	9	6	9
Construction	12	7	13	5	7	9	8	2	3	10	9	9	13
Manufacturing	4	2	5	1	2	5	2	1	7	5	9	4	2
Electricity, gas, heat supply and water	12	6	17	6	5	8	6	1	1	14	10	10	19
Information and communications	10	7	17	7	5	8	10	2	3	11	9	9	11
Transport and postal activities	9	6	11	4	5	7	9	2	3	11	5	6	12
Wholesale	9	6	13	4	4	5	9	0	4	10	3	6	7
Retail trade	3	2	5	1	1	1	3	1	1	4	5	4	4
Finance and insurance	6	4	15	6	5	4	8	3	4	12	8	10	6
Other services													

Notes: See Exhibit 3.

7) Activities for product and process innovations, by enterprise size class and economic activity

In terms of kinds of activities for product and process innovations (hereinafter referred to as “innovation activities”), 10% of firms made the “execution of R&D” to all the firms. The ratio of the firms executing R&D was higher in manufacturing (21%) rather than other economic activities. On the other hand, the ratio of firms that experienced “a new usage of advanced IT service” was not relatively higher in comparison with other kinds of innovation activities. In information and communications and finance and insurance, 11% and 9% of the firms experienced “a new usage of advanced IT service”, respectively, which was one of the main innovation activities.

Exhibit 12. Ratios of the innovation-active firms (to all the firms), by enterprise size class (Unit: %)

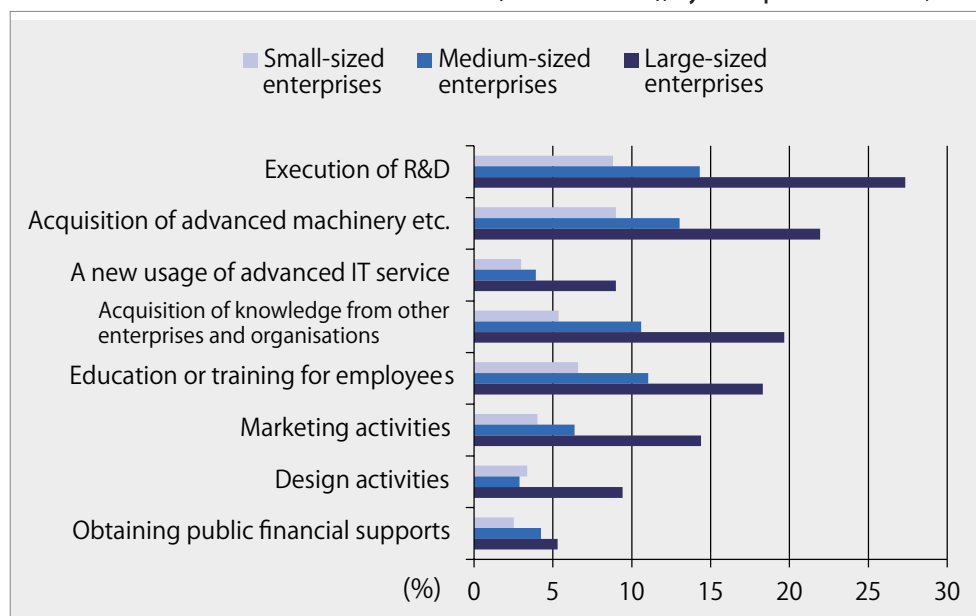


Exhibit 13. Ratios of the innovation-active firms (to all the firms), by enterprise size class and economic activity (Unit: %)

