



An Phríomh-Oifig Staidrimh
Central Statistics Office

Community Innovation Survey 2008-2010

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Contents

| | | Page |
|-------------------|--|-------------|
| Chapter 1 | Overview and Summary | 5 |
| Chapter 2 | Technological Innovation Rates | 13 |
| Chapter 3 | Technological Innovation Types | 21 |
| Chapter 4 | Technological Innovation: Detailed Types | 25 |
| Chapter 5 | Technological Innovation Turnover | 29 |
| Chapter 6 | Technological Innovation Expenditure | 35 |
| Chapter 7 | Technological Innovation Co-operation | 41 |
| Chapter 8 | Barriers to Technological Innovation | 47 |
| Chapter 9 | Organisational Innovation | 53 |
| Chapter 10 | Marketing Innovation | 57 |
| Chapter 11 | Creativity and Skills | 65 |
| Chapter 12 | Other Business Indicators and Innovation | 71 |
| Appendix 1 | Background Notes | 75 |
| Appendix 2 | Key to NACE Rev. 2 Classification | 77 |
| Appendix 3 | Definitions | 81 |
| Appendix 4 | CIS 2008-2010 Survey Form | 83 |

Chapter 1

Overview and Summary

The Community Innovation Survey (CIS) 2008-2010 is a survey of innovation activities of enterprises in Ireland and other EU Member States. The survey collected information about product and process innovation, organisational and marketing innovation and other key variables during the three year period 2008 to 2010 inclusive. The majority of the data presented here refers to technological innovation; new or significantly improved goods or services; the implementation of new or significantly improved processes; or ongoing/abandoned innovation for products and processes.

The Community Innovation Survey is jointly conducted by the Central Statistics Office (CSO) and Forfás to increase efficiency in the collection of statistical data and to reduce the burden on the participating enterprises. Data was collected in accordance with Section 33 of the Statistics Act, 1993 and with EU law and the survey was carried out under the agreed set of international rules as laid out in the OECD Oslo manual¹. Detailed results from the survey are included in Chapters 2 to 11 and results based on linking data to the Structural Business Surveys (the Census of Industrial Production and the Annual Services Inquiry) are included in Chapter 12.

Note: The CIS 2008-2010 is an enterprise sample based survey, which was conducted under the Statistics (Community Innovation Survey) Order 2010 (S.I. No.562 of 2010) made under the Statistics Act, 1993. A total of 4,532 forms were issued of which 3,245 were returned (a response rate of 72%).

The business classification used for CIS 2008-2010 survey is the Statistical Classification of Economic Activities in the European Community (NACE Rev.2)². The CIS 2008-2010 includes Industry (NACE 05-39) and Selected Services sectors (NACE 46, 49-53, 58, 61-66 and 71), with 10 or more persons engaged.

¹ <http://www.oecd.org/dataoecd/35/61/2367580.pdf> (The Measurement of Scientific and Technological Activities).

² See Appendix 2 for NACE Rev. 2 Classification.

Almost 60% of all enterprises were technological or non-technological innovation active during 2008-2010

Enterprises that are classed as technological or non-technological innovation active are those enterprises that: carried out a product innovation; a process innovation; have abandoned or on-going innovation activities; an organisational or marketing innovation between 2008 and 2010.

Overall, 60% of enterprises with 10 or more persons engaged in the industrial and selected services sectors were technologically or non-technologically innovation active over the period 2008-2010. These enterprises generated 78% of total turnover. Over three-quarters of total persons engaged worked in such enterprises. See Table 1.1 and Figure 1.1.

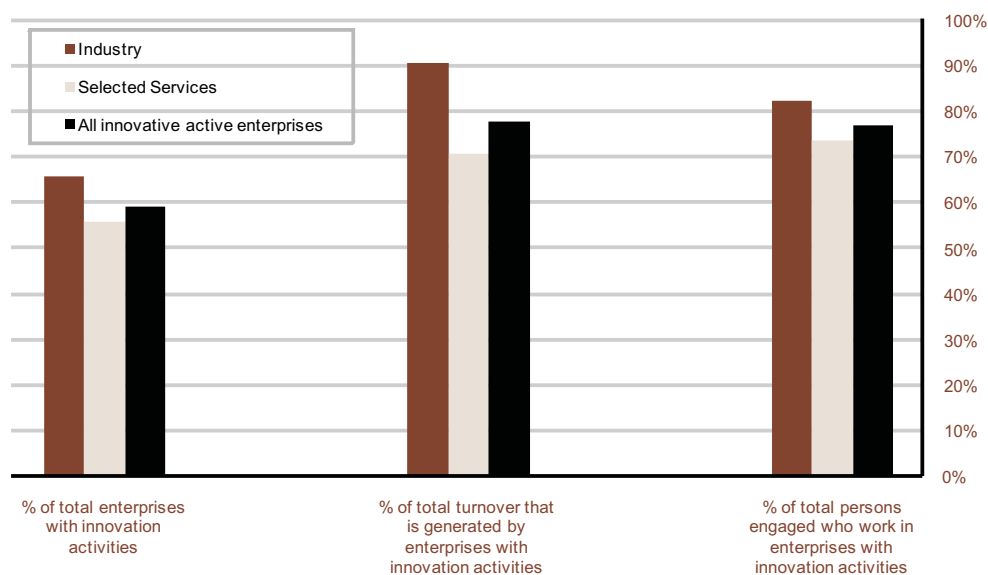
Table 1.1 Technological and non-technological innovation activity rates by sector and number of persons engaged, 2008 - 2010

| Number of persons engaged | % of total enterprises with innovation activities | % of total turnover that is generated by enterprises with innovation activities | % of total persons engaged who work in enterprises with innovation activities |
|--------------------------------|---|---|---|
| Total Industry | 66.0 | 90.8 | 82.4 |
| Total Selected Services | 55.9 | 71.1 | 73.8 |
| All Enterprises | | | |
| 10-49 | 54.8 | 61.8 | 57.3 |
| 50-249 | 76.2 | 81.8 | 78.3 |
| 250+ | 85.2 | 83.4 | 85.8 |
| Total All Enterprises | 59.5 | 78.0 | 77.2 |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Note: Turnover and persons engaged in 2010.

Figure 1.1 Technological and non-technological innovation activity rates by sector for all enterprises, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

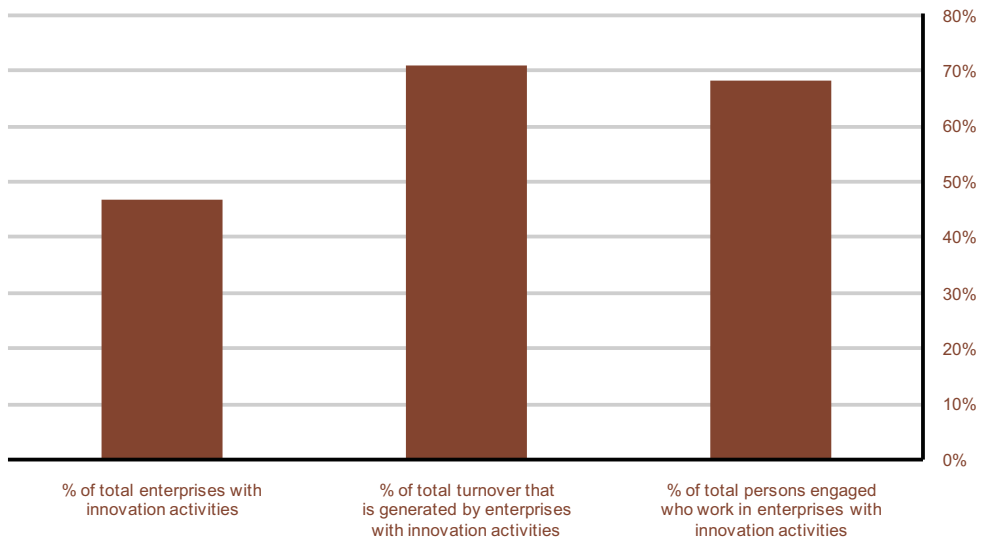
Note: Turnover and persons engaged in 2010.

Almost half of all enterprises were technological innovation active during 2008-2010

Enterprises that are classed as technological innovation active are those enterprises that had carried out a product innovation or a process innovation in the survey period, or that had abandoned or on-going innovation activities.

Overall, it was found that almost 47% of all enterprises with ten or more persons engaged in the industrial and selected services sectors were innovation active in the reference period. These enterprises generated over 70% of all turnover, and employed 68% of persons engaged. See *Figure 1.2*.

Figure 1.2 Technological innovation activity rates for all enterprises, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

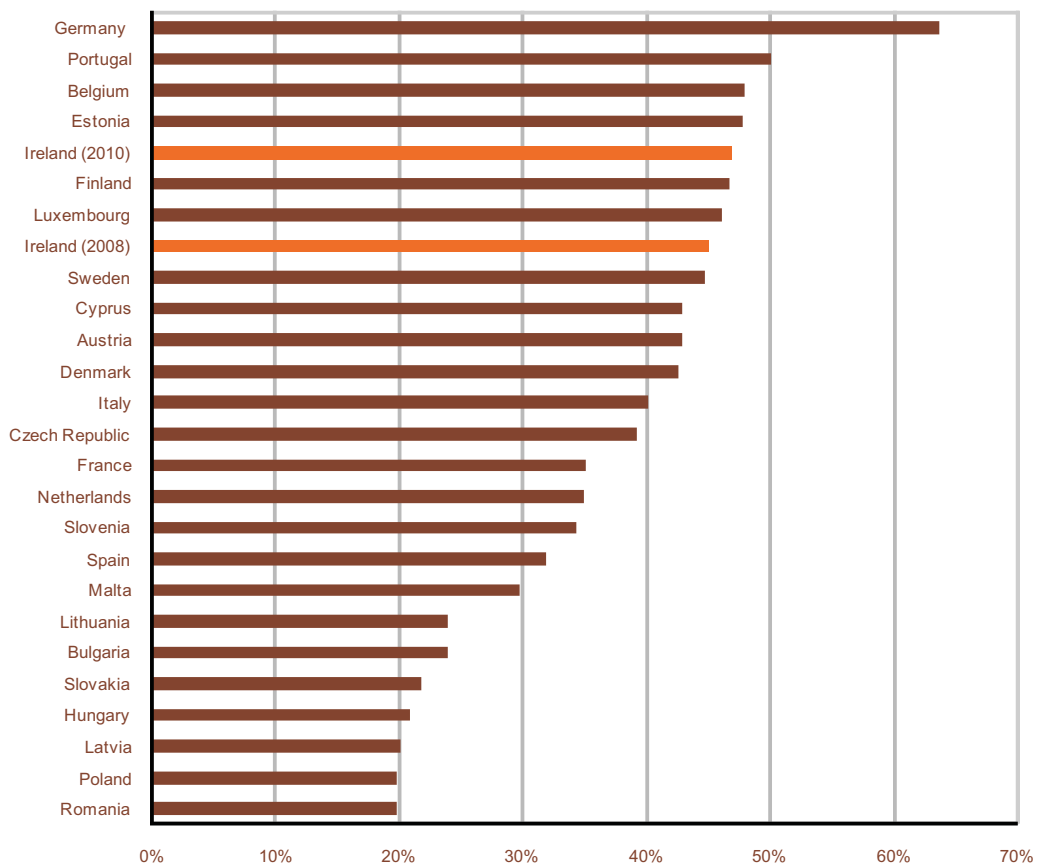
Note: Turnover and persons engaged in 2010.

International technological innovation activity rate rankings

The Community Innovation Survey is carried out in all EU member states. The most recent data available from Eurostat is taken from the 2006-2008 survey, and allows comparisons across the entire community. When analysing results, Ireland shows the 7th highest innovation rate of all countries for whom data has been published.

While the technological innovation activity rate for enterprises in industry and selected services sectors with at least ten persons engaged was 47% in Ireland in the period 2008-2010, comparable innovation activity rates will not be available for the other EU member states until the last quarter of 2012. See *Figure 1.3*.

Figure 1.3 Percentage of total enterprises with technological innovation activities, 2006 - 2008



Source: Eurostat - Community Innovation Survey 2006 - 2008. Data for United Kingdom and Greece not available.

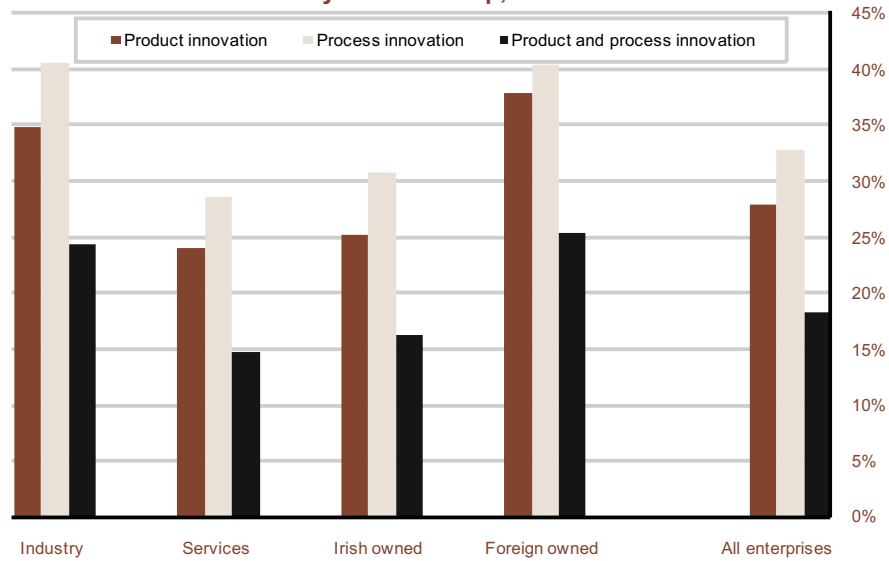
Note: Turnover in 2008.

Note: Ireland 2008 NACE Rev 2 includes Industry (NACE 05-39); Selected Services (NACE 46, 49-53, 58, 61-66, 71). See Appendix 2 for NACE classifications.

Almost 28% of enterprises were engaged in product innovations, while almost 33% were engaged in process innovations

Over one in four (28%) of enterprises in the industrial and selected services sectors had product innovations while a third (33%) were engaged in process innovations. Close to one in five enterprises (18%) of these enterprises were engaged in both process and product innovations. Almost 41% of industrial enterprises were engaged in process innovations compared to nearly 29% of enterprises in selected services sectors. Foreign owned enterprises were more likely to engage in product innovations, process innovations or both product and process innovations compared to Irish owned enterprises. See Figure 1.4.

Figure 1.4 Product and process innovation activity rates by sector and nationality of ownership, 2008 - 2010



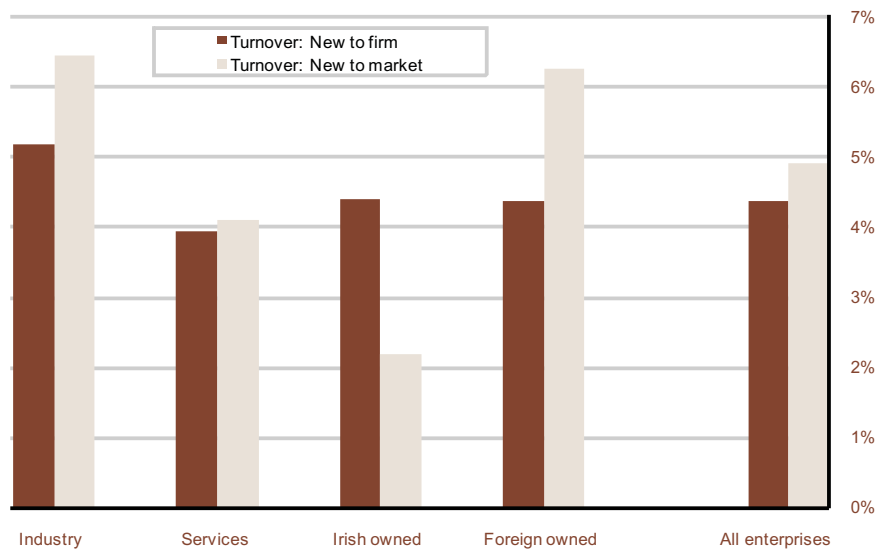
Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Over 9% of turnover in the industrial and selected services sectors in 2010 resulted from new to firm or new to market product innovations

Almost 5% of turnover for enterprises in 2010 was estimated to be the result of new to market product innovations in the reference period, while over 4% of turnover was as a result of new to firm product innovations in the same period.

Close to 11% of the turnover of foreign owned enterprises was generated as a result of new to market and new to firm product innovations compared to nearly 7% of the turnover of Irish owned enterprises. See Figure 1.5.

Figure 1.5 Percentage of total turnover attributed to product innovation activities by sector and nationality of ownership, 2008 - 2010

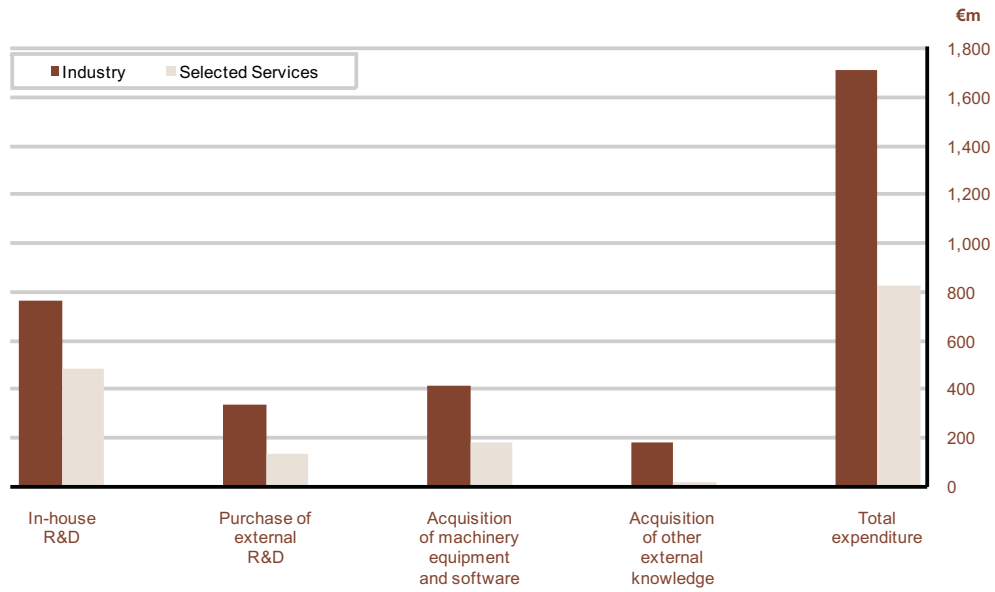


Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Over €2.5 billion spent on technological innovation activity in 2010

Total expenditure on technological innovation related activities across the Irish economy was estimated at over €2.5bn in 2010. Industrial enterprises spent €1.7bn, while selected services enterprises spent €830m. Over 49% of expenditure or nearly €1.3bn was spent on in-house Research and Development. See *Figure 1.6*.

Figure 1.6 Technological innovation expenditure by sector, 2010

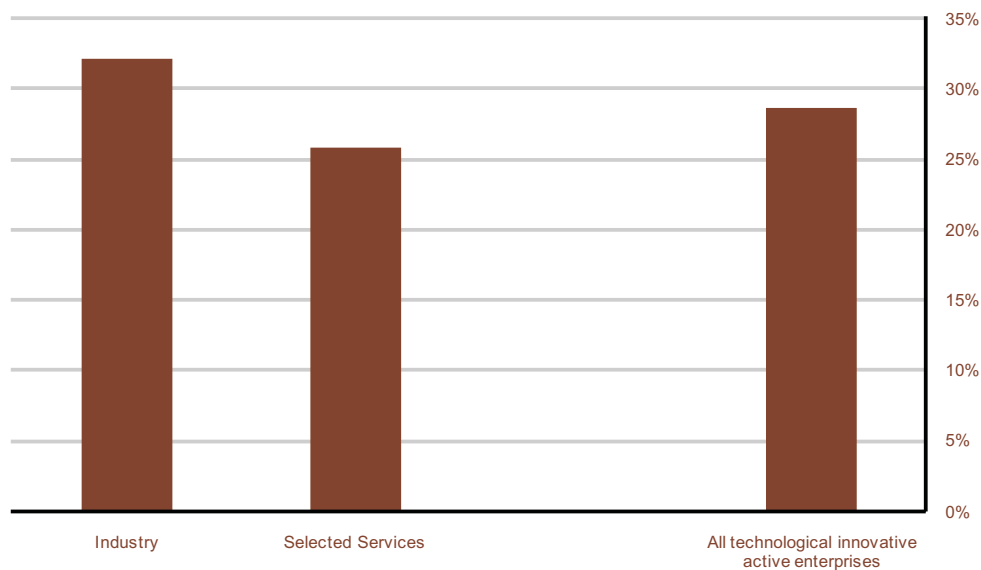


Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Nearly 30% of all technological innovation active enterprises were engaged in innovation co-operation

Over one in four (29%) of all technological innovation active enterprises were engaged in innovation co-operation. Almost one in three (32%) technological innovation active industrial enterprises engaged in innovation co-operation compared to over one in four (26%) enterprises in the selected services sectors. See Figure 1.7.

Figure 1.7 Technological innovation co-operation by sector, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Chapter 2

Technological Innovation Rates

Introduction

Enterprises that were classed as technologically innovation active are those enterprises that had carried out a product innovation or a process innovation between 2008 and 2010, or that had abandoned or had on-going innovation activities. The tables and graphs presented in this chapter are in respect of technologically innovation active enterprises only.

Technological Innovation Rates by Number of Persons Engaged

In the period 2008 to 2010 inclusive, almost 47% of enterprises in Ireland with ten or more persons engaged indicated that they were active innovators. Almost 71% of the turnover was generated by enterprises that were engaged in innovation activities, while 68% of persons engaged worked in such innovation active enterprises. Large enterprises (250+ persons engaged) generated over four-fifths of turnover. See *Tables 2.1 and 2.6 and Figure 2.1*.

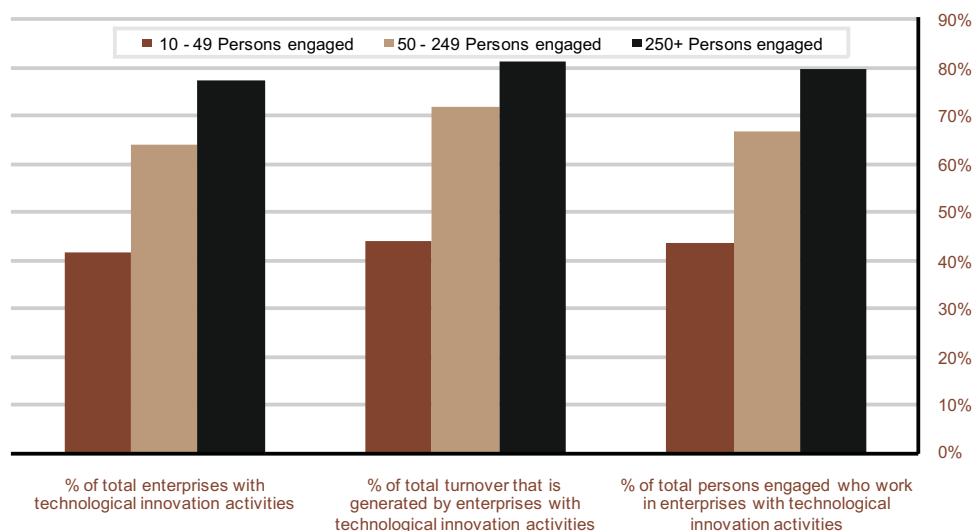
Table 2.1 Technological innovation activity rates by number of persons engaged, 2008 - 2010

| Number of persons engaged | % of total enterprises with technological innovation activities | % of total turnover that is generated by enterprises with technological innovation activities | % of total persons engaged who work in enterprises with technological innovation activities | % |
|---------------------------|---|---|---|-------------|
| 10-49 | 41.7 | 44.0 | | 43.6 |
| 50-249 | 64.0 | 71.9 | | 66.7 |
| 250+ | 77.3 | 81.5 | | 79.9 |
| All enterprises | 46.8 | 70.8 | | 68.1 |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Note: Turnover and persons engaged in 2010.

Figure 2.1 Technological innovation activity rates by number of persons engaged, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Technological Innovation Rates by Sector and Number of Persons Engaged

Almost 57% of industrial enterprises were classed as innovation active in the period 2008 to 2010. These accounted for nearly 89% of the turnover generated in industry. Over 41% of selected services enterprises were innovation active during the same period and these accounted for 61% of turnover generated for enterprises in the selected services sectors. While 93% of the turnover of all large industrial enterprises was generated by active innovators, 87% of persons engaged by large industrial enterprises worked in innovation active enterprises. See Tables 2.2 and 2.6 and Figure 2.2.

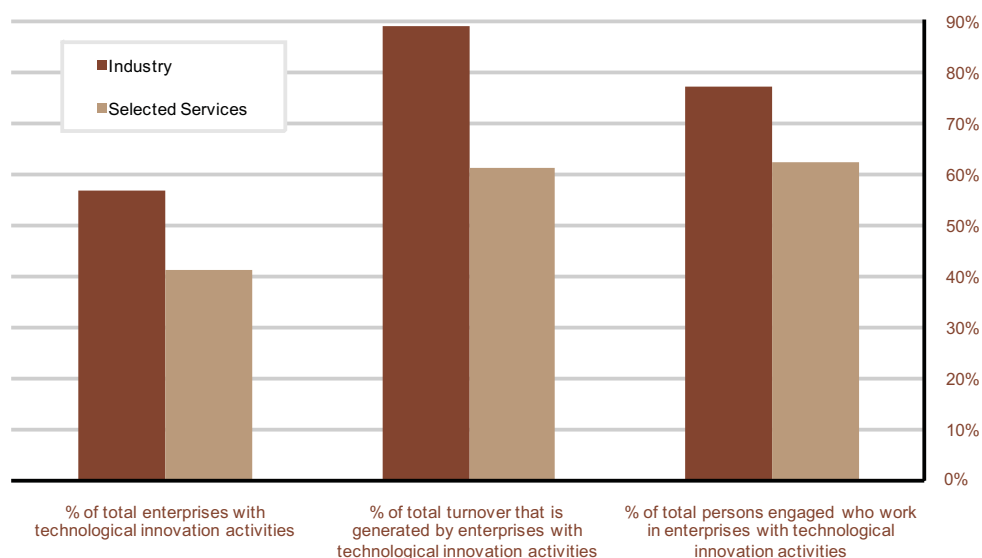
Table 2.2 Technological innovation activity rates by sector and number of persons engaged, 2008 - 2010

| Number of persons engaged | % of total enterprises with technological innovation activities | % of total turnover that is generated by enterprises with technological innovation activities | % of total persons engaged who work in enterprises with technological innovation activities |
|---------------------------|---|---|---|
| Industry | | | |
| 10-49 | 48.8 | 61.4 | 51.5 |
| 50-249 | 75.9 | 87.4 | 77.7 |
| 250+ | 85.8 | 93.0 | 87.0 |
| Total | 56.7 | 88.7 | 77.0 |
| Selected Services | | | |
| 10-49 | 38.2 | 41.3 | 39.4 |
| 50-249 | 53.1 | 60.6 | 55.9 |
| 250+ | 69.2 | 73.5 | 75.5 |
| Total | 41.2 | 61.1 | 62.1 |
| All enterprises | 46.8 | 70.8 | 68.1 |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Note: Turnover and persons engaged in 2010.

Figure 2.2 Technological innovation activity rates by sector, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Technological Innovation Rates by Nationality of Ownership and Number of Persons Engaged

Over 57% of all foreign enterprises with ten or more persons engaged were innovation active compared to nearly 44% of Irish owned enterprises. Almost 75% of total turnover was generated by foreign enterprises with innovation activities compared to nearly 63% for Irish owned enterprises. Over 72% of persons engaged by foreign enterprises were engaged by enterprises that were innovation active compared to over 65% of persons engaged by Irish owned enterprises. See Tables 2.3 and 2.6 and Figure 2.3.

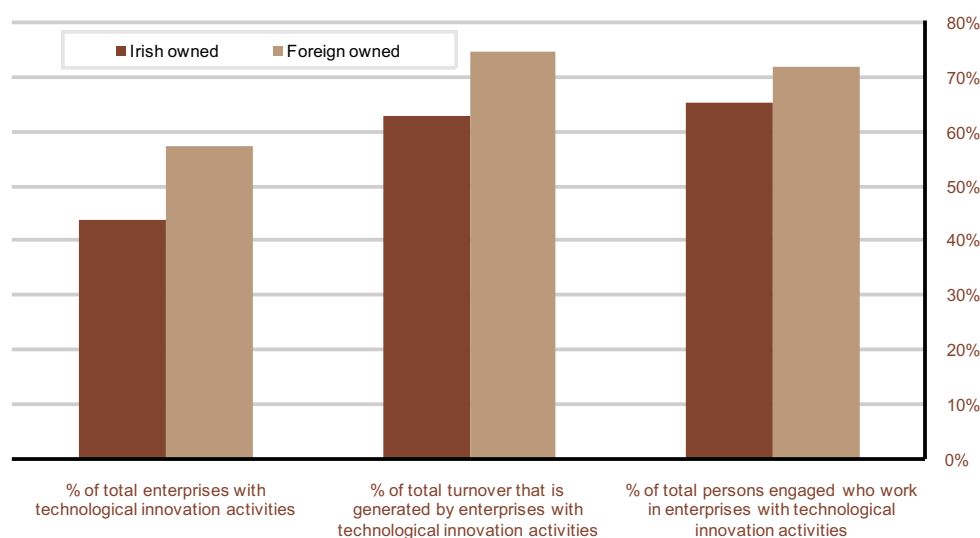
Table 2.3 Technological innovation activity rates by nationality of ownership and number of persons engaged, 2008 - 2010

| | | | | % |
|---------------------------|---|---|---|---|
| Number of persons engaged | % of total enterprises with technological innovation activities | % of total turnover that is generated by enterprises with technological innovation activities | % of total persons engaged who work in enterprises with technological innovation activities | |
| Irish | | | | |
| 10-49 | 40.3 | 38.0 | 42.0 | |
| 50-249 | 64.3 | 71.0 | 65.9 | |
| 250+ | 71.1 | 74.5 | 82.1 | |
| Total | 43.9 | 62.8 | 65.3 | |
| Foreign | | | | |
| 10-49 | 48.9 | 48.4 | 50.6 | |
| 50-249 | 63.9 | 72.4 | 67.6 | |
| 250+ | 81.0 | 84.2 | 77.7 | |
| Total | 57.3 | 74.8 | 72.1 | |
| All enterprises | 46.8 | 70.8 | 68.1 | |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Note: Turnover and persons engaged in 2010.

Figure 2.3 Technological innovation activity rates by nationality of ownership, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Note: Turnover and persons engaged in 2010

Technological Innovation Rates by Sector and Nationality of Ownership

In excess of two-thirds of foreign owned industrial enterprises were innovation active compared to over a half of Irish owned industrial enterprises. In the reference period, over 51% of foreign owned enterprises in selected services sectors were innovation active compared to over 38% of such Irish owned enterprises. While 91% of the turnover of foreign owned industrial enterprises was generated by innovation active enterprises, the corresponding figure for Irish owned enterprises was over 83%. See Tables 2.4 and 2.6, and Figures 2.4 and 2.5.

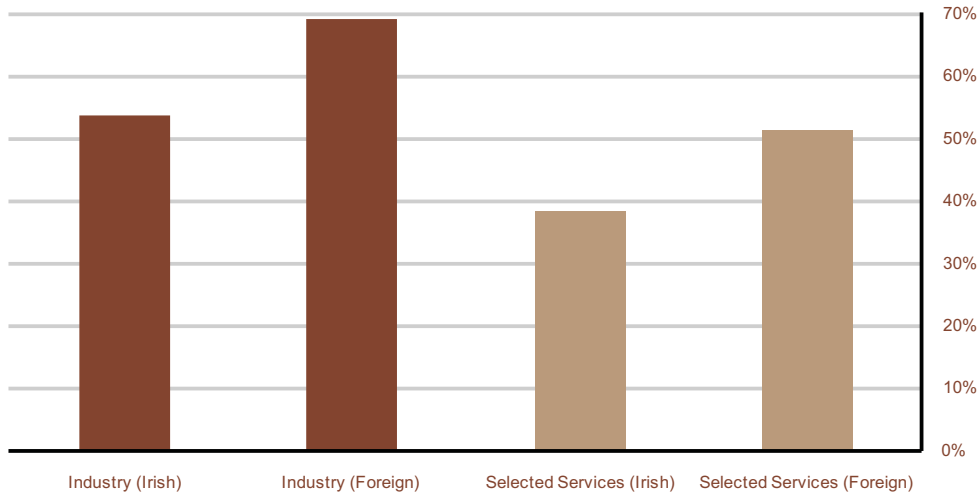
Table 2.4 Technological innovation activity rates by sector and nationality of ownership, 2008 - 2010

| | % | | |
|--------------------------|---|---|---|
| | % of total enterprises with technological innovation activities | % of total turnover that is generated by enterprises with technological innovation activities | % of total persons engaged who work in enterprises with technological innovation activities |
| Industry | | | |
| Irish | 53.5 | 83.1 | 72.4 |
| Foreign | 69.0 | 91.0 | 82.0 |
| Selected Services | | | |
| Irish | 38.2 | 54.0 | 61.2 |
| Foreign | 51.3 | 65.1 | 63.4 |
| All enterprises | 46.8 | 70.8 | 68.1 |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

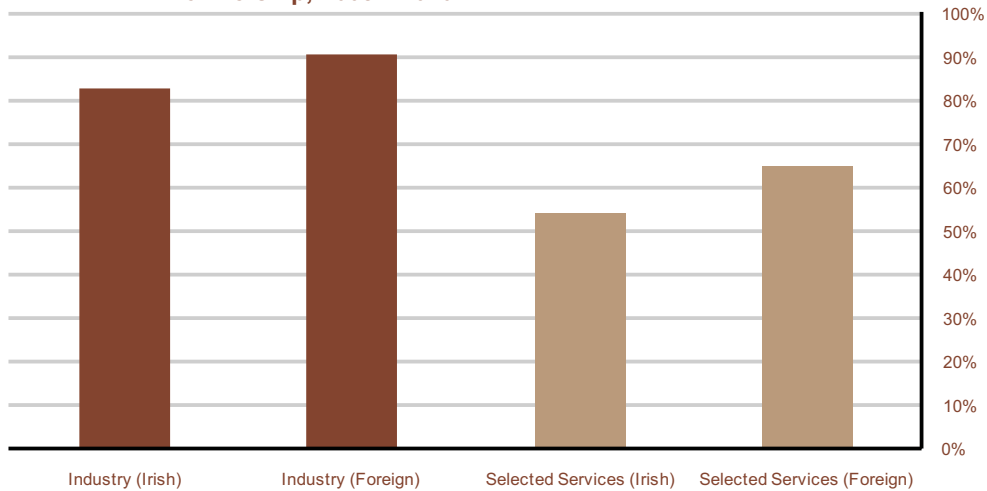
Note: Turnover and persons engaged in 2010.

Figure 2.4 Technological innovation activity rates by sector and nationality of ownership, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Figure 2.5 Percentage of total turnover that is generated by enterprises with technological innovation activities by sector and nationality of ownership, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Technological Innovation Rates by Detailed Sector

Nearly three-quarters (73%) of all enterprises in NACE¹ sectors 19-22 were innovation active and these enterprises accounted for over 94% of turnover and nearly 89% of persons engaged. Over two-thirds (69%) of enterprises in NACE sectors 10-12 were engaged in innovation activities while in NACE sectors 10-12 and 26-28, 91% and 90% respectively, of all turnover was generated by those enterprises that were innovation active. Almost four-fifths of persons engaged in NACE sectors 26-28 were engaged by enterprises that were innovation active over the period. See Table 2.5.

¹ See Appendix 2 for NACE Rev. 2 Classification.

Table 2.5 Technological innovation activity rates by NACE sector and sub-sector, 2008 - 2010

| NACE code | NACE sector | % of total enterprises with technological innovation activities | % of total turnover generated by enterprises with technological innovation activities | % of total persons engaged who work in enterprises with technological innovation activities |
|-----------------|---|---|---|---|
| Industry | | | | |
| 05-09 | Mining and Quarrying | 26.4 | 54.9 | 66.8 |
| 10-33 | Manufacturing | 58.5 | 89.0 | 77.0 |
| 10-12 | Manufacture of food products, beverages and tobacco | 68.7 | 91.3 | 81.8 |
| | 10 Manufacture of food products | 67.4 | 90.6 | 80.1 |
| | 11-12 Manufacture of beverages and tobacco products | 91.7 | 95.7 | 97.3 |
| 13-15 | Manufacture of textiles, wearing apparel, leather and related products | 55.6 | 38.0 | 44.4 |
| 16-18 | Manufacture of wood, paper, printing and reproduction of recorded media | 50.8 | 75.9 | 66.6 |
| | 16 Manufacture of wood and products of wood and cork; except furniture; and manufacturing of articles of straw and plaiting materials | 61.0 | 84.7 | 74.6 |
| | 17 Manufacture of paper and paper products | 50.7 | 59.6 | 64.3 |
| | 18 Printing and reproduction of recorded media | 42.0 | 76.0 | 62.1 |
| 19 - 22 | Manufacture of petroleum, chemical, pharmaceutical, rubber and plastic products | 72.5 | 94.4 | 88.9 |
| 23 - 25 | Manufacture of other non-metallic mineral products, basic metals and fabricated metal products, except machinery and equipment | 47.9 | 63.6 | 59.1 |
| | 23 Manufacture of other non-metallic mineral products | 50.9 | 63.3 | 60.0 |
| | 24 Manufacture of basic metals | 37.5 | 57.9 | 50.8 |
| | 25 Manufacture of fabricated metal products, except machinery and equipment | 48.3 | 65.6 | 60.0 |
| 26-28 | Manufacture of computer, electronic and optical products; electrical equipment, machinery and equipment n.e.c | 61.6 | 89.8 | 78.4 |
| | 26 Manufacture of computer, electronic and optical products | 67.1 | 93.5 | 81.5 |
| | 27 Manufacture of electrical equipment | 58.3 | 76.9 | 72.6 |
| | 28 Manufacture of machinery and equipment n.e.c. | 60.1 | 78.3 | 75.8 |
| 29 - 30 | Manufacture of motor vehicles, trailers, semi-trailers and other transport equipment | 61.9 | 83.5 | 78.3 |
| 31-33 | Manufacture of furniture; jewellery, musical instruments, toys; repair and installation of machinery and equipment | 53.3 | 70.2 | 74.5 |
| | 31 Manufacture of furniture | 43.0 | 52.5 | 53.7 |
| | 32 Other manufacturing | 70.9 | 72.4 | 79.3 |
| | 33 Repair and installation of machinery and equipment | 39.1 | 48.2 | 51.5 |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Note: Turnover and persons engaged in 2010.

Table 2.5 Technological innovation activity rates by NACE sector and sub-sector, 2008 - 2010 - continued

| NACE code | NACE sector | % of total enterprises with technological innovation activities | % of total turnover that is generated by enterprises with technological innovation activities | % of total persons engaged who work in enterprises with technological innovation activities |
|--------------------------|---|---|---|---|
| 35-39 | Electricity, gas, steam, air conditioning supply, Water Supply; Sewerage, Waste Management and Remediation Activities | 43.6 | 91.9 | 79.9 |
| 05-39 | <i>Industry</i> | 56.7 | 88.7 | 77.0 |
| <i>Selected Services</i> | | | | |
| 46 | Wholesale trade, except of motor vehicles and motorcycles | 36.4 | 56.9 | 45.1 |
| 49-51 | Land transport and transport via pipelines, water transport and air transport | 27.6 | 74.7 | 56.5 |
| 52 - 53 | Warehousing and support activities for transportation and postal and courier activities | 38.6 | 64.9 | 76.5 |
| 58, 62, 63 | Publishing, computer programming and consultancy, information and service activities | 69.8 | 80.9 | 69.1 |
| 61 | Telecommunications | 54.4 | 65.0 | 42.3 |
| 64-66 | Financial and insurance activities. | 42.1 | 53.6 | 75.9 |
| 64 | Financial service activities, except insurance and pension funding | 39.6 | 48.6 | 86.8 |
| 65 | Insurance, reinsurance and pension funding, except compulsory social security | 51.6 | 60.5 | 61.6 |
| 66 | Activities auxiliary to financial services and insurance activities | 41.5 | 55.4 | 60.5 |
| 71 | Architectural and engineering activities; technical testing and analysis | 40.7 | 53.0 | 49.0 |
| 46, 49-53, 58, 61-66, 71 | Selected Services | 41.2 | 61.1 | 62.1 |
| | All enterprises | 46.8 | 70.8 | 68.1 |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Note: Turnover and persons engaged in 2010.

Table 2.6 Summary of technological innovation activity rates by sector, nationality of ownership and number of persons engaged, 2008 - 2010

| | % | | |
|--------------------------|---|---|---|
| | % of total enterprises with technological innovation activities | % of total turnover that is generated by enterprises with technological innovation activities | % of total persons engaged who work in enterprises with technological innovation activities |
| Industry | | | |
| Irish | 53.5 | 83.1 | 72.4 |
| Foreign | 69.0 | 91.0 | 82.0 |
| Irish and foreign | | | |
| 10-49 | 48.8 | 61.4 | 51.5 |
| 50-249 | 75.9 | 87.4 | 77.7 |
| 250+ | 85.8 | 93.0 | 87.0 |
| Total | 56.7 | 88.7 | 77.0 |
| Selected Services | | | |
| Irish | 38.2 | 54.0 | 61.2 |
| Foreign | 51.3 | 65.1 | 63.4 |
| Irish and foreign | | | |
| 10-49 | 38.2 | 41.3 | 39.4 |
| 50-249 | 53.1 | 60.6 | 55.9 |
| 250+ | 69.2 | 73.5 | 75.5 |
| Total | 41.2 | 61.1 | 62.1 |
| All sectors | | | |
| Irish | | | |
| 10-49 | 40.3 | 38.0 | 42.0 |
| 50-249 | 64.3 | 71.0 | 65.9 |
| 250+ | 71.1 | 74.5 | 82.1 |
| Total | 43.9 | 62.8 | 65.3 |
| Foreign | | | |
| 10-49 | 48.9 | 48.4 | 50.6 |
| 50-249 | 63.9 | 72.4 | 67.6 |
| 250+ | 81.0 | 84.2 | 77.7 |
| Total | 57.3 | 74.8 | 72.1 |
| Irish and foreign | | | |
| 10-49 | 41.7 | 44.0 | 43.6 |
| 50-249 | 64.0 | 71.9 | 66.7 |
| 250+ | 77.3 | 81.5 | 79.9 |
| All enterprises | 46.8 | 70.8 | 68.1 |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010

Note: Turnover and persons engaged in 2010.

Chapter 3

Technological Innovation Types

Introduction

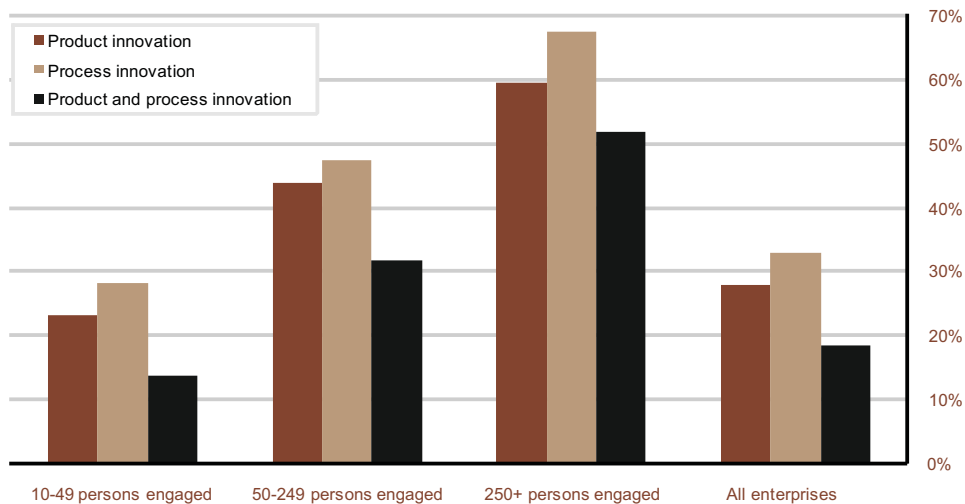
Enterprises active in technological innovation were engaged in either product innovations, process innovations or both. In addition, some enterprises had ongoing or abandoned innovation activities.