	Execution of R&D	Acquisition of advanced machinery etc.	A new usage of advanced IT service	Acquisition of knowledge from other enterprises or organisations	Education or training for employees	Marketing activities	Design activities	Obtaining public financial supports
Total	10	10	3	7	8	5	4	3
Of which:								
Small-sized enterprises	9	9	3	5	7	4	3	3
Medium-sized enterprises	14	13	4	11	11	6	3	4
Large-sized enterprises	27	22	9	20	18	14	9	5
Agriculture and forestry	12	9	3	8	6	5	4	5
Fisheries	5	6	1	7	3	3	2	5
Mining and quarrying of stone and gravel	8	4	0	3	2	0	1	3
Construction	3	5	0	5	4	2	1	1
Manufacturing	21	19	4	10	11	6	5	7
Electricity, gas, heat supply and water	4	6	2	5	5	1	0	1
Information and communications	17	12	11	10	13	10	5	2
Transport and postal activities	4	6	3	4	4	2	0	2
Wholesale	12	10	5	10	9	7	4	3
Retail trade	4	7	3	4	8	6	5	0
Finance and insurance	6	10	9	7	8	4	2	0
Other services	6	5	2	4	5	1	0	0

Notes: See Exhibit 3.

8) Co-operation partners for product and process innovations, by enterprise size class and economic activity

The ratios of firms that identified “suppliers” as co-operation partners for product and process innovation were higher in any enterprise size class and economic activity. “Universities or other higher education institutes” are regarded as co-operation partners by firms as much as “clients or customers” and “consultants etc.”. 9% of the firms identified “universities or other higher education institutes” as co-operation partners.

Exhibit 14. Ratios of the firms with co-operation partners for product and process innovations (to all the firms), by enterprise size class (Unit: %)

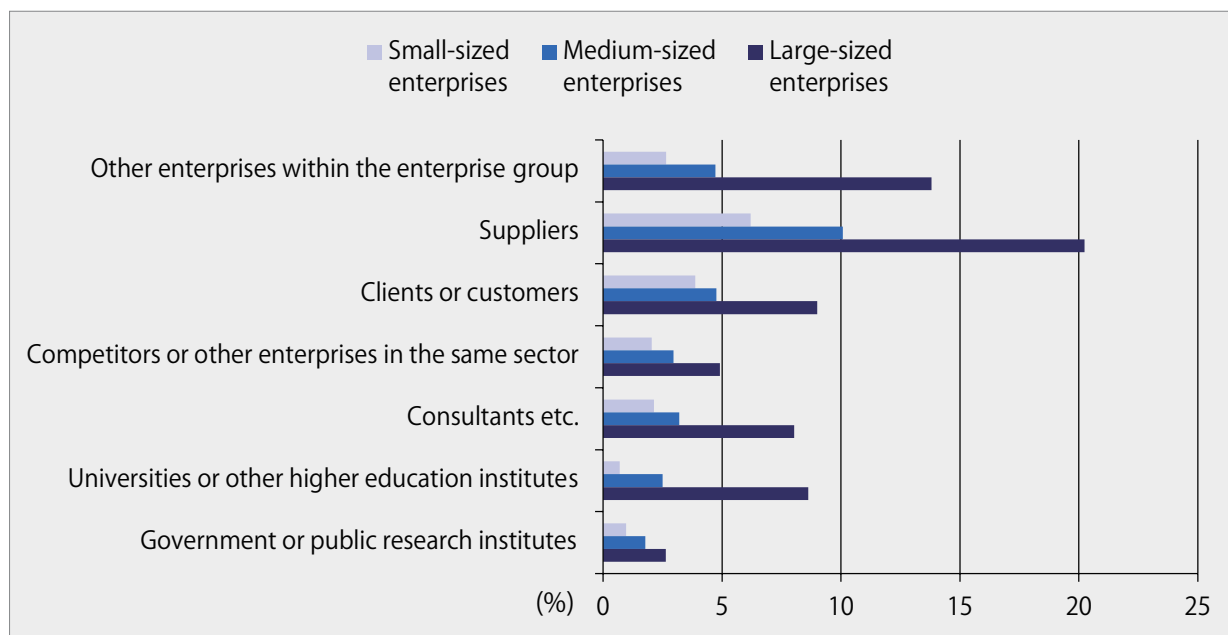


Exhibit 15. Ratios of the firms with co-operation partners for product and process innovations (to all the firms), by enterprise size class and economic activity (Unit: %)