In the period 2008 to 2010 inclusive, almost 28% of all enterprises with ten or more persons engaged were engaged in product innovations, nearly 33% of enterprises were engaged in process innovations and 5% had ongoing or abandoned innovation activities. Nearly one-fifth (18%) of all enterprises were engaged in both product and process innovations.

Innovation Rates

Product and process innovation rates tended to be higher as the size of the enterprise increased with large enterprises more than twice as likely to be engaged in product or process innovation activities than small enterprises. For example, while 23% of small enterprises were product innovators, just under 60% of large enterprises were engaged in product innovations. Similarly, while over 28% of small enterprises were engaged in process innovations, over 67% of large enterprises were process innovators. *See Figure 3.1 and Table 3.1.*

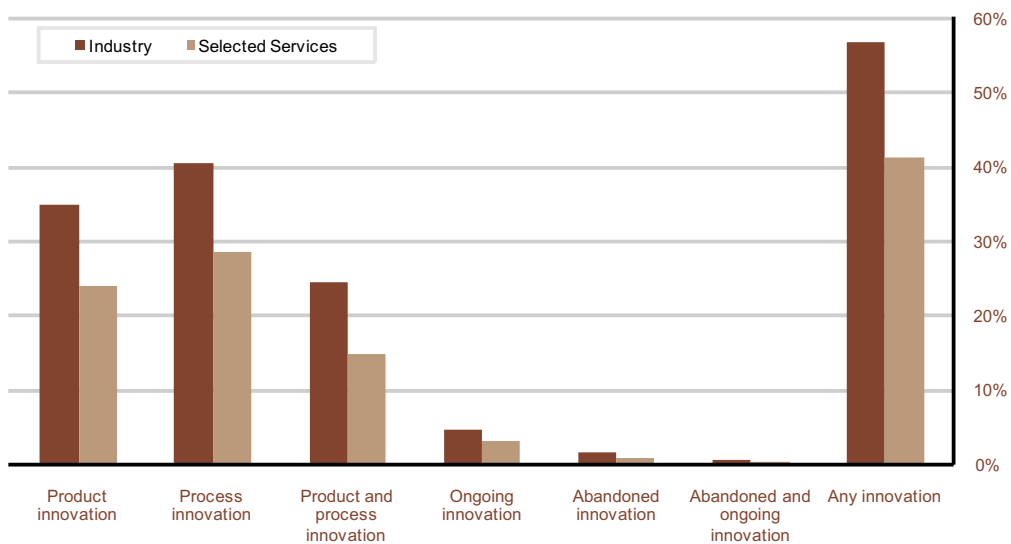
Figure 3.1 Detailed innovation activity rates by number of persons engaged, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Industrial enterprises had higher rates of product innovation, process innovation and combined product and process innovation compared to those in the selected services sector. In excess of one-third of all industrial enterprises were engaged in product innovation compared to almost a quarter in the selected services sector. Almost 41% of industrial enterprises were actively engaged in process innovations compared to nearly 29% of selected services enterprises. See *Figure 3.2 and Table 3.1*.

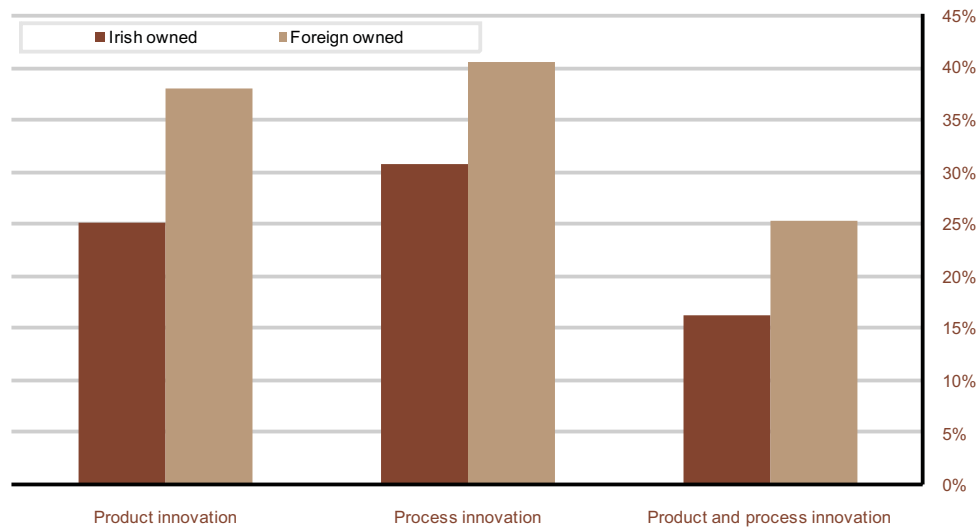
Figure 3.2 Detailed innovation activity rates by sector, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Foreign owned enterprises were more likely to be engaged in product innovations, process innovations or both product and process innovations. Almost 38% of foreign owned enterprises and over a quarter of Irish owned enterprises were engaged in product innovations. In addition, over two in five (41%) of foreign owned enterprises were engaged in process innovations compared to close to one in three (31%) Irish owned enterprises. See *Figure 3.3 and Table 3.1*.

Figure 3.3 Innovation activity rates by nationality of ownership, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Table 3.1 Detailed technological innovation activity rates by nationality of ownership, sector and number of persons engaged, 2008 - 2010

| | Nationality of ownership | | Sector of activity | | | Number of persons engaged | | | | All Enterprises |
|-----------------------------------|--------------------------|-------------|--------------------|-------------------|-------------|---------------------------|-------------|-------------|--|-----------------|
| | Irish | Foreign | Industry | Selected Services | 10-49 | 50-249 | 250+ | | | |
| | | | | | | | | | | |
| Product innovation | 25.2 | 37.9 | 34.9 | 24.0 | 23.0 | 44.0 | 59.6 | 27.9 | | |
| Process innovation | 30.7 | 40.5 | 40.5 | 28.5 | 28.1 | 47.4 | 67.5 | 32.9 | | |
| Product and process innovation | 16.3 | 25.3 | 24.4 | 14.8 | 13.7 | 31.8 | 52.0 | 18.2 | | |
| Ongoing innovation | 3.5 | 3.6 | 4.5 | 3.0 | 3.6 | 3.5 | 2.2 | 3.5 | | |
| Abandoned innovation | 1.1 | 1.2 | 1.6 | 0.8 | 1.0 | 1.6 | 0.7 | 1.1 | | |
| Abandoned and ongoing innovation | 0.4 | 0.5 | 0.6 | 0.3 | 0.4 | 0.6 | 0.7 | 0.4 | | |
| Any innovation¹ | 43.9 | 57.3 | 56.7 | 41.2 | 41.7 | 64.0 | 77.3 | 46.8 | | |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

¹ Respondents could engage in more than one type of innovation, hence the sum of the categories does not equal the total.

Chapter 4

Technological Innovation: Detailed Types

Introduction

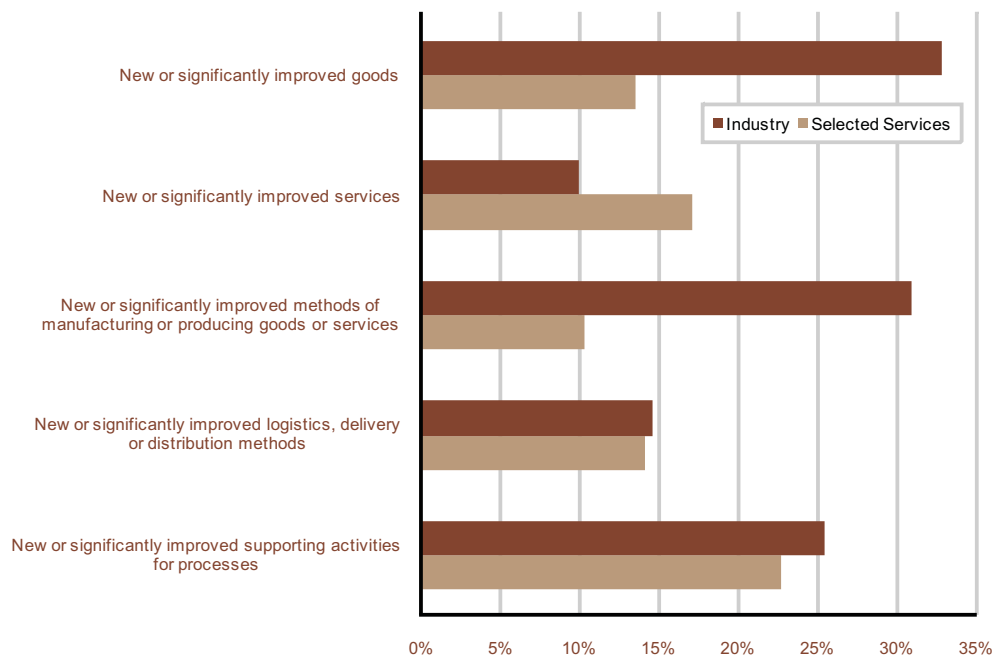
Enterprises that were product innovators were engaged in developing new or significantly improved goods or services. Process innovations included developing new or significantly improved methods of manufacturing or producing goods or services; new or significantly improved logistics, delivery or distribution methods; new or significantly improved supporting activities for processes.

Product and Process Innovation Rates

Almost 21% of all enterprises indicated that they were engaged in developing new or significantly improved goods, while nearly 15% of enterprises indicated that they were engaged in developing new or significantly improved services as a part of their product innovations. Close to a quarter (24%) of all enterprises were engaged in developing new or significantly improved supporting activities for processes. *See Table 4.1.*

A third (33%) of all enterprises in the industrial sector developed new or significantly improved goods compared to nearly 14% of enterprises in the selected services sector, while more enterprises in selected services sectors developed new or significantly improved services compared to enterprises in the industrial sector. Nearly one in three industrial enterprises developed new or significantly improved methods of manufacturing or producing goods or services compared to one in ten selected services sector enterprises. *See Figure 4.1 and Table 4.1.*

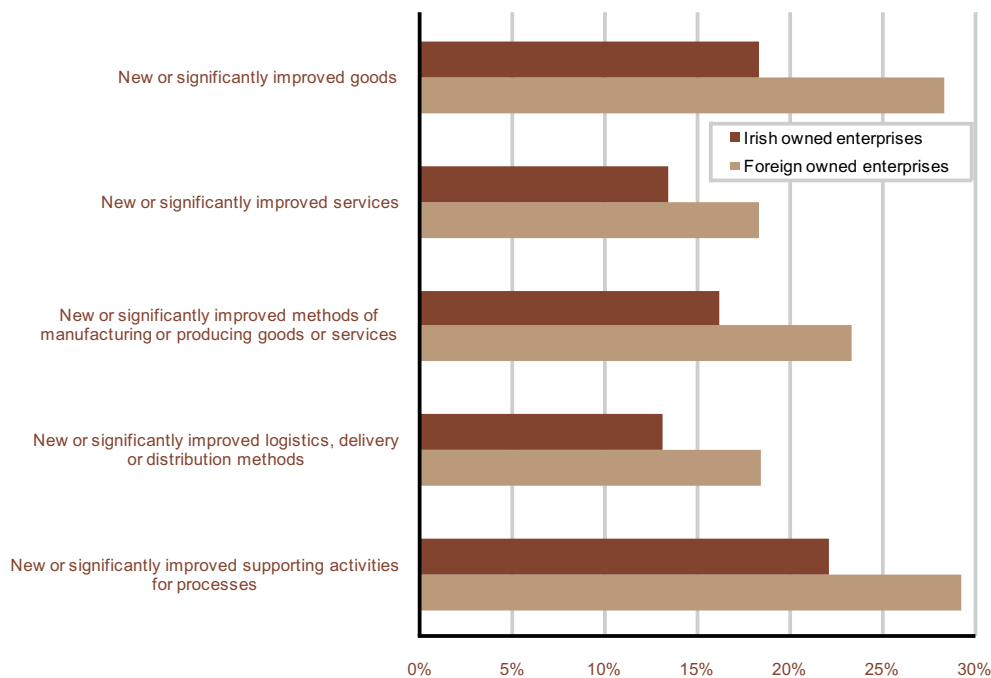
Figure 4.1 Detailed product and process innovation activity rates by sector, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Over 28% of all foreign owned enterprises were engaged in developing new or significantly improved goods as part of their product innovations over the period 2008-2010 inclusive compared to over 18% of Irish owned enterprises. Foreign owned enterprises were also more likely to be engaged in any of the three types of process innovations. See Figure 4.2 and Table 4.1.

Figure 4.2 Detailed product and process innovation activity rates by nationality of ownership, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Table 4.1 Detailed product and process innovation activity rates by nationality of ownership, sector and number of persons engaged, 2008 - 2010

| | Nationality of ownership | | | Sector of activity | | | Number of persons engaged | | | | % |
|---|--------------------------|-------------|-------------|--------------------|-------------|-------------|---------------------------|-----------------|--|--|---|
| | Irish | Foreign | Industry | Selected Services | 10-49 | 50-249 | 250+ | All Enterprises | | | |
| | | | | | | | | | | | |
| Product innovations | | | | | | | | | | | |
| New or significantly improved goods | 18.3 | 28.4 | 32.8 | 13.5 | 16.3 | 34.6 | 44.8 | 20.5 | | | |
| New or significantly improved services | 13.4 | 18.4 | 9.9 | 17.1 | 12.5 | 19.3 | 33.2 | 14.5 | | | |
| Any product innovation¹ | 25.2 | 37.9 | 34.9 | 24.0 | 23.0 | 44.0 | 59.2 | 27.9 | | | |
| Process innovations | | | | | | | | | | | |
| New or significantly improved methods of manufacturing or producing goods or services | 16.1 | 23.3 | 31.0 | 10.2 | 13.2 | 31.8 | 48.7 | 17.7 | | | |
| New or significantly improved logistics, delivery or distribution methods | 13.1 | 18.4 | 14.6 | 14.1 | 12.0 | 19.9 | 37.2 | 14.3 | | | |
| New or significantly improved supporting activities for processes | 22.1 | 29.3 | 25.5 | 22.7 | 20.3 | 34.6 | 46.9 | 23.7 | | | |
| Any process innovation² | 30.7 | 40.5 | 40.5 | 28.5 | 28.1 | 47.4 | 67.5 | 32.9 | | | |
| Any innovation | 43.9 | 57.3 | 56.7 | 41.2 | 41.7 | 64.0 | 77.3 | 46.8 | | | |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

¹ Respondents could engage in more than one type of product innovation, hence the sum of the categories does not equal the total.

² Respondents could engage in more than one type of process innovation, hence the sum of the categories does not equal the total.

Chapter 5

Technological Innovation Turnover

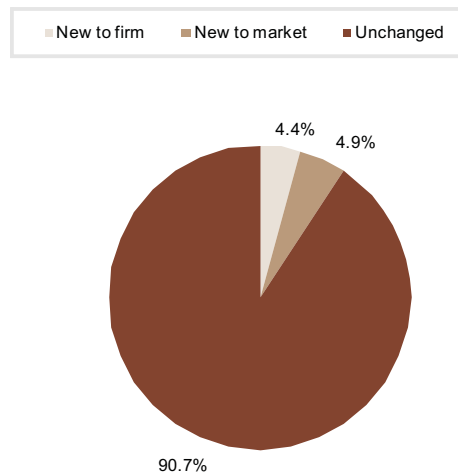
Introduction

Enterprises were asked to estimate how much of their total turnover was attributed to product innovations, separated into new to market innovations (a measure of novelty and creativity) and new to the firm innovations (those which were adopted by the firm but invented and created elsewhere).

Innovation Turnover

Over 9% of the turnover of all active and non-active innovators in 2010 in the industrial and selected services sectors was as a result of product innovations over the period 2008 to 2010. Large enterprises attributed almost the same proportion of their turnover in 2010 to new to firm and new to market product innovations at almost 6 % in respect of both. *See Figure 5.1 and Table 5.1.*

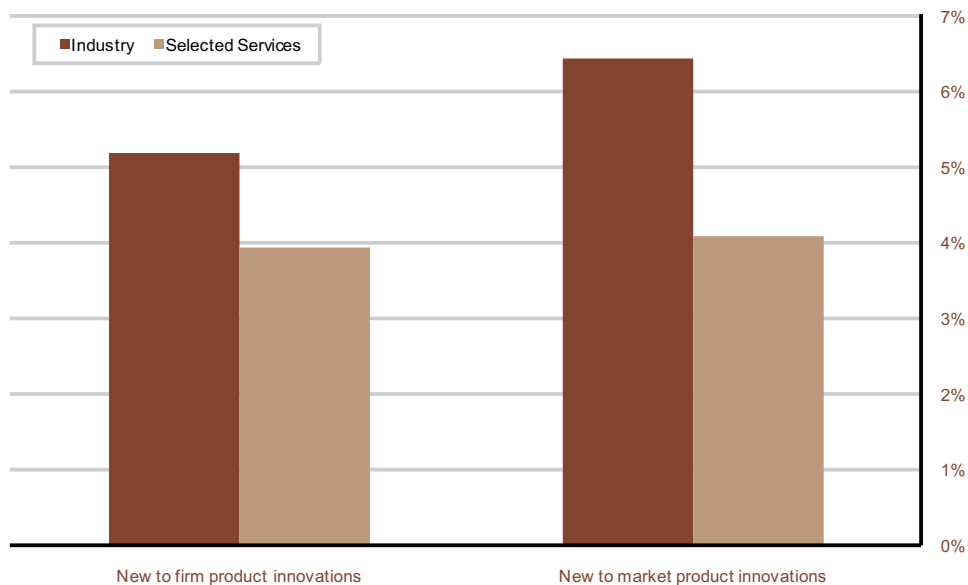
Figure 5.1 Percentage of total turnover attributed to product innovation activities¹ for all enterprises, 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.
¹Product innovation activities during the period 2008 - 2010.

Industrial enterprises attributed in excess of 5% of their turnover to new to firm product innovations compared to 4% of turnover of the selected services sector. Enterprises in the industrial sector generated nearly 7% of their turnover from new to market product innovations compared to over 4% of enterprises in the selected services sectors. See Figure 5.2 and Table 5.1.

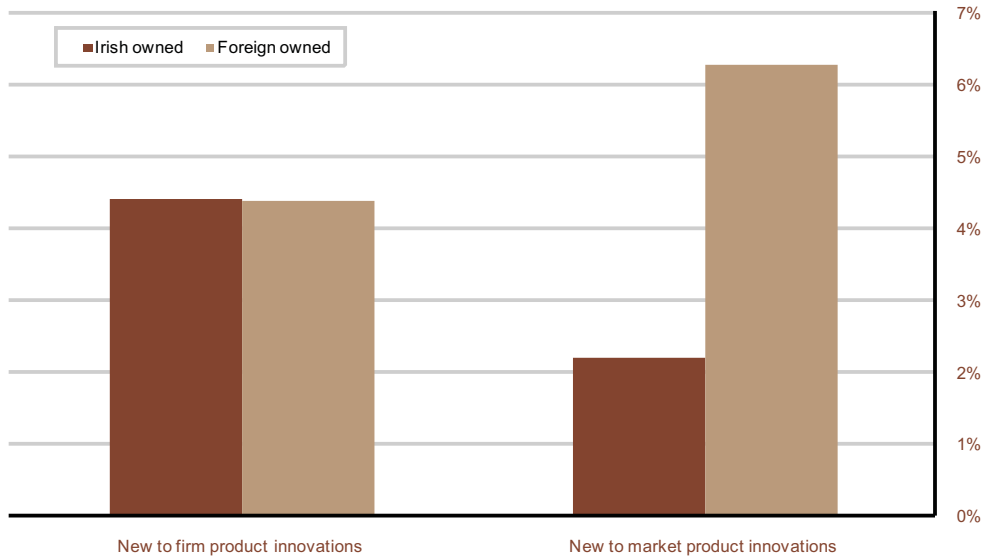
Figure 5.2 Percentage of total turnover attributed to new to firm and new to market product innovation activities by sector, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Irish owned and foreign owned enterprises both generated over 4% of their turnover from new to firm product innovations in 2010. Foreign owned enterprises however, generated nearly three times as much of their turnover from new to market innovations when compared to Irish owned enterprises in the same period. See Figure 5.3 and Table 5.1.

Figure 5.3 Percentage of total turnover attributed to new to firm and new to market product innovation activities by nationality of ownership, 2008 - 2010



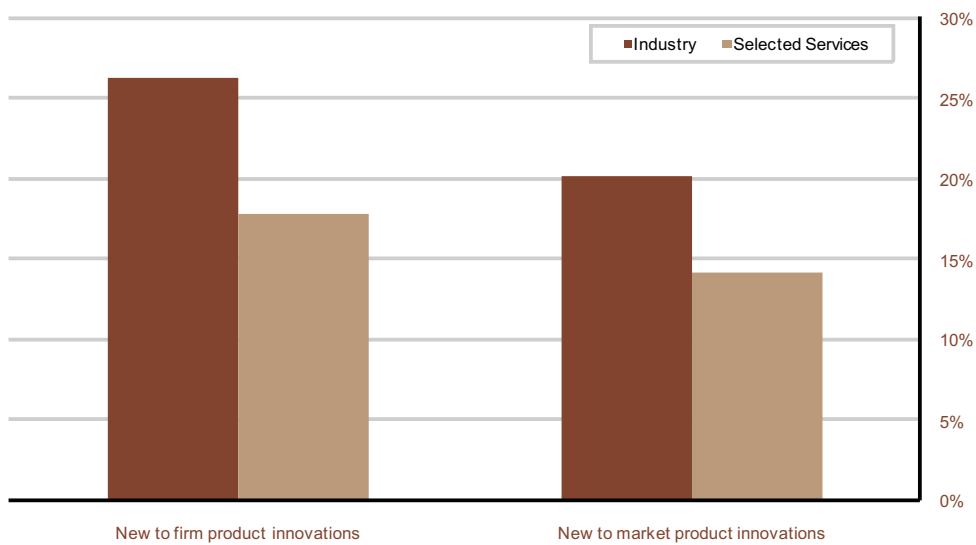
Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

New to Firm and New to Market Product Innovations

A fifth (21%) of all enterprises with ten or more persons engaged had new to firm product innovations over the period 2008-2010 inclusive while over 16% of enterprises were engaged in new to market product innovations in the same period. See *Table 5.2*.

Over one in four industrial enterprises were engaged in new to firm product innovations compared to nearly one in five in the selected services sector. Similarly, a fifth of all enterprises in the industrial sector were engaged in new to market product innovations compared to around one in seven enterprises in selected services sectors. See *Figure 5.4 and Table 5.2*.

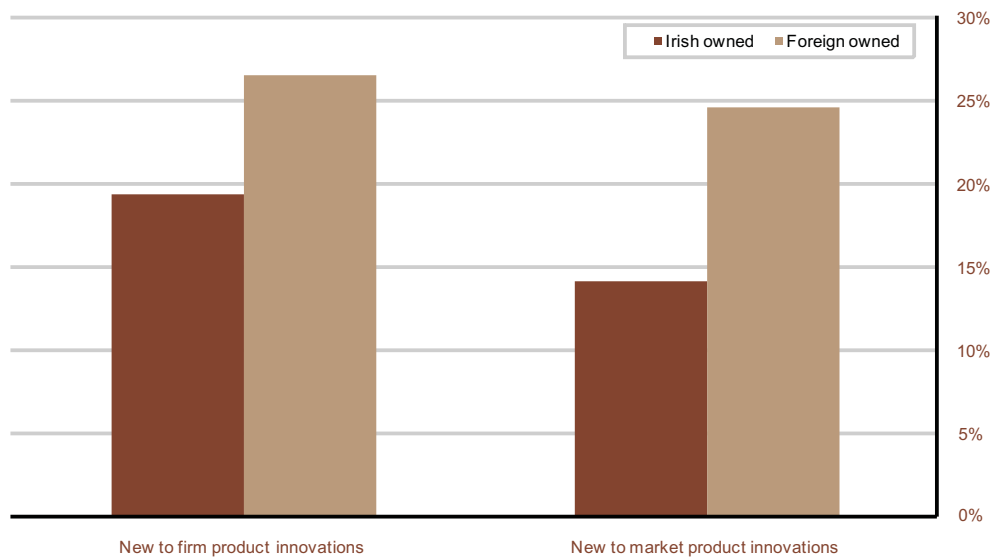
Figure 5.4 Percentage of enterprises engaged in new to firm and new to market product innovation activities by sector, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

More than one in four of all foreign owned enterprises were engaged in new to firm product innovations compared to nearly one fifth of Irish owned enterprises. Nearly 25% of foreign owned enterprises were engaged in new to market product innovations compared to over 14% of Irish owned enterprises. See *Figure 5.5 and Table 5.2*.

Figure 5.5 Percentage of enterprises engaged in new to firm and new to market product innovation activities by nationality of ownership, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Table 5.1 Percentage of total turnover attributed to new to firm and new to market product innovation activities by nationality of ownership, sector and number of persons engaged, 2008 - 2010

| Turnover | Nationality of ownership | | Sector of activity | | | Number of persons engaged | | | | All Enterprises |
|-----------------------------------|--------------------------|--------------|--------------------|-------------------|--------------|---------------------------|--------------|-----------------|---|-----------------|
| | Irish | Foreign | Industry | Selected Services | 10-49 | 50-249 | 250+ | All Enterprises | | |
| | | | | | | | | | % | |
| New to firm product innovations | 4.4 | 4.4 | 5.2 | 4.0 | 2.4 | 3.4 | 5.6 | 4.4 | | |
| New to market product innovations | 2.2 | 6.3 | 6.5 | 4.1 | 3.6 | 3.7 | 5.9 | 4.9 | | |
| Unchanged | 93.4 | 89.3 | 88.3 | 91.9 | 94.0 | 92.9 | 88.5 | 90.7 | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Table 5.2 Percentage of enterprises engaged in new to firm and new to market product innovation activities by nationality of ownership, sector and number of persons engaged, 2008 - 2010

| New to firm product innovations New to market product innovations | Nationality of ownership | | Sector of activity | | | Number of persons engaged | | | | All Enterprises |
|--|--------------------------|---------|--------------------|-------------------|-------|---------------------------|------|-----------------|---|-----------------|
| | Irish | Foreign | Industry | Selected Services | 10-49 | 50-249 | 250+ | All Enterprises | | |
| | | | | | | | | | % | |
| New to firm product innovations | 19.4 | 26.6 | 26.4 | 17.9 | 17.4 | 32.5 | 44.4 | 21.0 | | |
| New to market product innovations | 14.1 | 24.7 | 20.2 | 14.3 | 12.7 | 28.3 | 41.9 | 16.4 | | |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Chapter 6

Technological Innovation Expenditure

Introduction

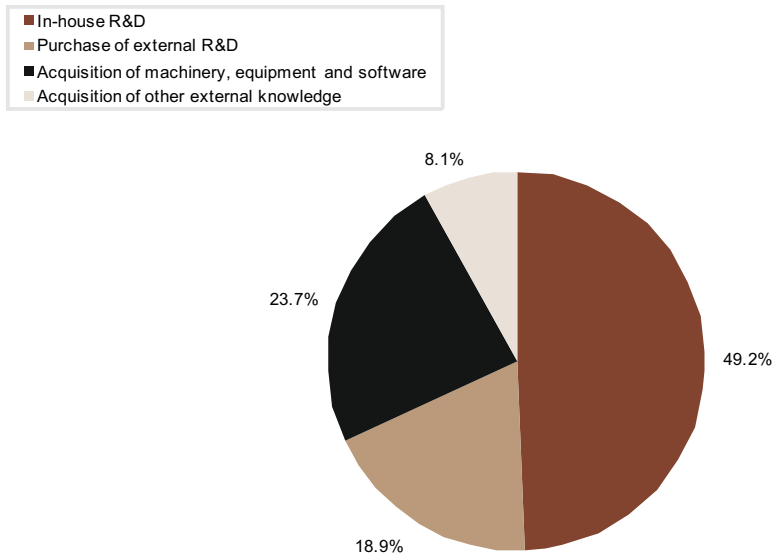
Enterprises were asked if they were active in any of the following categories over the three year period 2008-2010 and to estimate innovation spending on each of those categories in 2010 only: in-house Research and Development (R&D); purchase of external R&D; acquisition of machinery, equipment and software; acquisition of other external knowledge. More detailed information regarding expenditure by enterprises on R&D activities is available from the Business Expenditure on Research and Development (BERD) survey¹.

Technological Innovation Expenditure

Total spending on innovation activities across the Irish economy was estimated to have been in excess of €2.5bn in 2010, of which nearly €1.3bn was spent on in-house R&D. Almost €604m, which represented 24% of all innovation expenditure, was spent on the acquisition of machinery, equipment and software. The value of purchases of external R&D was €481m which accounted for 19% of expenditure, while the acquisition of external knowledge at €207m accounted for over 8%. See *Figure 6.1 and Table 6.1*.

¹ Results from the 2009-2010 BERD survey are available from the CSO website. Go to www.cso.ie Releases and Publications: Science and Technology, Business Expenditure on Research and Development.

Figure 6.1 Percentage share of innovation expenditure by type of expenditure for all enterprises, 2010

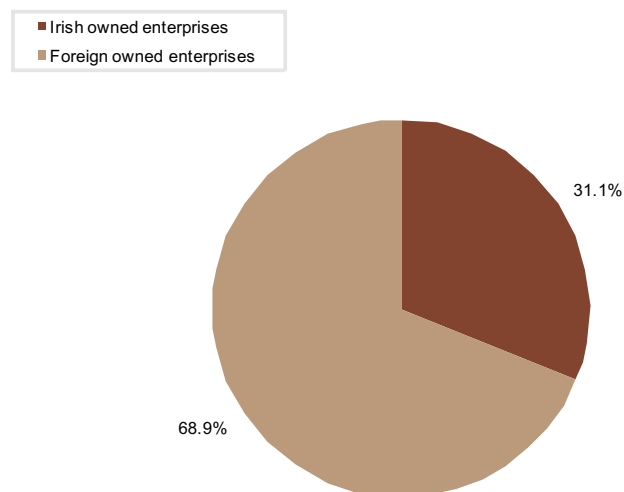


Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

The total spend by industrial enterprises on innovation activities was over €1.7bn in 2010 while the total spend in selected services sectors was €830m. Industrial enterprises spent €764m on in-house R&D, €420m on machinery, equipment and software, €344m on external R&D and €187m on acquisition of external knowledge. Selected services sectors had a similar spend pattern and spent €488m on in-house R&D, €184m on machinery and equipment, €138m on external R&D and €20m on acquisition of external knowledge. See Table 6.1.

Irish owned enterprises spent €793m on innovation related activities in 2010. Foreign owned enterprises spent almost €1.8bn, or almost 69% of all innovation-related expenditure. Irish owned enterprises spent €382m on in-house R&D in 2010 compared to foreign owned enterprises which spent nearly €871m. See Figure 6.2 and Table 6.1.

Figure 6.2 Share of total innovation expenditure by nationality of ownership, 2010



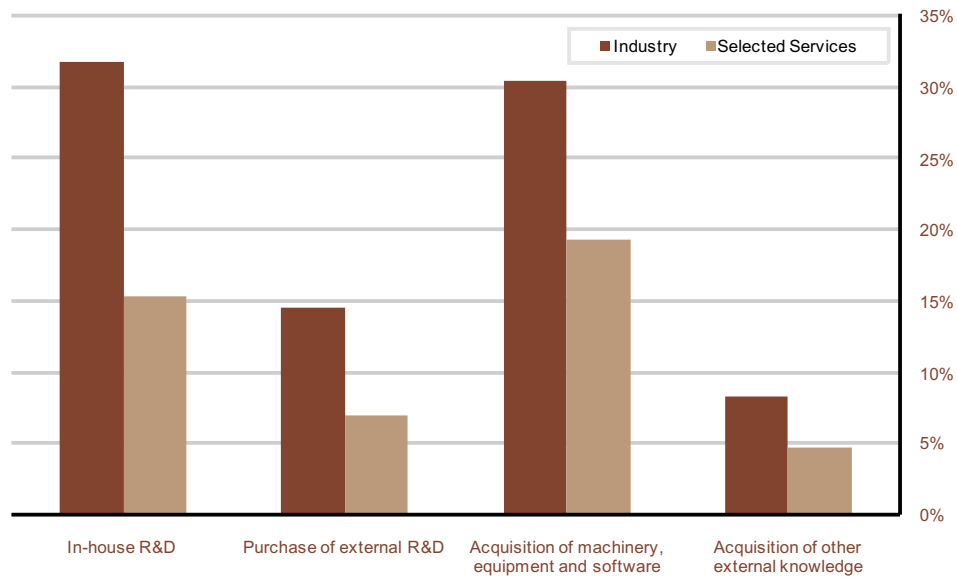
Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Enterprises Engaged in Innovation Expenditure

Over one in three enterprises (36%) had innovation expenditure in 2010. Almost 31% of all small enterprises, 52% of medium sized enterprises and nearly 68% of large enterprises had such expenditure in the period. See *Table 6.2*.

Industrial enterprises accounted for almost 48% of innovation related expenditure, compared to over 29% of enterprises in selected services sectors. Nearly 31% of enterprises in the industrial sector purchased machinery, equipment and software related to innovation activities compared to over 19% of selected services sector enterprises. See *Figure 6.3 and Table 6.2*.

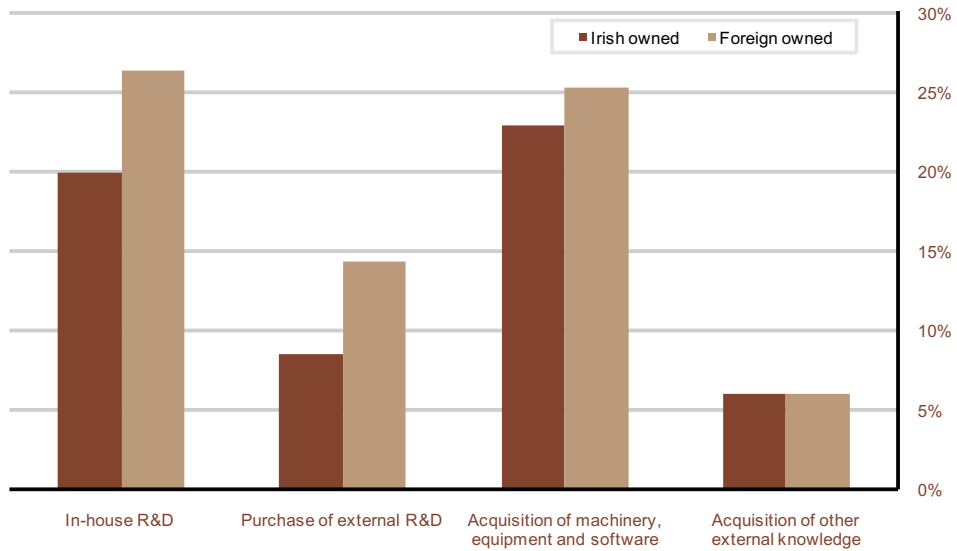
Figure 6.3 Percentage of enterprises with innovation expenditure by sector, 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Almost 34% of Irish owned enterprises had innovation related expenditure in the reference period compared to over 42% of foreign owned enterprises. Over one in five Irish owned enterprises purchased machinery, equipment and software related to innovation activities while approximately one in four foreign owned enterprises made such purchases. See Figure 6.4 and Table 6.2.

Figure 6.4 Percentage of enterprises with innovation expenditure by nationality of ownership, 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Table 6.1 Technological innovation expenditure by nationality of ownership, sector and number of persons engaged, 2010

| | Nationality of ownership | | Sector of activity | | | Number of persons engaged | | | | All technological innovative enterprises |
|--|--------------------------|----------------|--------------------|-------------------|--------------|---------------------------|----------------|----------------|--|--|
| | Irish | Foreign | Industry | Selected Services | 10-49 | 50-249 | 250+ | | | |
| In-house R&D | 382.4 | 870.6 | 764.4 | 488.5 | 237.3 | 326.5 | 689.1 | 1,252.9 | | |
| Purchase of external R&D | 102.6 | 379.1 | 343.8 | 137.9 | 33.1 | 98.1 | 350.5 | 481.7 | | |
| Acquisition of machinery, equipment and software | 288.5 | 315.5 | 420.4 | 183.6 | 142.0 | 202.9 | 258.9 | 603.9 | | |
| Acquisition of other external knowledge | 19.2 | 187.4 | 186.6 | 20.0 | 16.8 | 183.1 | 6.7 | 206.6 | | |
| Total innovation expenditure | 792.6 | 1,752.6 | 1,715.2 | 829.9 | 429.3 | 810.6 | 1,305.2 | 2,545.1 | | |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Table 6.2 Percentage of enterprises engaged in technological innovation expenditure by nationality of ownership, sector and number of persons engaged, 2010

| | Nationality of ownership | | Sector of activity | | | Number of persons engaged | | | | % |
|--|--------------------------|-------------|--------------------|-------------------|-------------|---------------------------|-------------|-----------------|--|---|
| | Irish | Foreign | Industry | Selected Services | 10-49 | 50-249 | 250+ | All Enterprises | | |
| Engaged in: | | | | | | | | | | |
| In-house R&D | 19.9 | 26.4 | 31.8 | 15.4 | 16.6 | 35.7 | 55.2 | 21.3 | | |
| Purchase of External R&D | 8.5 | 14.3 | 14.6 | 7.1 | 7.3 | 17.1 | 28.9 | 9.8 | | |
| Acquisition of machinery, equipment and software | 22.9 | 25.3 | 30.6 | 19.4 | 21.0 | 30.7 | 40.4 | 23.4 | | |
| Acquisition of other external knowledge | 6.0 | 6.0 | 8.3 | 4.7 | 5.3 | 8.5 | 10.1 | 6.0 | | |
| Total¹ | 33.9 | 42.2 | 47.5 | 29.1 | 30.7 | 52.2 | 67.9 | 35.7 | | |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

¹ Respondents could engage in more than one innovation expenditure category, hence the sum of the categories does not equal the total.

Chapter 7

Technological Innovation Co-operation

Introduction

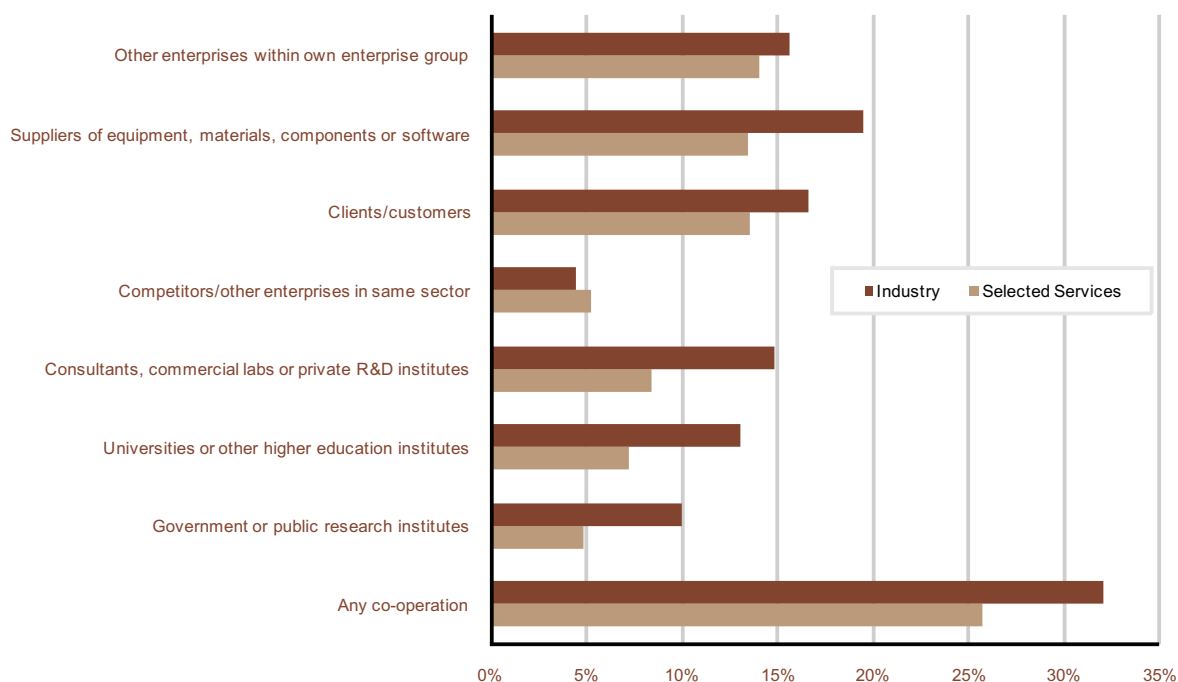
In developing new to market or new to firm product and process innovations, firms can develop these within their own firm or within their enterprise group. Alternatively, firms may engage in innovation co-operation with other sources to help develop these innovations.

Technological Innovation Co-operation Partners

Close to 29% of all innovation active enterprises indicated that they engaged in some co-operation activity when developing their innovations. Nearly 61% of large innovation active enterprises were involved in innovation partnerships compared to almost 23% of small enterprises. Large enterprises were more likely to co-operate with other enterprises within their own enterprise groups than small or medium sized firms. Co-operation with suppliers of equipment, materials, components or software was the second most cited innovation partner for large enterprises at 37%. See *Table 7.1*.

Nearly one in three (32%) of industrial enterprises and over one in four (26%) of selected services sector enterprises that were innovation active, indicated that they were engaged in innovation co-operation. Innovation co-operation partnerships with suppliers of equipment, materials, components or software were the most likely innovation partnerships in industry (20%) while 14% of selected services sector enterprises engaged in this type of innovation partnership. See *Figure 7.1 and Table 7.1*.

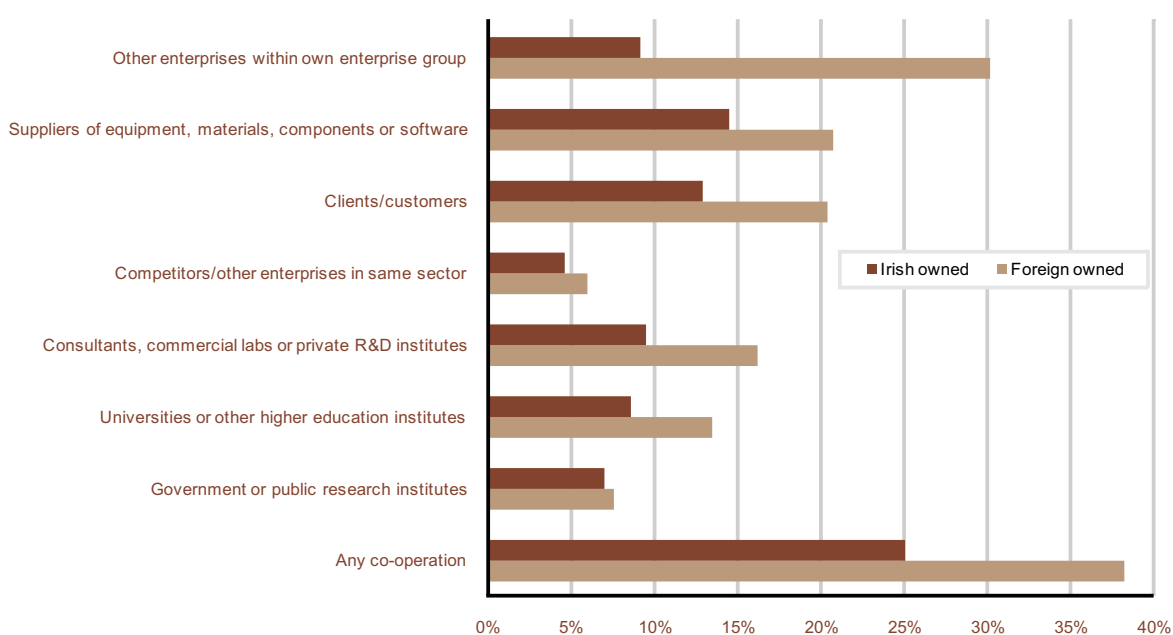
Figure 7.1 Type of co-operation partner for innovative enterprise by sector, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

A quarter (25%) of all Irish owned enterprises engaged in innovation co-operation in the period 2008-2010 inclusive, while over a third (38%) of all foreign owned enterprises engaged in such innovation co-operation. Foreign owned enterprises were more likely to co-operate in all types of innovation co-operation categories when compared to their Irish counterparts. See Figure 7.2 and Table 7.1.