	Other enterprises within the enterprise group	Suppliers	Clients or customers	Competitors or other enterprises in the same sector	Consultants etc.	Universities or other higher education institutes	Government or public research institutes
Total	3	7	4	2	3	1	1
<i>Of which:</i> Small-sized enterprises	3	6	4	2	2	1	1
Medium-sized enterprises	5	10	5	3	3	3	2
Large-sized enterprises	14	20	9	5	8	9	3
Agriculture and forestry	4	12	2	3	3	3	4
Fisheries	2	3	1	2	1	0	1
Mining and quarrying of stone and gravel	6	5	0	1	1	1	0
Construction	0	2	2	1	0	0	0
Manufacturing	5	13	7	3	3	3	3
Electricity, gas, heat supply and water	6	6	1	2	1	1	0
Information and communications	5	11	8	5	3	0	1
Transport and postal activities	1	3	4	1	1	0	1
Wholesale	6	10	5	3	4	3	1
Retail trade	4	5	5	3	4	0	1
Finance and insurance	5	7	2	2	2	0	0
Other services	3	3	2	2	1	0	0

Notes: See Exhibit 3.

Estimation methods of survey results

The figures shown as survey results are the population estimates that are calculated from realised samples by using weighting factors on the basis of enterprise industrial classification and enterprise size class. The figures in this report show the ratios of the firms concerned to all the firms in an enterprise industrial classification and/or an enterprise size class, unless otherwise noted. As the unit that is used in the survey results is number of enterprise, one enterprise in any size class is dealt as the identical unit. Consequently, the estimates of totals, except for those in each enterprise size class, strongly reflect the situations of small- and medium-sized enterprises, which relatively dominate the totals in terms of numbers of enterprises.

Tabulations of results by economic activity

In the exhibits in this preliminary report, the figures of the totals and the subtotals by enterprise size class show the ratios of the firms concerned to all the firms and firms in the enterprise class in the population, respectively. On the other hand, the figures of the subtotals by enterprise economic activity do not include those of some enterprise economic activities in this preliminary report, although the firms that were attributed to those enterprise economic activities were also surveyed. It is planned that, in the full report, the survey results will include the subtotals by enterprise economic activity for all the enterprise industrial classifications including the enterprise economic activities that are not tabulated in this preliminary report.

Responses to plural subquestions

For all the questions that are tabulated in this preliminary report, where a question item consists of plural subquestions on kinds etc. in the questionnaire, the survey respondents were asked to fill in all of those subquestions.

Notes

- 1 Realising the implementation of a new or significantly improved production process for goods or services, of a new or significantly improved logistics, delivery methods, or distribution methods for the enterprise's intermediate inputs, such as raw materials or components, goods or services, of a new or significantly improved supporting activity for the enterprise's production processes or delivery methods, such as maintenance systems or operations for purchasing, accounting, or computing.
- 2 Realising the introduction of a new or significantly improved good or service onto the enterprise's market.
- 3 Realising the implementation of a new business practice in business execution methods or procedures, of a new method in workplace organisation, such as transfers of responsibilities, work allocations, or work formation, or of a new method in external relations with other enterprises or institutes.
- 4 Realising the implementation of a significant change to the outward design of a good or service, of a new medium or technique for product promotion, of a new sales channel, or of a new method in product pricing.
- 5 In the subquestions, the respondents are requested to fill in the degree of the hampering factors as well as the presence or absence of them. The degrees are divided into the three grades in the degree of importance: "high (be critically hampered)", "medium (be hampered to some extent), or "low (be slightly hampered)". In this preliminary report, the "high hampering factors for realising innovation" refer to the hampering factors that were responded as "high degree of importance".

The materials of this statistical survey, such as the questionnaire, can be accessed in the following NISTEP's website: <http://www.nistep.go.jp/research/rd-and-innovation/national-innovation-survey>