Figure 7.2 Type of co-operation partner for innovative enterprise by nationality of ownership, 2008 - 2010

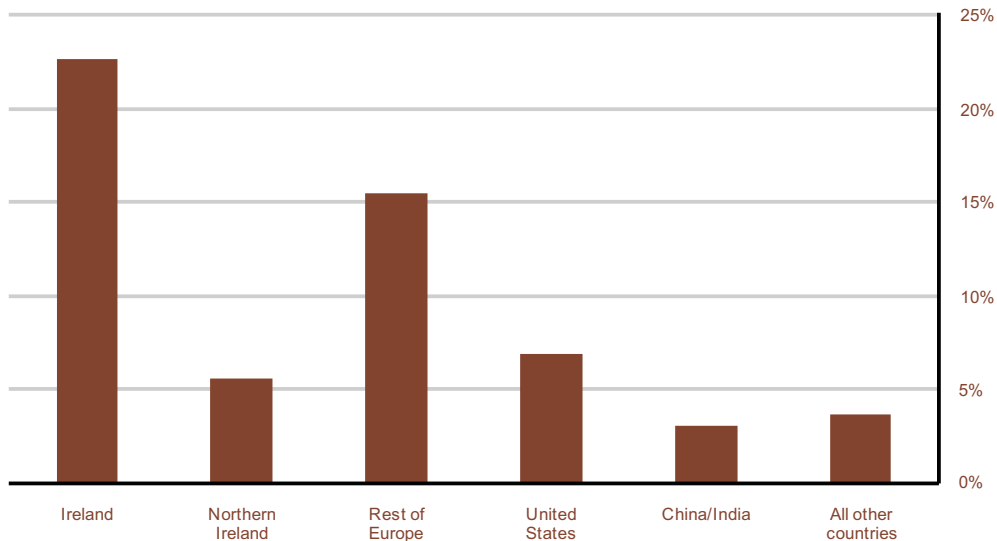


Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Technological Innovation Co-operation Locations

Over a fifth of all enterprises were engaged in innovation co-operation with partners that were located in Ireland, compared to almost 16% of enterprises that were engaged with partners in the Rest of Europe. See *Figure 7.3 and Table 7.2*.

Figure 7.3 Location of co-operation partner for innovative enterprises, 2008 - 2010



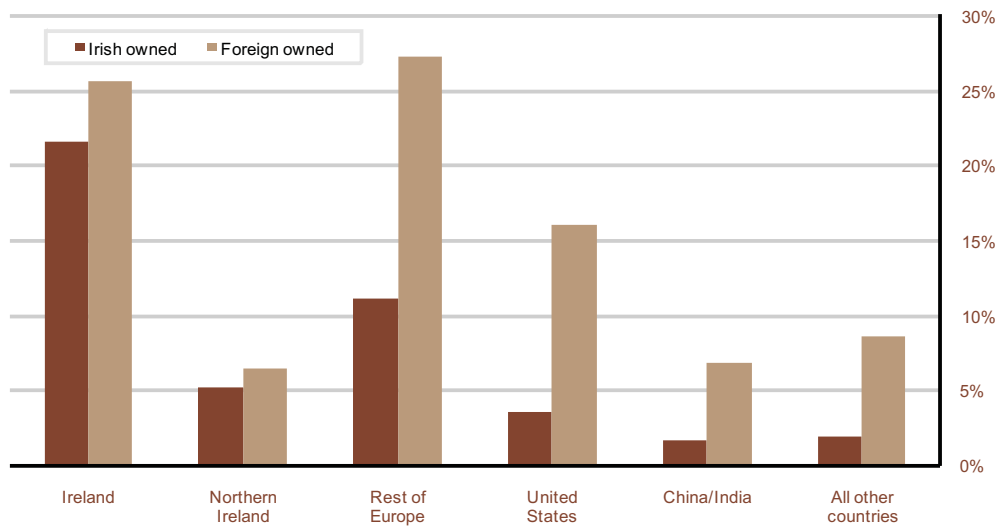
Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Over one in four industrial enterprises and one in five selected services sector enterprises engaged in innovation co-operation with innovation partners that were located in Ireland. In excess of 18% of industrial enterprises were engaged in innovation co-operation with partners in the Rest of Europe compared to over 13% of selected services sector enterprises. See *Table 7.2*.

Around one in five Irish owned enterprises were engaged in innovation co-operation with enterprises located in Ireland while over 11% had innovation co-operation with partners located in the Rest of Europe. Over one in four (27%) of all foreign owned enterprises were engaged in innovation co-operation with enterprises located in the Rest of Europe while almost 26% co-operated with partners in Ireland. See *Figure 7.4 and Table 7.2*.

Almost half (49%) of large enterprises engaged in innovation co-operation with innovation partners located in Ireland while close to one in ten (9%) co-operated with innovation partners located in China/India. See *Table 7.2*.

Figure 7.4 Location of co-operation partner for innovative enterprises by nationality of ownership, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Table 7.1 Type of co-operation partner for technological innovative enterprises by nationality of ownership, sector and number of persons engaged, 2008 - 2010

| | Nationality of ownership | | | Sector of activity | | | Number of persons engaged | | | All technological innovative enterprises |
|---|--------------------------|-------------|-------------|--------------------|-------------|-------------|---------------------------|-------------|--|--|
| | Irish | Foreign | Industry | Selected services | 10-49 | 50-249 | 250+ | % | | |
| Other enterprises within own enterprise group | 9.1 | 30.1 | 15.6 | 14.1 | 9.6 | 21.3 | 47.7 | 14.7 | | |
| Suppliers of equipment, materials, components or software | 14.4 | 20.7 | 19.5 | 13.5 | 11.9 | 23.1 | 37.4 | 16.1 | | |
| Clients/customers | 12.9 | 20.3 | 16.6 | 13.5 | 11.8 | 20.2 | 29.0 | 14.9 | | |
| Competitors/other enterprises in same sector | 4.5 | 5.9 | 4.5 | 5.2 | 4.1 | 5.2 | 12.6 | 4.9 | | |
| Consultants, commercial labs or private R&D institutes | 9.4 | 16.2 | 14.9 | 8.4 | 7.9 | 17.1 | 27.1 | 11.3 | | |
| Universities or other higher education institutes | 8.5 | 13.4 | 13.1 | 7.2 | 7.4 | 11.6 | 29.4 | 9.8 | | |
| Government or public research institutes | 6.9 | 7.5 | 10.0 | 4.9 | 5.7 | 9.4 | 14.0 | 7.1 | | |
| Any co-operation¹ | 25.0 | 38.2 | 32.0 | 25.7 | 22.8 | 37.0 | 60.7 | 28.5 | | |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

¹ Respondents could engage in more than one innovation cooperation category, hence the sum of the categories does not equal the total.

Table 7.2 Location of co-operation partner for technological innovative enterprises by nationality of ownership, sector and number of persons engaged, 2008 - 2010

| | Nationality of ownership | | | Sector of activity | | | Number of persons engaged | | | All technological innovative enterprises |
|-----------------------------|--------------------------|---------|----------|--------------------|-------|--------|---------------------------|------|--|--|
| | Irish | Foreign | Industry | Selected Services | 10-49 | 50-249 | 250+ | % | | |
| Ireland | 21.6 | 25.7 | 26.4 | 19.8 | 18.3 | 28.7 | 48.6 | 22.7 | | |
| Northern Ireland | 5.2 | 6.5 | 6.0 | 5.2 | 4.1 | 8.2 | 11.7 | 5.5 | | |
| Rest of Europe ¹ | 11.1 | 27.4 | 18.4 | 13.2 | 10.7 | 22.8 | 40.7 | 15.5 | | |
| United States | 3.5 | 16.1 | 8.1 | 6.0 | 3.4 | 11.6 | 28.0 | 6.9 | | |
| China / India | 1.6 | 6.8 | 3.7 | 2.5 | 1.7 | 5.6 | 8.9 | 3.0 | | |
| All other countries | 1.9 | 8.7 | 4.0 | 3.4 | 2.0 | 6.1 | 13.6 | 3.7 | | |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

¹ Includes the following European Union (EU) countries, EFTA or EU candidate countries: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Switzerland, Turkey, Spain, and Sweden.

Chapter 8

Barriers to Technological Innovation

Introduction

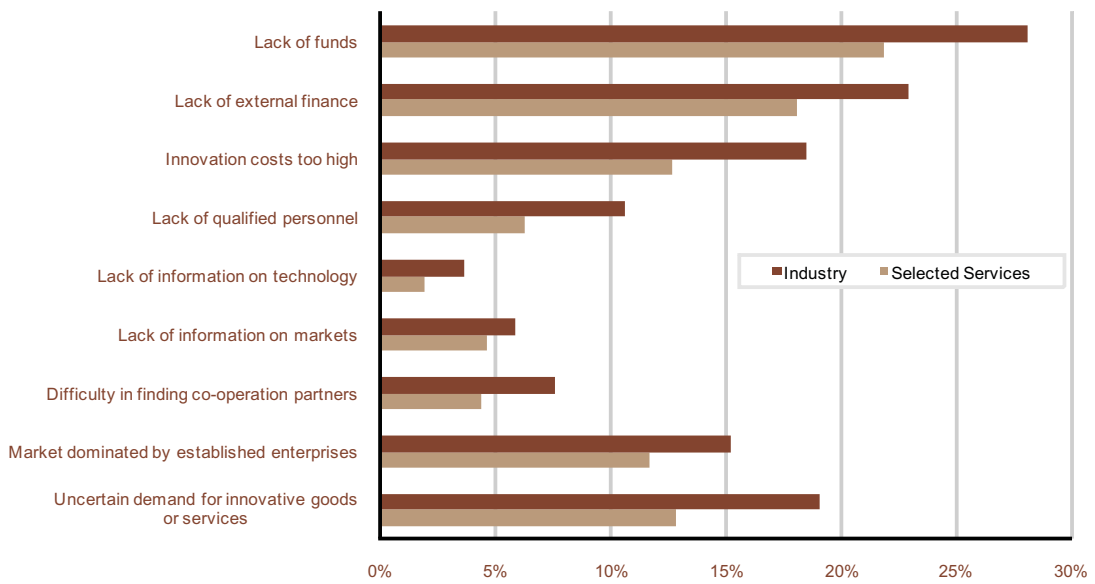
A number of factors that may have curtailed technological innovation activities were listed in the questionnaire and enterprises were asked to rank each of the factors as being of high, medium or low importance. Enterprises were also asked to rank reasons why they did not innovate over the period. Results are shown for factors and reasons that enterprises indicated as being of high importance.

Barriers to Technological Innovation

Those enterprises that were innovative or non-innovative indicated that the three most significant hampering factors were lack of funds, lack of external finance and high innovation costs. Nearly 25% of innovative enterprises indicated that lack of funds was a highly important factor hampering innovation compared to nearly 20% of non-innovative enterprises. In excess of 20% of innovation active firms cited lack of external finance as a high hampering factor. *See Table 8.1.*

Over a quarter (28%) of innovative industrial enterprises indicated that the most significant hampering factor was lack of funds, the corresponding figure for enterprises in the selected services sector was 22%. *See Figure 8.1 and Table 8.1.*

Figure 8.1 Highly important hampering factors to innovation activities for innovative enterprises by sector, 2008 - 2010

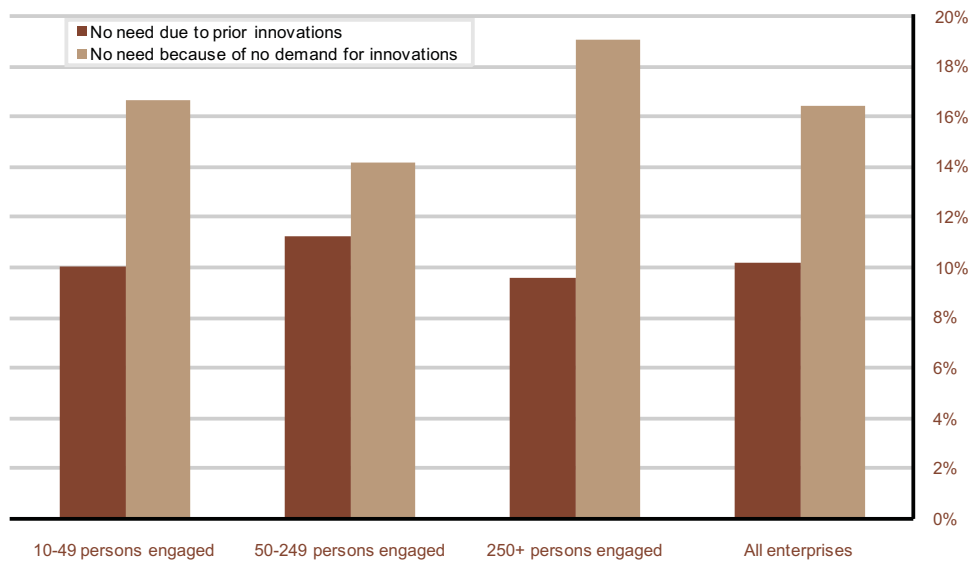


Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Reasons not to Innovate

Over 16% of non-innovative enterprises indicated that there was no need to innovate because there was no demand to do so and a further 10% cited prior innovations as their reason not to innovate. See Figure 8.2 and Table 8.2.

Figure 8.2 Highly important reasons not to innovate for non-innovative enterprises by number of persons engaged, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Close to 19% of non-innovative industrial enterprises indicated that a highly important reason not to innovate was that there was no demand for innovations while in excess of 15% of such enterprises in the selected services sectors also cited this reason. See *Table 8.2*.

Table 8.1 Highly important hampering factors to innovation activities for innovative and non-innovative enterprises by sector and number of persons engaged 2008 - 2010

| | Sector of activity | | | | | | | | | | % | | |
|---|---------------------------|----------------------------|------------------------|----------------------------|------------------------|----------------------------|------------------------|----------------------------|------------------------|----------------------------|------------------------|----------------------------|------|
| | Number of persons engaged | | | | | | | | | | | | |
| | Industry | Selected Services | | 10-49 | | 50-249 | | 250+ | | All Enterprises | | | |
| | Innovative enterprises | Non-innovative enterprises | Innovative enterprises | Non-innovative enterprises | Innovative enterprises | Non-innovative enterprises | Innovative enterprises | Non-innovative enterprises | Innovative enterprises | Non-innovative enterprises | Innovative enterprises | Non-innovative enterprises | |
| Lack of funds | 28.1 | 24.9 | 21.9 | 17.6 | 27.8 | 21.1 | 18.4 | 11.2 | 11.2 | 11.2 | 11.1 | 24.6 | 19.8 |
| Lack of external finance | 22.9 | 21.5 | 18.1 | 15.8 | 23.8 | 18.9 | 12.7 | 7.5 | 7.9 | 7.9 | 9.5 | 20.2 | 17.4 |
| Innovation costs too high | 18.5 | 24.1 | 12.7 | 13.3 | 16.6 | 17.7 | 13.0 | 8.0 | 7.9 | 7.9 | 7.9 | 15.2 | 16.4 |
| Lack of qualified personnel | 10.6 | 6.1 | 6.3 | 5.2 | 8.6 | 5.9 | 6.8 | 2.4 | 7.5 | 7.5 | 1.6 | 8.2 | 5.4 |
| Lack of information on technology | 3.6 | 3.1 | 1.9 | 2.7 | 3.0 | 3.1 | 2.3 | 0.7 | 0.5 | 0.5 | 0.0 | 2.7 | 2.8 |
| Lack of information on markets | 5.8 | 4.4 | 4.6 | 3.2 | 5.5 | 3.9 | 4.9 | 1.7 | 1.9 | 1.9 | 0.0 | 5.1 | 3.6 |
| Difficulty in finding co-operation partners | 7.6 | 6.0 | 4.4 | 4.8 | 6.4 | 5.7 | 4.8 | 1.5 | 3.3 | 3.3 | 0.0 | 5.8 | 5.2 |
| Market dominated by established enterprises | 15.2 | 13.6 | 11.6 | 10.6 | 13.9 | 11.9 | 12.4 | 9.0 | 8.4 | 8.4 | 3.2 | 13.2 | 11.5 |
| Uncertain demand for innovative goods or services | 19.1 | 17.8 | 12.8 | 10.5 | 16.6 | 13.0 | 13.4 | 9.7 | 11.7 | 11.7 | 11.1 | 15.5 | 12.6 |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Table 8.2 Highly important reasons not to innovate by sector and number of persons engaged, 2008 - 2010

| | Sector of activity | | | | | | | | | | All Enterprises | |
|--|------------------------|----------------------------|------------------------|----------------------------|---------------------------|--------|------|------------------------|----------------------------|------------------------|-----------------|----------------------------|
| | Industry | | Selected Services | | Number of persons engaged | | | | | | | |
| | Innovative enterprises | Non-innovative enterprises | Innovative enterprises | Non-innovative enterprises | 10-49 | 50-249 | 250+ | Innovative enterprises | Non-innovative enterprises | Innovative enterprises | | Non-innovative enterprises |
| No need due to prior innovations | 3.7 | 11.1 | 6.0 | 9.7 | 5.5 | 4.1 | 10.0 | 11.2 | 2.3 | 9.5 | 5.0 | 10.1 |
| No need because of no demand for innovations | 5.6 | 18.7 | 7.7 | 15.4 | 7.6 | 5.3 | 16.6 | 14.1 | 3.3 | 19.0 | 6.8 | 16.4 |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Chapter 9

Organisational Innovation

Introduction

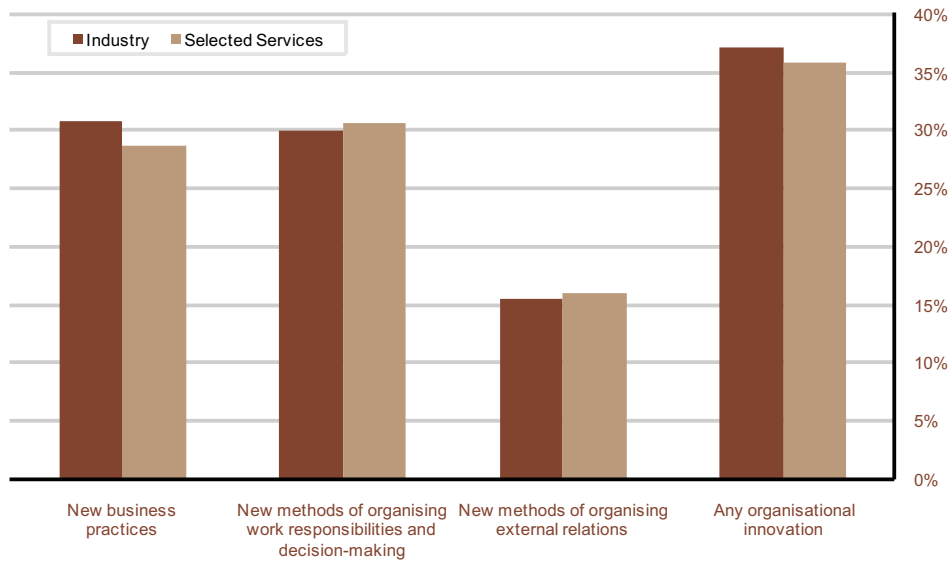
Enterprises were asked details of organisational innovations that they introduced in the period 2008-2010 and to evaluate the objectives of these innovations.

Organisational Innovation

Over one in three (36%) of all enterprises carried out an organisational innovation between 2008 and 2010. The introduction of new business practices and new methods of organising work responsibilities and decision-making were the most cited forms of organisational innovation. Around 30% of enterprises indicated that they engaged in these types of innovation. An organisational innovation was introduced by nearly three in four large enterprises over the survey period. *See Table 9.1.*

Industrial enterprises and selected services sector enterprises had similar rates in respect of organisational innovations. *See Figure 9.1 and Table 9.1.*

Figure 9.1 Organisational innovation activity rates by sector, 2008 - 2010



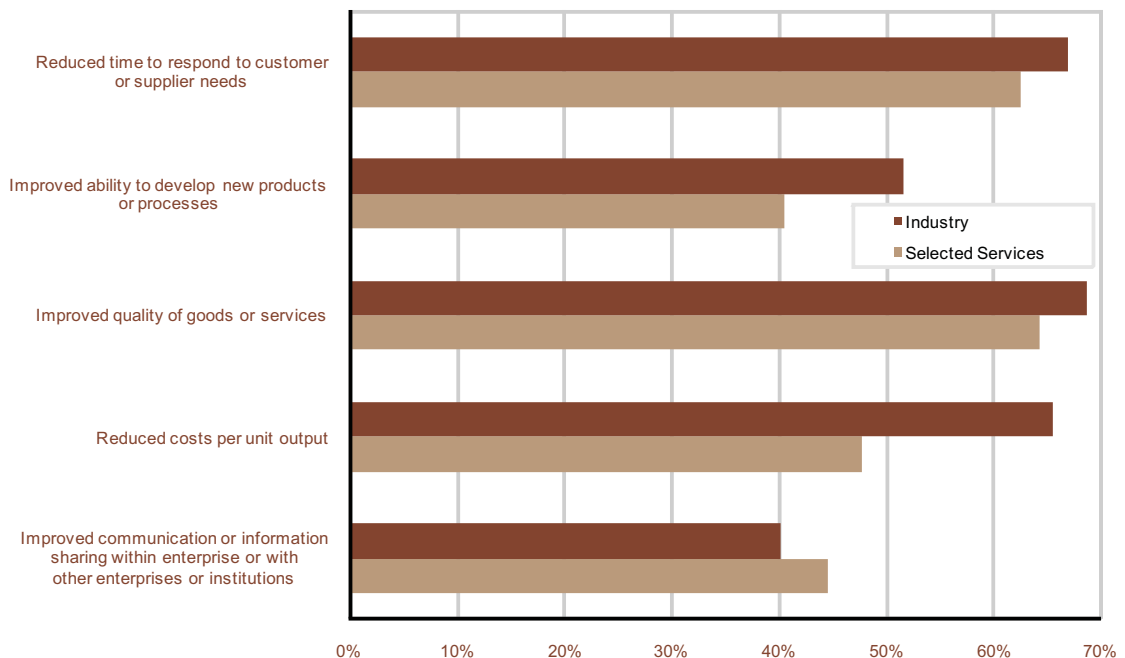
Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Objectives of Organisational Innovation

Over two-thirds of technological innovative active enterprises that had an organisational innovation indicated that a highly important objective of introducing such innovations was the improvement in quality of goods or services. Similarly, over 64% of enterprises indicated that their objective was the reduction in time responding to customer or supplier needs. See *Table 9.2*.

Again, over two-thirds of industrial enterprises indicated that highly important objectives of introducing organisational innovations were improved quality of goods or services, along with a reduction in time in responding to customer or supplier needs. Similarly, this compares to nearly two-thirds of selected services sector enterprises that indicated their objective of introducing organisational innovations was both the improvement in quality of goods or services and the reduction in time to respond to customer or supplier needs. See *Figure 9.2 and Table 9.2*.

Figure 9.2 Highly important objectives of introducing organisational innovations by sector, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Table 9.1 Organisational innovation activity rates by sector and number of persons engaged, 2008 - 2010

| | Sector of activity | | Number of persons engaged | | | All Enterprises |
|---|--------------------|-------------------|---------------------------|-------------|-------------|-----------------|
| | Industry | Selected Services | 10-49 | 50-249 | 250+ | |
| | | | | | | |
| New business practices | 30.8 | 28.7 | 25.0 | 41.6 | 67.1 | 29.5 |
| New methods of organising work responsibilities and decision-making | 30.0 | 30.6 | 26.7 | 41.1 | 60.3 | 30.4 |
| New methods of organising external relations | 15.6 | 16.1 | 13.4 | 22.8 | 36.1 | 15.9 |
| Any organisational innovation¹ | 37.2 | 35.9 | 31.9 | 49.3 | 72.9 | 36.4 |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010

¹ Respondents could engage in more than one type of organisational innovation, hence the sum of the categories does not equal the total.

Table 9.2 Highly important objectives of technological innovative active enterprises with organisational innovation by sector and number of persons engaged

| | Sector of activity | | Number of persons engaged | | | All technological innovative enterprises with organisational innovation |
|--|--------------------|-------------------|---------------------------|--------|------|---|
| | Industry | Selected Services | 10-49 | 50-249 | 250+ | |
| | | | | | | |
| Reduce time to respond to customer or supplier needs | 67.0 | 62.6 | 64.7 | 63.0 | 64.5 | 64.4 |
| Improve ability to develop new products or processes | 51.7 | 40.5 | 43.6 | 47.0 | 50.0 | 45.0 |
| Improve quality of goods or services | 68.7 | 64.4 | 65.9 | 66.1 | 68.3 | 66.2 |
| Reduce cost per unit output | 65.5 | 47.7 | 50.8 | 62.4 | 64.0 | 54.9 |
| Improve communication or information sharing within enterprise or with other enterprises or institutions | 40.3 | 44.6 | 42.3 | 47.8 | 34.4 | 42.9 |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010

Chapter 10

Marketing Innovation

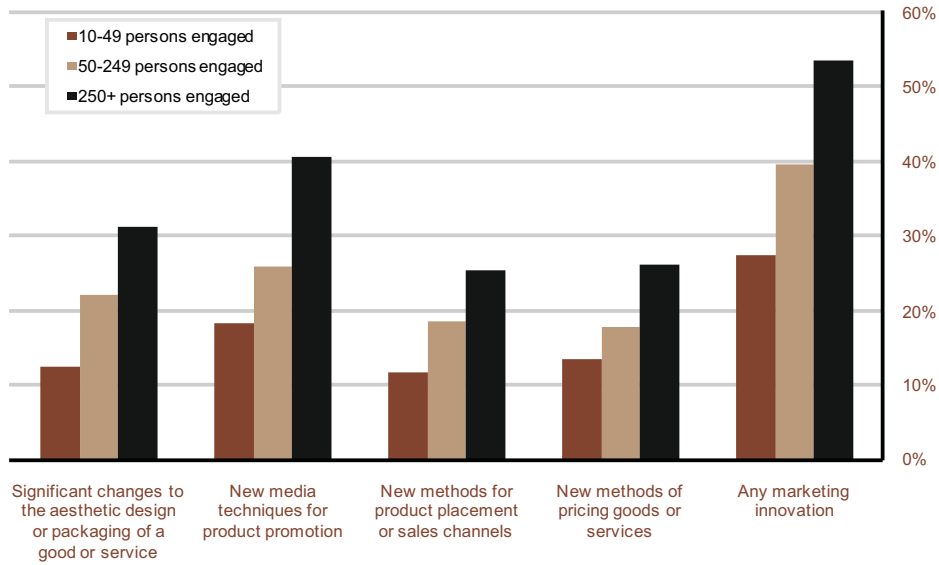
Introduction

Enterprises were asked details of marketing innovations that they introduced in the period 2008-2010 and to evaluate the objectives of introducing these innovations.

Marketing Innovation

Nearly one in three of all enterprises (30%) carried out a marketing innovation between 2008 and 2010. The most common form of marketing innovation was the introduction of new media or techniques for product promotion and one-fifth of all enterprises indicated that they engaged in this activity. Almost 15% of all enterprises introduced significant changes to the aesthetic design or packaging of a good or service. A marketing innovation was introduced by over a third (39%) of medium sized enterprises and over half (53%) of large enterprises between 2008 and 2010. See *Figure 10.1 and Table 10.1*.

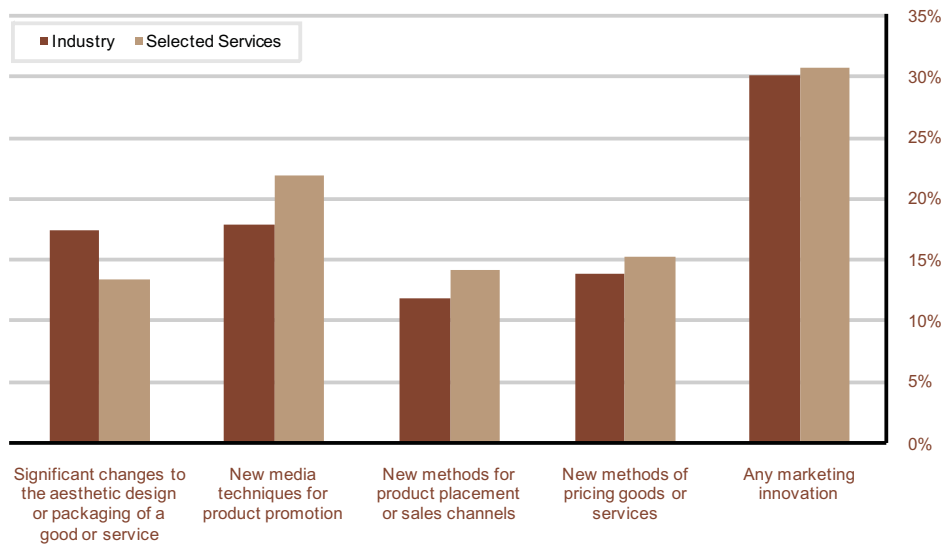
Figure 10.1 Detailed marketing innovation activity rates by number of persons engaged, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Almost one third (30%) of both industrial enterprises and selected services sector enterprises had a marketing innovation. See Figure 10.2 and Table 10.1.

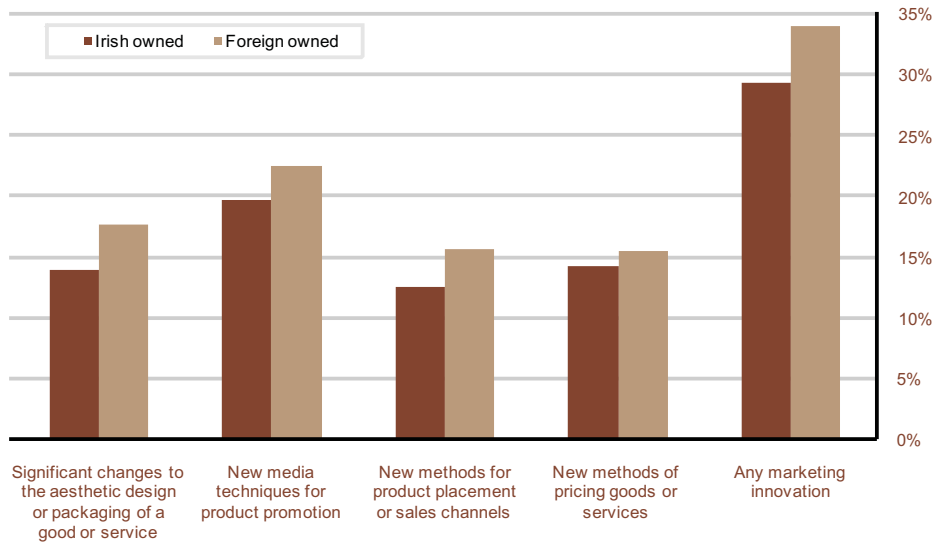
Figure 10.2 Detailed marketing innovation activity rates by sector, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Over one in three (34%) foreign owned enterprises introduced a marketing innovation in the period 2008-2010 compared to over one in four (29%) Irish owned enterprises. Close to 23% of foreign owned enterprises introduced new media or techniques for product promotion compared to nearly 20% of Irish owned enterprises. Nearly 18% of foreign owned enterprises introduced significant changes to the aesthetic design or packaging of a good or service while almost 14% of Irish enterprises indicated that they engaged in this activity. See Figure 10.3 and Table 10.1.

Figure 10.3 Detailed marketing innovation activity rates by nationality of ownership, 2008 - 2010



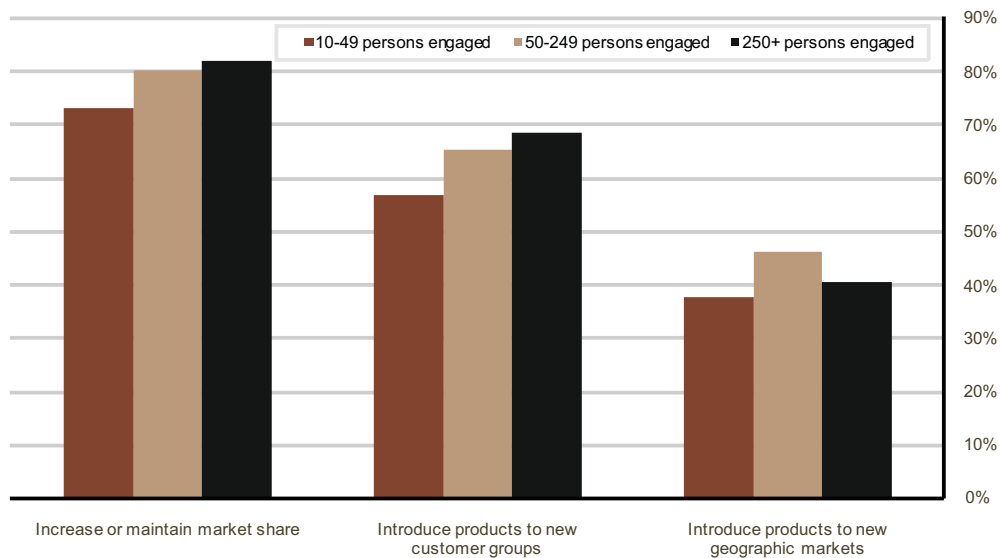
Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Objectives of Marketing Innovations

Of those enterprises that engaged in marketing innovations, three-quarters indicated that a highly important objective of introducing such innovations was to increase or maintain market share while nearly three in five enterprises indicated that a highly important objective was to introduce products to new customer groups. See *Table 10.2*.

In excess of eight in ten large enterprises indicated that a highly important objective of introducing market innovations was to increase or maintain market share while over seven in ten small enterprises cited this factor. See *Figure 10.4 and Table 10.2*.

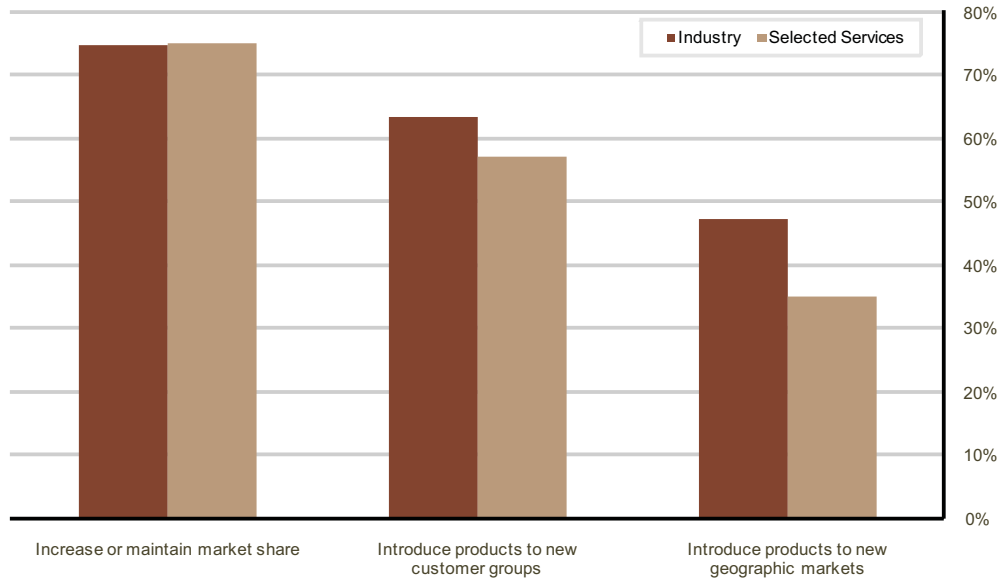
Figure 10.4 Highly important objectives for marketing innovations by number of persons engaged, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Three-quarters of both industrial and selected services sector enterprises indicated that a highly important objective of introducing market innovations was to increase or maintain market share. See Figure 10.5 and Table 10.2.

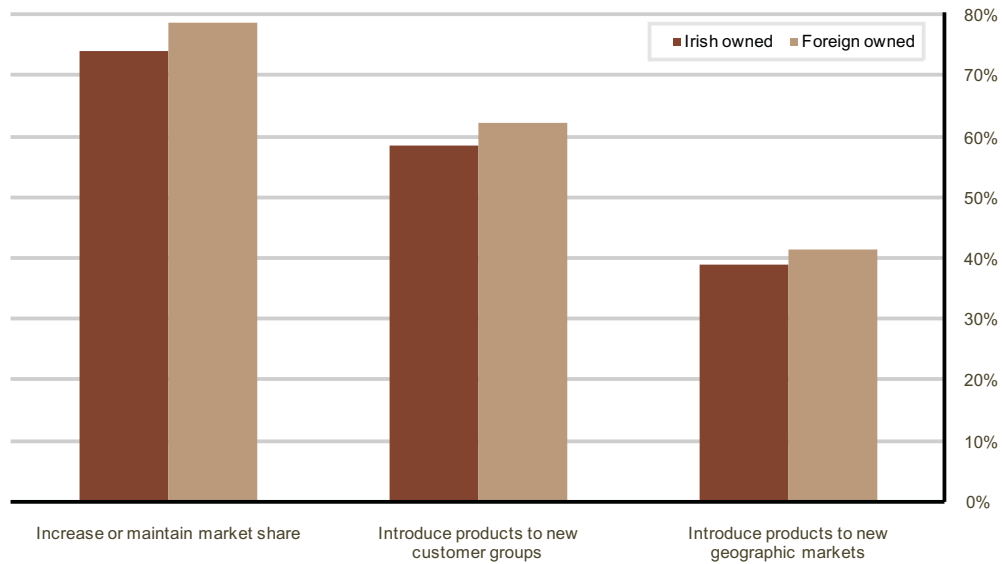
Figure 10.5 Highly important objectives for marketing innovations by sector of activity, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Over seven in ten of both foreign owned and Irish owned enterprises indicated that a highly important objective of introducing marketing innovations was to increase or maintain market share. See Figure 10.6 and Table 10.2.

Figure 10.6 Highly important objectives for marketing innovations by nationality of ownership, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Table 10.1 Marketing innovation activity rates by nationality of ownership, sector and number of persons engaged, 2008 - 2010

| | Nationality of ownership | | Sector of activity | | | Number of persons engaged | | | All Enterprises |
|---|--------------------------|-------------|--------------------|-------------------|-------------|---------------------------|-------------|-------------|-----------------|
| | Irish | Foreign | Industry | Selected Services | 10-49 | 50-249 | 250+ | | |
| | % | | | | | | | | |
| Significant changes to the aesthetic design or packaging of a good or service | 13.9 | 17.7 | 17.4 | 13.3 | 12.4 | 22.0 | 31.0 | 14.7 | |
| New media or techniques for product promotion | 19.8 | 22.5 | 17.8 | 21.9 | 18.3 | 25.7 | 40.4 | 20.4 | |
| New methods for product placement or sales channels | 12.6 | 15.7 | 11.8 | 14.1 | 11.6 | 18.5 | 25.3 | 13.3 | |
| New methods of pricing goods or services | 14.4 | 15.6 | 13.8 | 15.1 | 13.4 | 17.7 | 26.0 | 14.6 | |
| Any marketing innovation¹ | 29.4 | 34.1 | 30.1 | 30.6 | 27.4 | 39.4 | 53.4 | 30.4 | |

Source: CSO/Forfás - Community Innovation Survey 2006 - 2008.

¹ Respondents could engage in more than one type of marketing innovation, hence the sum of the categories does not equal the total.

Table 10.2 Highly important objectives for marketing innovations, by nationality of ownership, sector and number of persons engaged, 2008 - 2010

| | Nationality of ownership | | Sector of activity | | | Number of persons engaged | | | All enterprises with marketing innovation |
|--|--------------------------|---------|--------------------|-------------------|-------|---------------------------|------|------|---|
| | Irish | Foreign | Industry | Selected Services | 10-49 | 50-249 | 250+ | | |
| | % | | | | | | | | |
| Increase or maintain market share | 74.0 | 78.8 | 75.1 | 75.4 | 73.1 | 80.2 | 81.8 | 75.2 | |
| Introduce products to new customer groups | 58.5 | 62.3 | 63.5 | 57.3 | 56.9 | 65.3 | 68.2 | 59.4 | |
| Introduce products to new geographic markets | 39.0 | 41.4 | 47.3 | 35.2 | 37.5 | 46.2 | 40.5 | 39.5 | |

Source: CSO/Forfás - Community Innovation Survey 2006 - 2008.

Chapter 11

Creativity and Skills

Introduction

A pilot module was included in the CIS 2008-2010 survey that included some new questions on creativity and skills. Enterprises were asked whether they employed individuals with certain skills in-house and/or whether these skills were obtained from external sources or deemed not relevant. These skills included graphic arts, web design and software development. Enterprises were also asked if they used various methods from brainstorming sessions to training employees on how to develop new ideas or creativity and to indicate if they were successful.

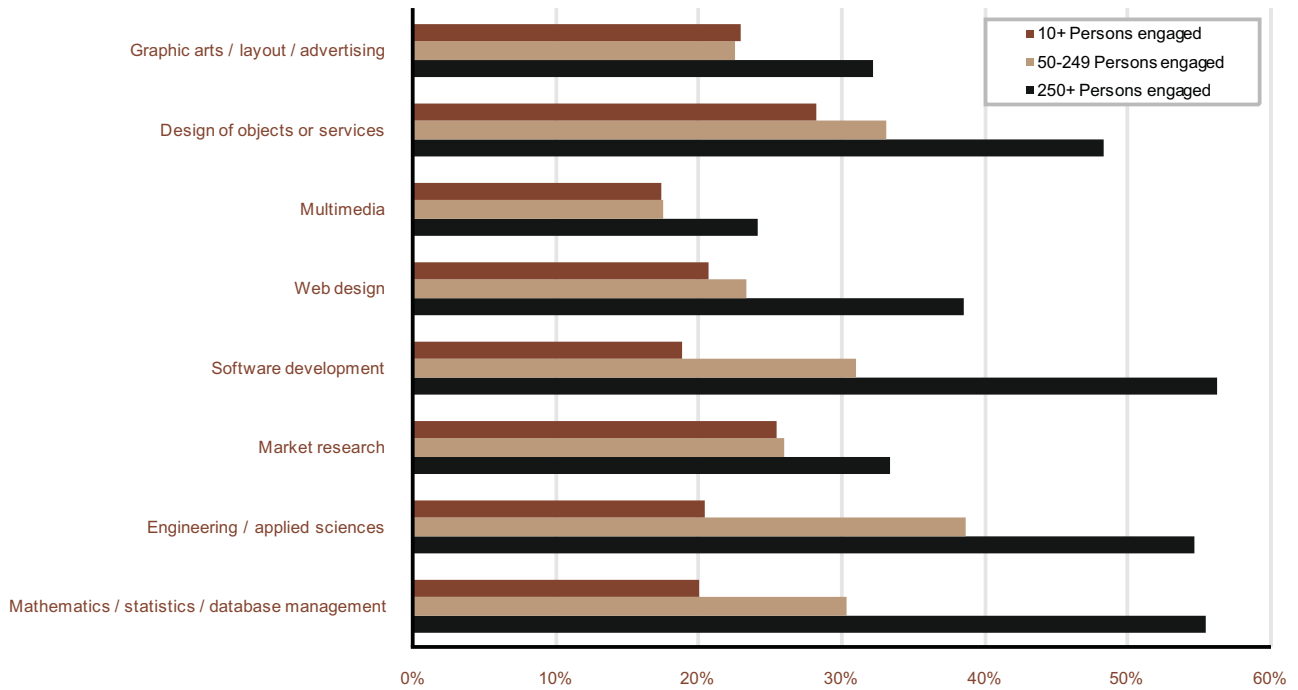
The tables and graphs presented here are in respect of technological or non-technological innovation active enterprises. These are enterprises that have: carried out a product innovation; a process innovation; have abandoned or on-going innovation activities; an organisational or marketing innovation during the three year period 2008-2010.

In-house or Externally Obtained Creative Skills

Over 88% of innovative active enterprises used creative skills during the period 2008-2010. Almost 45% of all innovative active enterprises obtained graphic arts/layout/advertising skills from external sources in this period while nearly 24% of such enterprises employed individuals with these skills in-house. See *Table 11.1*.

The larger the enterprise the more likely it was to employ individuals with these skills in-house; over 48% of large enterprises employed individuals to design objects or services compared to 33% of medium sized enterprises and 28% of small enterprises. See *Figure 11.1 and Table 11.1*.

Figure 11.1 Creativity and skills employed in house by technological or non-technological innovative enterprises by number of persons engaged, 2008 - 2010

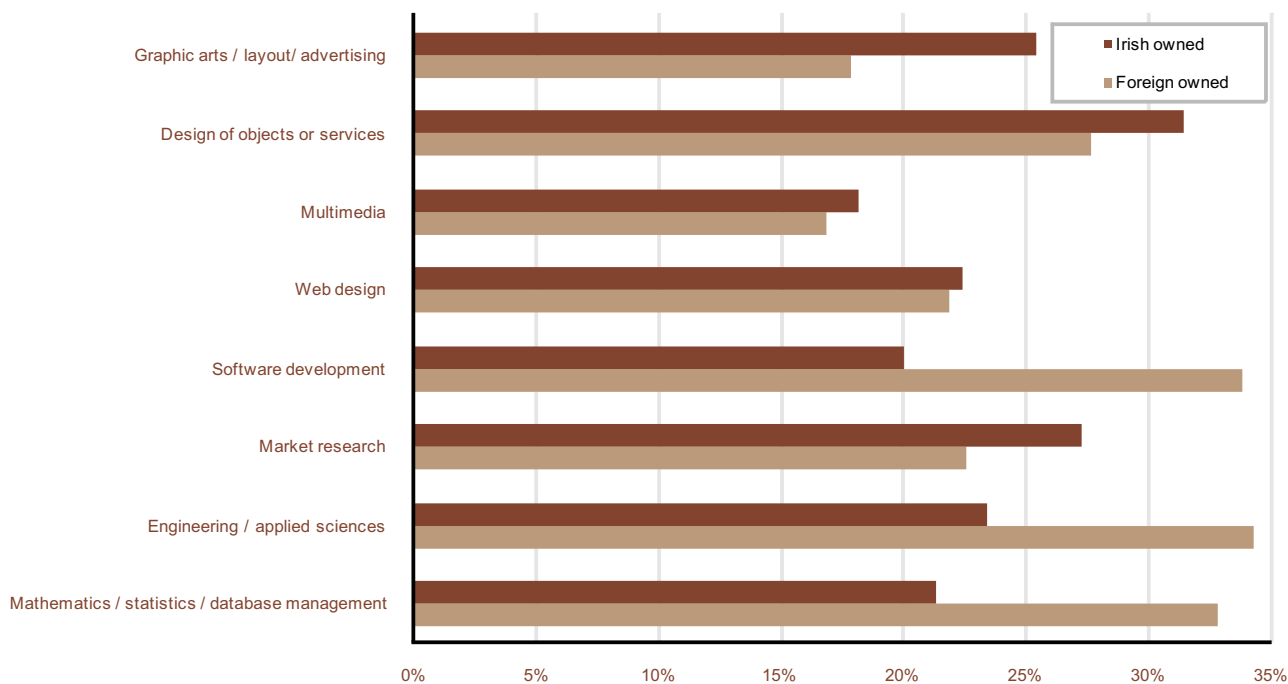


Source: CSO/Forfás - Community Innovation Survey 2008 - 2010

Over half of both industrial and selected services sector enterprises obtained web design services from external sources in this period. See *Table 11.1*.

Over a third of foreign owned enterprises employed individuals with software development skills in-house compared to a fifth of Irish owned enterprises. See *Figure 11.2 and Table 11.1*.

Figure 11.2 Creativity and skills employed in house by technological or non-technological innovative enterprises by nationality of ownership, 2008 - 2010



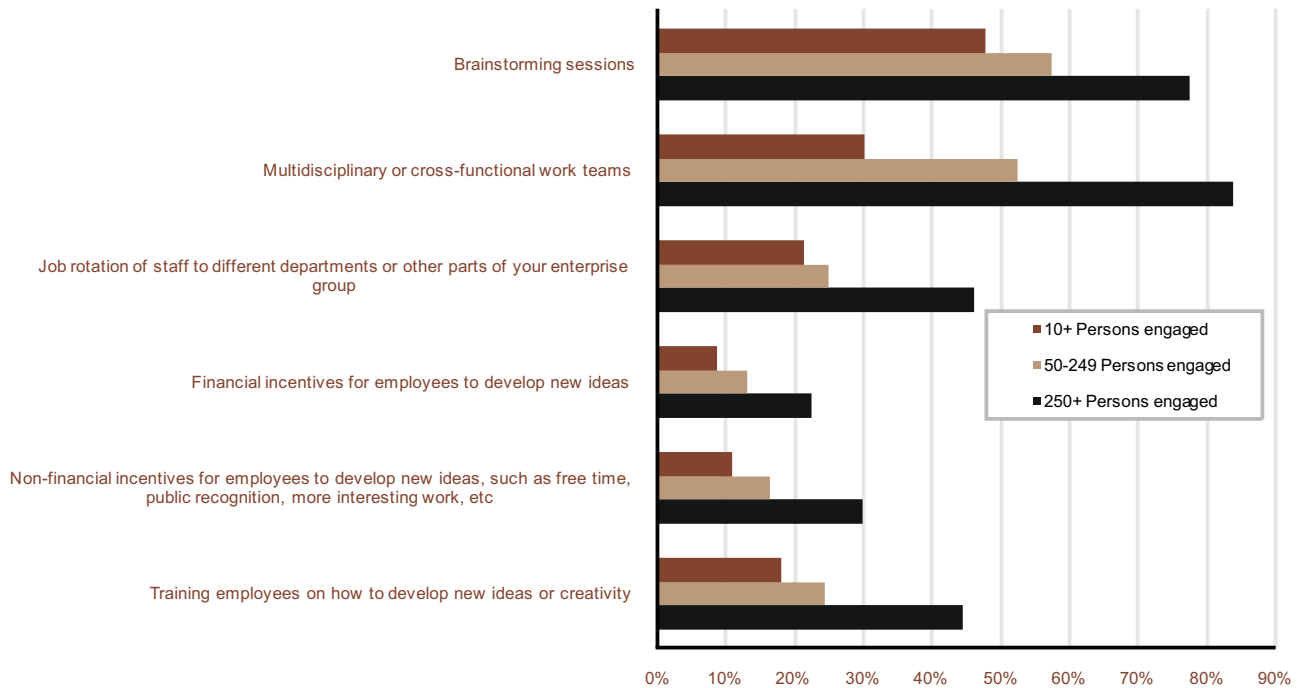
Source: CSO/Forfás - Community Innovation Survey 2008 - 2010

Methods used to Stimulate Ideas and Creativity among Staff

Over half of innovative active enterprises cited brainstorming sessions as a successful method used for stimulating new ideas and creativity among staff. Close to two-fifths of such enterprises rated the use of multidisciplinary or cross-functional work teams as a successful method of stimulating creativity among staff. See Table 11.2.

Over three-quarters of large enterprises rated the use of brainstorming sessions as a successful method of stimulating new ideas/creativity among staff compared to nearly one in two small enterprises. See Figure 11.3 and Table 11.2

Figure 11.3 Type of creativity and skills employed by technological or non-technological innovative enterprises that are rated as successful, by number of persons engaged, 2008 - 2010



Source: CSO/Forfás - Community Innovation Survey 2008 - 2010

Excluding financial and non-financial incentive categories, both industry and selected services sector innovation active enterprises reported fairly similar rates of success in respect of the various methods used to foster creativity. See Table 11.2

Foreign owned innovation active enterprises were more likely than Irish owned innovation active enterprises to rate as successful each of the methods used to stimulate new ideas and creativity among staff. See Table 11.2

Table 11.1 Creativity and skills employed by technological or non-technological innovative enterprises, by nationality of ownership, sector and number of persons engaged, 2008 - 2010

| | Nationality of ownership | | | | Sector of activity | | | | Number of persons engaged | | | | All innovative enterprises |
|---|--------------------------|-------------|-------------|-------------|--------------------|-------------|-------------|-------------|---------------------------|----------|----------|-------|----------------------------|
| | Irish | Foreign | Industry | Services | 10-49 | 50-249 | 250+ | % | | | | | |
| | | | | | | | | Irish | Foreign | Industry | Services | 10-49 | |
| Creativity and skills of which | 89.7 | 84.5 | 90.8 | 86.7 | 86.4 | 92.8 | 97.5 | 88.4 | | | | | |
| Graphic arts/layout/advertising | | | | | | | | | | | | | |
| <i>Employed in house</i> | 25.4 | 17.8 | 19.4 | 26.2 | 23.1 | 22.6 | 32.2 | 23.5 | | | | | |
| <i>Obtained from external sources</i> | 46.1 | 40.0 | 43.4 | 45.3 | 43.1 | 46.8 | 55.5 | 44.6 | | | | | |
| <i>Skills not used/not relevant</i> | 33.4 | 46.0 | 39.9 | 34.5 | 37.5 | 36.2 | 27.5 | 36.6 | | | | | |
| Design of objects or services | | | | | | | | | | | | | |
| <i>Employed in house</i> | 31.4 | 27.7 | 34.0 | 28.1 | 28.3 | 33.2 | 48.3 | 30.5 | | | | | |
| <i>Obtained from external sources</i> | 27.7 | 27.4 | 30.7 | 25.6 | 25.3 | 32.7 | 38.6 | 27.7 | | | | | |
| <i>Skills not used/not relevant</i> | 43.8 | 49.3 | 38.6 | 49.6 | 48.6 | 38.7 | 26.3 | 45.2 | | | | | |
| Multimedia | | | | | | | | | | | | | |
| <i>Employed in house</i> | 18.2 | 16.9 | 13.4 | 20.8 | 17.4 | 17.6 | 24.2 | 17.8 | | | | | |
| <i>Obtained from external sources</i> | 30.6 | 30.0 | 28.7 | 31.7 | 27.3 | 37.1 | 45.8 | 30.5 | | | | | |
| <i>Skills not used/not relevant</i> | 52.8 | 55.3 | 58.1 | 50.3 | 55.9 | 47.9 | 41.9 | 53.4 | | | | | |
| Web design | | | | | | | | | | | | | |
| <i>Employed in house</i> | 22.4 | 21.9 | 17.2 | 25.7 | 20.7 | 23.4 | 38.6 | 22.3 | | | | | |
| <i>Obtained from external sources</i> | 60.7 | 35.7 | 55.1 | 53.7 | 55.8 | 51.8 | 44.1 | 54.3 | | | | | |
| <i>Skills not used/not relevant</i> | 22.8 | 45.9 | 30.6 | 27.5 | 27.9 | 31.1 | 31.4 | 28.8 | | | | | |
| Software development | | | | | | | | | | | | | |
| <i>Employed in house</i> | 20.0 | 33.8 | 18.6 | 26.9 | 18.8 | 31.0 | 56.4 | 23.6 | | | | | |
| <i>Obtained from external sources</i> | 44.7 | 37.1 | 40.1 | 44.4 | 40.0 | 50.7 | 47.0 | 42.7 | | | | | |
| <i>Skills not used/not relevant</i> | 39.0 | 38.1 | 44.8 | 34.7 | 43.1 | 28.9 | 20.3 | 38.8 | | | | | |
| Market research | | | | | | | | | | | | | |
| <i>Employed in house</i> | 27.3 | 22.6 | 26.2 | 26.0 | 25.5 | 26.1 | 33.5 | 26.1 | | | | | |
| <i>Obtained from external sources</i> | 27.4 | 36.8 | 29.1 | 30.3 | 25.3 | 40.2 | 48.7 | 29.8 | | | | | |
| <i>Skills not used/not relevant</i> | 49.0 | 47.2 | 48.1 | 48.8 | 51.9 | 40.3 | 36.0 | 48.5 | | | | | |
| Engineering/applied sciences | | | | | | | | | | | | | |
| <i>Employed in house</i> | 23.5 | 34.3 | 39.7 | 17.2 | 20.4 | 38.7 | 54.7 | 26.2 | | | | | |
| <i>Obtained from external sources</i> | 12.5 | 15.9 | 19.6 | 9.2 | 10.0 | 20.6 | 28.8 | 13.4 | | | | | |
| <i>Skills not used/not relevant</i> | 65.1 | 56.6 | 46.5 | 73.9 | 69.0 | 48.8 | 38.1 | 62.9 | | | | | |
| Mathematics/statistics/database management | | | | | | | | | | | | | |
| <i>Employed in house</i> | 21.4 | 32.9 | 22.0 | 25.9 | 20.1 | 30.4 | 55.5 | 24.3 | | | | | |
| <i>Obtained from external sources</i> | 11.2 | 17.9 | 13.4 | 12.7 | 10.6 | 17.2 | 27.5 | 13.0 | | | | | |
| <i>Skills not used/not relevant</i> | 67.9 | 53.4 | 66.1 | 62.9 | 68.9 | 57.1 | 30.9 | 64.2 | | | | | |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Table 11.2 Type of creativity and skills employed by technological or non-technological innovation enterprises that are rated as successful, by nationality of ownership, sector and number of persons engaged, 2008 - 2010

| | Nationality of ownership | | | Sector of activity | | | Number of persons engaged | | | | % |
|--|--------------------------|---------|----------|--------------------|-------|--------|---------------------------|----------------------------|--|--|---|
| | Irish | Foreign | Industry | Services | 10-49 | 50-249 | 250+ | All innovative enterprises | | | |
| Brainstorming sessions | 48.4 | 61.0 | 48.1 | 54.0 | 48.0 | 57.4 | 77.5 | 51.7 | | | |
| Multidisciplinary or cross-functional work teams | 30.6 | 59.3 | 35.8 | 39.4 | 30.2 | 52.5 | 83.9 | 38.0 | | | |
| Job rotation of staff to different departments or other parts of enterprise group | 21.7 | 28.7 | 22.1 | 24.5 | 21.4 | 25.0 | 46.2 | 23.6 | | | |
| Financial incentives for employees to develop new ideas | 7.7 | 18.1 | 7.0 | 12.7 | 8.7 | 13.2 | 22.5 | 10.4 | | | |
| Non-financial incentives for employees to develop new ideas, such as free time, public recognition, more interesting work, etc | 9.9 | 22.7 | 8.2 | 16.6 | 11.0 | 16.4 | 30.1 | 13.2 | | | |
| Training employees on how to develop new ideas or creativity | 18.8 | 27.2 | 20.7 | 21.2 | 18.1 | 24.5 | 44.5 | 21.0 | | | |

Source: CSO/Forfás - Community Innovation Survey 2008 - 2010.

Chapter 12

Other Business Indicators and Innovation

Introduction

Detailed business statistics are collected annually by the CSO in the Census of Industrial Production (CIP) and Annual Services Inquiry (ASI) surveys. An analysis was done matching the earlier CIS 2008 results with both these CIP and ASI survey results for 2008 to allow additional findings to be presented. It was not possible to do this analysis for 2010 as CIP and ASI final results for 2010 will not be available until later this year. The analysis for 2010 will be carried out and presented on the CSO website when this data becomes available. Consequently, the results for the CIS 2008 matching analysis are presented here.

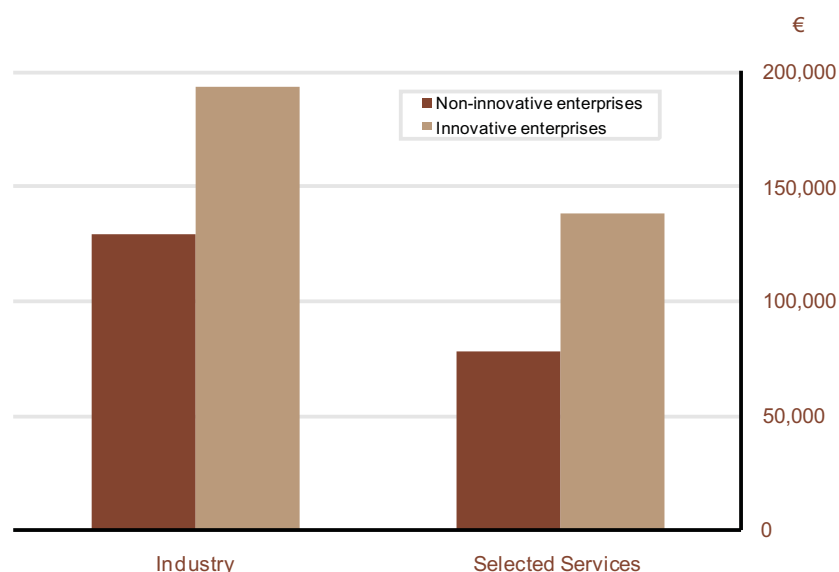
It is important to note that the results presented in this chapter should be regarded as indicative measures only as they are calculated based on a smaller matched sample of enterprises with 20 or more persons engaged. This analysis does not cover enterprises in NACE sectors 65-67¹ (Financial intermediation). The tables presented here are in respect of technological innovative and technological non-innovative enterprises.

Gross Value Added

In 2008, innovation active enterprises had an average Gross Value Added (GVA) per person engaged of over €171,000 compared to €96,000 in non-innovative enterprises. There was also a significant difference in average GVA per person engaged in industrial enterprises where innovative enterprises had an average GVA per person engaged of €194,000 compared to €130,000 for non-innovative enterprises. There was also a significant difference in the selected services sector where enterprises engaged in innovation activities had an average GVA per person engaged of €139,000 compared to €78,000 for non-innovative active enterprises. See *Figure 12.1 and Table 12.1*.

¹ See Appendix 2 for NACE Rev. 2 Classification.

Figure 12.1 Gross value added per person engaged in technological innovative and non-innovative enterprises by sector, 2008



Source: CSO/Forfás - Community Innovation Survey 2006 - 2008; Annual Services Inquiry 2008; Census of Industrial Production 2008.

Table 12.1 Gross value added per person engaged in technological innovative and non-innovative enterprises by sector, 2008

| | Technological innovative enterprises | Technological non-innovative enterprises | All technological innovative and non-innovative enterprises |
|------------------------|--------------------------------------|--|---|
| Industry | 194,118 | 129,927 | 180,575 |
| Selected Services | 139,244 | 78,115 | 114,205 |
| All enterprises | 170,977 | 96,031 | 147,817 |

Source: CSO/Forfás - Community Innovation Survey 2006 - 2008; Annual Services Inquiry 2008; Census of Industrial Production 2008.

Labour Costs

Labour costs per person engaged were higher in innovative enterprises when compared to non-innovative enterprises. Labour costs per person engaged for all enterprises with at least 20 persons engaged were €55,000. Labour costs per person engaged in innovative enterprises were €61,000 while the corresponding figure for non-innovative enterprises was €41,000. See Table 12.2.

Table 12.2 Labour costs per person engaged in technological innovative and non-innovative enterprises by sector, 2008

| | Technological innovative enterprises | Technological non-innovative enterprises | All technological innovative and non-innovative enterprises |
|------------------------|--------------------------------------|--|---|
| Industry | 55,878 | 39,673 | 52,458 |
| Selected Services | 67,076 | 42,370 | 59,956 |
| All enterprises | 60,600 | 41,437 | 54,678 |

Source: CSO/Forfás - Community Innovation Survey 2006 - 2008; Annual Services Inquiry 2008; Census of Industrial Production 2008.

Capital Acquisitions

The rate of capital acquisitions for innovative enterprises was 86% compared to 74% for non-innovative enterprises in 2008. Nearly 84% of innovative enterprises in the industrial sector had capital acquisitions in 2008 compared to nearly 70% of non-innovative industrial enterprises. While over 89% of innovative enterprises in the selected services sector had capital acquisitions, nearly 77% of non-innovative enterprises made such acquisitions. See *Table 12.3*.

Table 12.3 Percentage of technological innovative and non-innovative enterprises with capital acquisitions by sector, 2008

| | Technological innovative enterprises | Technological non-innovative enterprises | % |
|------------------------|--------------------------------------|--|-------------|
| Industry | 83.6 | 69.9 | 78.6 |
| Selected Services | 89.2 | 76.6 | 83.0 |
| All enterprises | 86.4 | 74.1 | 81.1 |

Source: CSO/Forfás - Community Innovation Survey 2006 - 2008; Annual Services Inquiry 2008; Census of Industrial Production 2008.

Exports

In 2008, innovative enterprises were more likely to be engaged in the exporting of goods and services when compared to non-innovative enterprises. Almost three in five enterprises who were innovation active had exports, compared to over a third of non-innovative enterprises. Nearly three quarters of innovation active industrial enterprises engaged in export activities compared to 49% of non-innovation active enterprises. Almost one in two of all innovation active enterprises in the selected services sector engaged in exporting in 2008 compared to less than one third of non-innovative enterprises in the sector. See *Table 12.4*.

Table 12.4 Percentage of technological innovative and non-innovative enterprises engaged in exporting by sector, 2008

| | Technological innovative enterprises | Technological non-innovative enterprises | % |
|------------------------|--------------------------------------|--|-------------|
| Industry | 73.5 | 49.1 | 64.7 |
| Selected Services | 44.9 | 27.9 | 36.6 |
| All enterprises | 59.1 | 35.6 | 48.9 |

Source: CSO/Forfás - Community Innovation Survey 2006 - 2008; Annual Services Inquiry 2008; Census of Industrial Production 2008.

E-Commerce

Over four in five innovative enterprises had a website in 2008 compared to three in five non-innovative enterprises. More than three quarters of innovation active industrial enterprises had a website compared to almost two thirds of non-innovative enterprises in the sector. Over 84% of innovative enterprises in the selected services sector had a website compared to 70% of non-innovative enterprises. See Table 12.5.

Table 12.5 Percentage of technological innovative and non-innovative enterprises with a website by sector, 2008

| | Technological innovative enterprises | Technological non-innovative enterprises | All technological innovative and non-innovative enterprises | % |
|------------------------|--------------------------------------|--|---|-------------|
| Industry | 78.1 | 63.3 | | 72.7 |
| Selected Services | 84.3 | 70.3 | | 77.4 |
| All enterprises | 81.1 | 67.8 | | 75.3 |

Source: CSO/Forfás - Community Innovation Survey 2006 - 2008; Annual Services Inquiry 2008; Census of Industrial Production 2008.

Over a half of all innovative enterprises in the industrial sector had orders via e-commerce in 2008 compared to 39% of non-innovative enterprises. In the selected services sector, 51% of innovative enterprises received such orders compared to 37% of non-innovative enterprises. See Table 12.6.

Table 12.6 Percentage of technological innovative and non-innovative enterprises with orders via e-commerce¹ by sector, 2008

| | Technological innovative enterprises | Technological non-innovative enterprises | All technological innovative and non-innovative enterprises | % |
|------------------------|--------------------------------------|--|---|-------------|
| Industry | 51.9 | 41.5 | | 48.2 |
| Selected Services | 51.3 | 36.8 | | 44.2 |
| All enterprises | 51.6 | 38.5 | | 45.9 |

Source: CSO/Forfás - Community Innovation Survey 2006 - 2008; Annual Services Inquiry 2008; Census of Industrial Production 2008.

¹ Enterprises who received orders via email, EDI (Electric Data Interchange) or internet in 2008.

Appendix 1

Background Notes

Introduction

The Community Innovation Survey (CIS) 2008-2010 is a survey of innovation activities of enterprises in Ireland and other EU Member States. The CIS is carried out under Commission Regulation (EC) No 1450/2004 implementing Decision No 1608/2003/EC. The survey collects information about product and process innovation; organisational and marketing innovation; along with other key variables during the three year period 2008 to 2010 inclusive. Most questions cover new or significantly improved goods or services or the implementation of new or significantly improved processes, logistics or distribution methods.

The CIS 2008-2010 was jointly conducted by the Central Statistics Office (CSO) and Forfás to increase efficiency in the collection of statistical data and to reduce the burden on the participating enterprises. Data was collected in accordance with Section 33 of the Statistics Act, 1993 and with EU law and the survey was carried out under the agreed set of international rules as laid out in the OECD Oslo manual. Data are strictly confidential and will be used only for statistical purposes.

Survey

The CIS survey sampled enterprises with ten or more persons engaged in the selected NACE categories as shown in Appendix 2. The CSO and Forfás jointly conducted the survey as a postal survey, while also giving respondents the option to complete the questionnaire online. A total of 4,532 survey forms were issued to the sampled enterprises from the CSO's Business Register in April 2011 and responses were returned for 3,245 enterprises. Reminders were then issued in May, June, July and August 2011. The sample returns were grossed using the CSO Business Register population to produce overall results. Appreciation is extended to enterprises who took the time to complete and return survey forms.

Questionnaire

The CIS questionnaire is included in Appendix 4 and is also available from the CSO website. Go to www.cso.ie and then go to Business Sectors: Science and Technology.

Appendix 2

Key to NACE Rev. 2 Classification

The selected NACE divisions below are included in the results of the CIS 2008-2010.

Industry (All divisions) – Divisions 05 to 39

- 05 Mining of coal and lignite
- 06 Extraction of crude petroleum
- 07 Mining of metal ores
- 08 Other mining and quarrying
- 09 Mining support service activities
- 10 Manufacture of food products
- 11 Manufacture of beverages
- 12 Manufacture of tobacco products
- 13 Manufacture of textiles
- 14 Manufacture of wearing apparel
- 15 Manufacture of leather and related products
- 16 Manufacture of wood and products of wood and cork; except furniture; manufacture of articles of straw and plaiting materials
- 17 Manufacture of paper and paper products
- 18 Manufacture of reproduction of recorded media
- 19 Manufacture of coke and refined petroleum products
- 20 Manufacture of chemicals and chemical products
- 21 Manufacture of basic pharmaceutical products and pharmaceutical preparations
- 22 Manufacture of rubber and plastic products
- 23 Manufacture of other non-metallic mineral products
- 24 Manufacture of basic metals
- 25 Manufacture of fabricated metal products, except machinery and equipment
- 26 Manufacture of computer, electronic and optical products
- 27 Manufacture of electrical equipment
- 28 Manufacture of machinery and equipment n.e.c.
- 29 Manufacture of motor vehicles, trailers and semi-trailers
- 30 Manufacture of other transport equipment

- 31 Manufacture of furniture
- 32 Other manufacturing
- 33 Repair and installation of machinery and equipment
- 35 Electricity, gas, steam and air conditioning supply
- 36 Water collection, treatment and supply
- 37 Sewerage
- 38 Waste collection, treatment and disposal activities; materials recovery
- 39 Remediation activities and other waste management services

Services – Divisions 45 to 99

- 45* Wholesale and retail trade and repair of motor vehicles and motorcycles
- 46 Wholesale trade, except of motor vehicles and motorcycles
- 47* Retail trade, except of motor vehicles and motorcycles
- 49 Land transport; transport via pipelines
- 50 Water transport
- 51 Air transport
- 52 Warehousing and support activities for transportation
- 53 Postal and courier activities
- 55* Accommodation
- 56* Food and beverage service activities
- 58 Publishing activities
- 59* Motion picture, video and television programme production, sound recording and music publishing activities
- 60* Programming and broadcasting activities
- 61 Telecommunications
- 62 Computer programming, consultancy and related activities
- 63 Information service activities
- 64 Financial service activities, except insurance and pension funding
- 65 Insurance, reinsurance and pension funding, except compulsory social security
- 66 Activities auxiliary to financial services and insurance activities
- 68* Real estate activities
- 69* Legal and accounting activities
- 70* Activities of head offices; management consultancy activities
- 71 Architectural and engineering activities; technical testing and analysis
- 72* Scientific research and development
- 73* Advertising and market research
- 74* Other professional, scientific and technical activities
- 75* Veterinary activities
- 77* Rental and leasing activities
- 78* Employment activities
- 79* Travel agency, tour operator and other reservation service and related activities
- 80* Security and investigation activities
- 81* Services to buildings and landscape activities
- 82* Office administrative, office support and other business support activities
- 84* Public administration and defence; compulsory social security
- 85* Education
- 86* Human health activities
- 87* Residential care activities

- 88* Social work activities without accommodation
- 90* Creative, arts and entertainment activities
- 91* Libraries, archives, museums and other cultural activities
- 92* Gambling and betting activities
- 93* Sports activities and amusement and recreation activities
- 94* Activities of membership organisations
- 95* Repair of computers and personal and household goods
- 96* Other personal service activities
- 97* Activities of households as employers of domestic personnel
- 98* Undifferentiated goods-and services-producing activities of private households for own use
- 99* Activities of extraterritorial organisations and bodies

* Not included in CIS 2008 - 2010

Appendix 3

Definitions

Product Innovation: The introduction of a new good or service or a significantly improved good or service with respect to its capabilities. The product innovation could either be new to the market or new to the firm.

Process Innovation: The introduction of a new or significantly improved production process, distribution method, or support activity for goods and services. The process innovation could either be new to the market or new to the firm.

New to Market Innovation: An innovation activity, which saw the introduction of a new good or service by the firm onto its operating market before other competitors.

New to Firm Innovation: An innovation activity which saw the introduction of a significantly improved good or service to the firm, that was already available from competitors in the operating sector.

Innovation Expenditure: Spending on activities to support and implement production or process innovations.

Organisational Innovation: The implementation of new or significant changes in firm structure or management methods that are intended to improve your firms use of knowledge, the quality of your goods and services or the efficiency of work flows.

Marketing Innovation: The implementation of a new marketing concept or strategy that differs significantly from your enterprise's existing marketing methods and which has not been used before.

Appendix 4

CIS 2008-2010 Survey Form

CONFIDENTIAL



36786



An Phríomh-Oifig Staidrimh
Central Statistics Office

Enquiries to:

LoCall: 1890 313 414 (ROI)
0808 2347 581 (UK/NI)
021 453 5161 Ext: 5250
Fax: 021 453 5553
E-mail: bsi@cso.ie
Web: www.cso.ie

If above details are incorrect, please amend and mark X in this box



Enquiries to:

Forfás Survey Unit: 01 607 3273
E-mail: jonathan.healy@forfas.ie
Web: www.forfas.ie

The Community Innovation Survey 2010

You are obliged by law to complete and return this form to the Central Statistics Office by the 20th of May 2011

Statutory Basis : This inquiry is conducted under the Statistics (Community Innovation Survey) Order 2010 (S.I. No. 562 of 2010) made under the Statistics Act, 1993. The information you provide will be treated as **strictly confidential** in accordance with section 33 of the Statistics Act, 1993 and with EU law. It will be used only for statistical purposes.

The Community Innovation Survey is a survey of innovation activities by businesses in Ireland and other EU Member States. Data from the survey allow benchmarking exercises to be carried out comparing innovation performance in Ireland with other European nations. Data and analysis from the survey underpins policymaking both in Ireland and in the EU and serves to promote further support for innovation across the economy.

The survey collects information about product and process innovation as well as organisational and marketing innovation during the three year period 2008 to 2010 inclusive. Most questions cover new or significantly improved goods or services or the implementation of new or significantly improved processes, logistics or distribution methods. In order to be able to compare enterprises with and without innovation activities, we request all enterprises to respond to all questions, unless otherwise instructed.

The survey is jointly conducted by the CSO and Forfás to increase efficiency in the collection of statistical data and to reduce the burden on the participating enterprises.

Thank you in advance for your participation in this survey. We would be grateful if you could complete and return this form in the Freepost envelope provided before 20th May 2011. The form is in a computer readable format and we would appreciate if you could complete it as clearly as possible.

Note: You can complete an online version of this form at <https://eforms.cso.ie> - To submit the form you will need Adobe Reader 8 or higher which can be downloaded free of charge from www.adobe.com.

Results from this survey will be published on the CSO website www.cso.ie.

Gerard O'Hanlon
Director General, CSO

Martin Shanahan
CEO, Forfás



Unless otherwise indicated please answer each question by marking X in the appropriate box(es)

1. General information about the enterprise

1.1 In 2010, was your enterprise part of an enterprise group? (a group consists of two or more legally defined enterprises under common ownership. Each enterprise in the group can serve different markets, as with national or regional subsidiaries, or serve different product markets. The head office is also part of an enterprise group.)

Yes → In which country is the head office of your group located?

No

If your enterprise is part of an enterprise group, please answer all further questions only for the enterprise for which you are responsible in Ireland. Exclude all subsidiaries or parent enterprises.

1.2 In which geographic markets did your enterprise sell goods and/or services during the three years 2008 to 2010?

| | Yes | No |
|--|--------------------------|--------------------------|
| Local / regional within Ireland | <input type="checkbox"/> | <input type="checkbox"/> |
| National | <input type="checkbox"/> | <input type="checkbox"/> |
| Northern Ireland | <input type="checkbox"/> | <input type="checkbox"/> |
| Other European Union (EU) countries, EFTA or EU candidate countries* | <input type="checkbox"/> | <input type="checkbox"/> |
| All other countries | <input type="checkbox"/> | <input type="checkbox"/> |

* Include the following European Union (EU) countries, EFTA or EU candidate countries: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Greece, Hungary, Iceland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Switzerland, Turkey, Spain and Sweden

2. Product (a good or a service) innovation

A product innovation is the market introduction of a **new** or **significantly** improved **good or service** with respect to its capabilities, user friendliness, components or sub-systems.

- Product innovations (new or improved) must be new to your enterprise, but they do not need to be new to your market.
- Product innovations could have been originally developed by your enterprise or by other enterprises.

A **good** is usually a tangible object such as a smart phone, furniture, or packaged software, but downloadable software, music and film are also goods.

A **service** is usually intangible, such as retailing, insurance, educational courses, air travel, consulting, etc.

2.1 During the three years 2008 to 2010, did your enterprise introduce:

New or significantly improved goods. (Exclude the simple resale of new goods purchased from other enterprises and changes of a solely aesthetic nature).

New or significantly improved services.

Yes

No

→ If **no** to both options go to Section 3



36786



2.2 Were any of your product innovations during the three years 2008 to 2010:

| | Yes | No |
|---|--------------------------|--------------------------|
| New to your market? Your enterprise introduced a new or significantly improved good or service onto your market before your competitors (it may have already been available in other markets) | <input type="checkbox"/> | <input type="checkbox"/> |
| Only new to your firm? Your enterprise introduced a new or significantly improved good or service that was already available from your competitors in your market | <input type="checkbox"/> | <input type="checkbox"/> |

Using the previous definitions, please estimate how your total turnover in 2010 was distributed between the following categories.

| | | |
|--|--|---|
| New or significantly improved goods and service innovations introduced during 2008 to 2010 that were new to your market | <input type="text"/> <input type="text"/> <input type="text"/> | % |
| New or significantly improved goods and service innovations introduced during 2008 to 2010 that were new to your enterprise but not new to the market | <input type="text"/> <input type="text"/> <input type="text"/> | % |
| Goods and services that were unchanged or only marginally modified during 2008 to 2010 (include the resale of new goods or services purchased from other enterprises) | <input type="text"/> <input type="text"/> <input type="text"/> | % |
| Total turnover in 2010 | <input type="text"/> <input type="text"/> <input type="text"/> | % |

3. Process innovation

A process innovation is the implementation of a **new** or **significantly** improved production process, distribution method, or support activity for your goods or services.

- Process innovations must be new to your enterprise, but they do not need to be new to your market.
- The innovation could have been originally developed by your enterprise or by other enterprises.
- Exclude purely organisational innovations - these are covered in section 9.

| 3.1 During the three years 2008 to 2010, did your enterprise introduce: | Yes | No |
|---|--------------------------|--------------------------|
| New or significantly improved methods of manufacturing or producing goods or services | <input type="checkbox"/> | <input type="checkbox"/> |
| New or significantly improved logistics, delivery or distribution methods for your inputs, goods or services | <input type="checkbox"/> | <input type="checkbox"/> |
| New or significantly improved supporting activities for your processes, such as maintenance systems or operations for purchasing, accounting or computing | <input type="checkbox"/> | <input type="checkbox"/> |

4. Ongoing or abandoned innovation activities for process and product innovations

Innovation activities include the acquisition of machinery, equipment, software and licenses; engineering and development work, design, training, marketing and R&D when they are **specifically** undertaken to develop and/or implement a product or process innovation. Also include basic R&D as an innovation activity even when not related to a product and/or process innovation.

| 4.1 During 2008 to 2010 did your enterprise have any innovation activities that did not result in a product or process innovation because the activities were: | Yes | No |
|--|--------------------------|--------------------------|
| Abandoned or suspended before completion | <input type="checkbox"/> | <input type="checkbox"/> |
| Still ongoing at the end of 2010 | <input type="checkbox"/> | <input type="checkbox"/> |

If your enterprise had no product or process innovations or innovation activity during 2008 to 2010 (no to all options in questions 2.1, 3.1 and 4.1) then go to section 7. Otherwise, go to section 5.



5. Innovation activities and expenditures for process and product innovations

Example

Please enter all monetary values in € and to the nearest THOUSAND

€ 000's

€10,000 =

5.1 During the three years 2008 to 2010, did your enterprise engage in the following innovation activities and if so what were those expenditures in 2010 only?

| | Yes | No | 2010 Expenditure | | |
|---|--------------------------|--------------------------|----------------------|----------------------|----------------------------------|
| In-House R&D (Include capital expenditures on buildings and equipment specifically for R&D) Creative work undertaken within your enterprise to increase the stock of knowledge for developing new and improved products and processes (include software development in-house that meets this requirement) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> | <input type="text"/> | <input type="text" value="000"/> |
| Purchase of External R&D Same activities as above, but performed by other enterprises (including other enterprises or subsidiaries within your group) or by public or private research organisations and purchased by your enterprise | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> | <input type="text"/> | <input type="text" value="000"/> |
| Acquisition of machinery, equipment and software (Exclude expenditures on equipment specifically for R&D) Acquisition of advanced machinery, equipment and computer hardware or software to produce new or significantly improved products and processes | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> | <input type="text"/> | <input type="text" value="000"/> |
| Acquisition of other external knowledge Purchase or licensing of patents and non-patented inventions, know-how and other types of knowledge from other enterprises or organisations for the development of new or significantly improved products and processes | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> | <input type="text"/> | <input type="text" value="000"/> |
| Total Innovation Expenditure 2010 | | | <input type="text"/> | <input type="text"/> | <input type="text" value="000"/> |

6. Co-operation for innovation activities

6.1 During the three years 2008 to 2010, did your enterprise co-operate on any of your innovation activities with other enterprises or institutions? Innovation co-operation is active participation with other enterprises or non-commercial institutions on innovation activities. Both partners do not need to commercially benefit. Exclude pure contracting out of work with no active co-operation.

Yes No → If no go to Section 7

6.2 Please indicate the type of co-operation partner by location (tick all that apply)

| Type of co-operation partner | Ireland | Northern Ireland | Other Europe* | United States | China or India | All other countries |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| A. Other enterprises within your enterprise group | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| B. Suppliers of equipment, materials, components or software | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| C. Clients or customers | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| D. Competitors or other enterprises in your sector | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| E. Consultants, commercial labs or private R&D institutes | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| F. Universities or other higher education institutions | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| G. Government or public research institutes | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

* Include the following European Union (EU) countries, EFTA or EU candidate countries: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Greece, Hungary, Iceland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Switzerland, Turkey, Spain, and Sweden



7. Factors hampering product and process innovation activities

7.1 During the three years 2008 to 2010, how important were the following factors in preventing your enterprise from innovating or in hampering your innovation activities?

| | | Degree of Importance | | | Factor not experienced |
|--------------------------------|---|--------------------------|--------------------------|--------------------------|--------------------------|
| | | High | Medium | Low | |
| Cost factors | Lack of funds within your enterprise or group | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | Lack of finance from sources outside your enterprise | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | Innovation costs too high | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Knowledge factors | Lack of qualified personnel | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | Lack of information on technology | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | Lack of information on markets | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | Difficulty in finding cooperation partners for innovation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Market factors | Market dominated by established enterprises | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | Uncertain demand for innovative goods or services | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Reasons not to innovate | No need due to prior innovations by your enterprise | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | No need because of no demand for innovations | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

8. Objectives for your product and process innovations during 2008 to 2010

8.1 How important were each of the following objectives for your activities to develop product (good or service) or process innovations during the three years 2008 and 2010?

If your enterprise had several projects for product and process innovations, make an overall evaluation

| | High | Medium | Low | Not relevant |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| Increase range of goods or services | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Replace outdated products or processes | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Enter new markets or increase market share | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Improve quality of goods or services | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Improve flexibility for producing goods or services | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Increase capacity for producing goods or services | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Reduce labour costs per unit output | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Reduce material and energy costs per unit output | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Reduce environmental impacts | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Improve health or safety of your employees | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |



9. Organisational innovation

An organisational innovation is a new organisational method in your enterprise's business practices (including knowledge management), workplace organisation or external relations that has not been previously used by your enterprise.

- It must be the result of strategic decisions taken by management
- Exclude mergers or acquisitions, even if for the first time

9.1 During the three years 2008 to 2010, did your enterprise introduce:

New **business practices** for organising procedures
(i.e. supply chain management, business re-engineering, knowledge management, lean production, quality management etc.)

New methods of **organising work responsibilities and decision-making**
(i.e. first use of a new system of employee responsibilities, team work, decentralisation, integration or de-integration of departments, education/training systems, etc)

New methods of **organising external relations** with other firms or public institutions
(i.e. first use of alliances, partnerships, outsourcing or sub-contracting, etc)

Yes

No

If **no** to all options go to Section 10 otherwise go to Question 9.2

9.2 How important were each of the following objectives for your enterprises' organisational innovations introduced during the three years 2008 and 2010 inclusive?

If your enterprise introduced several organisational innovations, make an overall evaluation

| | High | Medium | Low | Not relevant |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| Reduced time to respond to customer or supplier needs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Improved ability to develop new products or processes | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Improved quality of your goods or services | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Reduced costs per unit output | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Improved communication or information sharing within your enterprise or with other enterprises or institutions | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

10. Marketing innovation

A marketing innovation is the implementation of a new marketing concept or strategy that differs significantly from your enterprise's existing marketing methods and which has not been used before.

- It requires significant changes in product design or packaging, product placement, product promotion or pricing
- Exclude seasonal, regular and other routine changes in marketing methods

10.1 During the three years 2008 to 2010, did your enterprise introduce:

Significant changes to the aesthetic **design** or **packaging** of a good or service (exclude changes that alter the product's functional or user characteristics - these are product innovations)

New media or techniques for **product promotion**
(i.e. first time use of a new advertising media, a new brand image, introduction of loyalty cards, etc)

New methods for **product placement** or sales channels
(i.e. first time use of franchising or distribution licenses, direct selling, exclusive retailing, new concepts for product presentation, etc)

New methods of **pricing** goods or services
(i.e. first time use of variable pricing by demand, discount systems, etc)

Yes

No

If **no** to all options go to Section 11 otherwise go to Question 10.2



36786

10.2 How important were each of the following objectives for your enterprise's marketing innovations introduced during the three years 2008 and 2010 inclusive?

If your enterprise introduced several marketing innovations, make an overall evaluation

| | High | Medium | Low | Not relevant |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| Increase or maintain market share | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Introduce products to new customer groups | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Introduce products to new geographic markets | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |



11. Creativity and skills

11.1 During the three years 2008 to 2010, did your enterprise employ individuals in-house with the following skills, or obtain these skills from external sources?

Tick both "Employed-in-house" and "obtained from external sources" if applicable.

| | Employed in-house | Obtained from external sources* | Skills not used /not relevant |
|---|--------------------------|---------------------------------|-------------------------------|
| Graphic arts/layout/advertising | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Design of objects or services | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Multimedia (combining audio, graphics, text, still pictures, animation, video etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Web design | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Software development | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Market research | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Engineering / applied sciences | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Mathematics/statistics/database management | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

*include freelancers, consultants, other independent enterprises, other parts of your enterprise group, etc.

11.2 During the three years 2008 to 2010, did your enterprise use any of the following methods to stimulate new ideas or creativity among your staff? If yes, was the method successful in producing new ideas or increasing creativity?

| | Methods used and: | | | Method not used |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| | Successful | Not successful | Dont know if successful | |
| Brainstorming sessions | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Multidisciplinary or cross-functional work teams | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Job rotation of staff to different departments or other parts of your enterprise group | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Financial incentives for employees to develop new ideas | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Non-financial incentives for employees to develop new ideas, such as free time, public recognition, more interesting work, etc. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Training employees on how to develop new ideas or creativity | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |





Your comments and feedback

We welcome your feedback. Please tell us what you think about this form and also let us know what type of published data would be useful to your business.

How long did it take you to complete this form? mins

Comments:

Signature

Phone ()

Position in enterprise

E-mail

Date/...../ **2011**

Website www.....

Thank you for taking the time to complete this form.



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