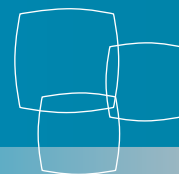




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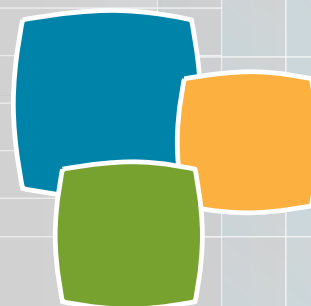
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SURVEY OF INNOVATION AND BUSINESS STRATEGY 2009



Profile of Innovation in Canada —

Key findings from the *Survey of Innovation and Business Strategy 2009*



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Profile of Innovation in Canada

Key findings from the *Survey of Innovation and Business Strategy 2009*

This profile presents a short summary of the innovative activities undertaken by enterprises in Canada between 2007 and 2009. The results are based on data from the *Survey of Innovation and Business Strategy 2009* (SIBS—see Annex A for a short description of the survey). SIBS is the first Canadian survey to collect data on all four types of innovation activity—product, process, marketing and organizational—and to cover the entire Canadian business sector (see Annex B for examples of product innovations in goods and services and for examples of process, marketing and organizational innovations).

Innovation is widely recognized as a key driver of productivity growth. Early views of innovation were, in large part, applicable to innovation in the manufacturing sector, where product innovation usually referred to new types of manufactured goods; and process innovation usually referred to new ways to manufacture goods. In modern advanced economies, however, the service sector not only accounts for a large part of total output, but also conducts considerable innovation, much of it involving the provision of new services and new ways of producing and delivering services. Furthermore, manufacturers increasingly provide new services such as after-sales services, while enterprises in service industries provide new products like computer programs. These trends have led to a broader view of what constitutes product and process innovation.

Innovation in both the manufacturing and service sectors also encompasses the development of new organizational practices and new ways of marketing products and services. The importance of these forms of innovation is now widely recognized, but their prevalence was rarely measured in Canada before SIBS.

The rich data collected in SIBS also allows for the identification of complementarities among various forms of innovation and of the relation between innovation by enterprises and other factors such as the intensity of competition in the enterprise's market. A better understanding of all the factors that influence an enterprise decision to invest in innovation will be important to inform policy design in Canada.

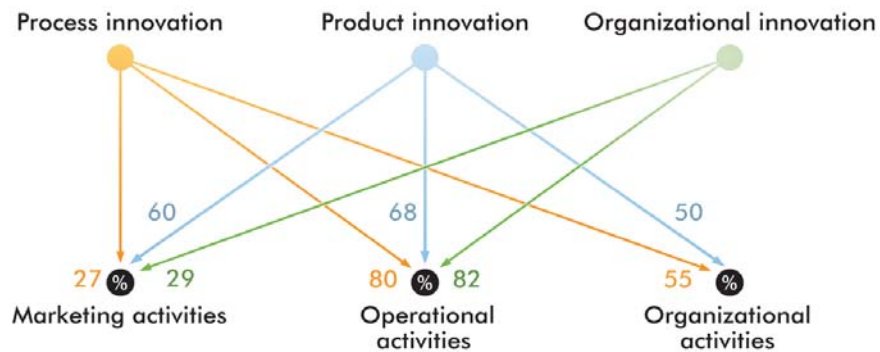
The key findings presented in this profile highlight the complexity of the innovation process and the complementarities that exist between different types of innovative activities. The results of SIBS show that introducing an innovation often requires changes to business support activities (complementarity) and can often result in further innovation (co-innovation).

Innovation is a complex process and the different types of innovation are interrelated

The complex nature of innovation means that enterprises that introduce a given type of innovation may also need to make changes to some of their business activities. For example, the introduction of a new production process may require a reorganisation of the workforce; also, introducing a new product usually involves an increase of marketing expenditures. This complementarity between innovation and business activities is shown in Figure 1.

Overall, between 2007 and 2009, the incidence of complementarity between innovation and support activities is high among enterprises in Canada, regardless of the type of innovation being introduced. However, the relative importance of the type of support activity varies with the type of innovator. For example, 82% of organizational innovators and 80% of process innovators reported that introducing innovations within their enterprise required changes to their operational activities. Figure 1 also shows high complementarity between product innovation and marketing, organizational and operational activities.

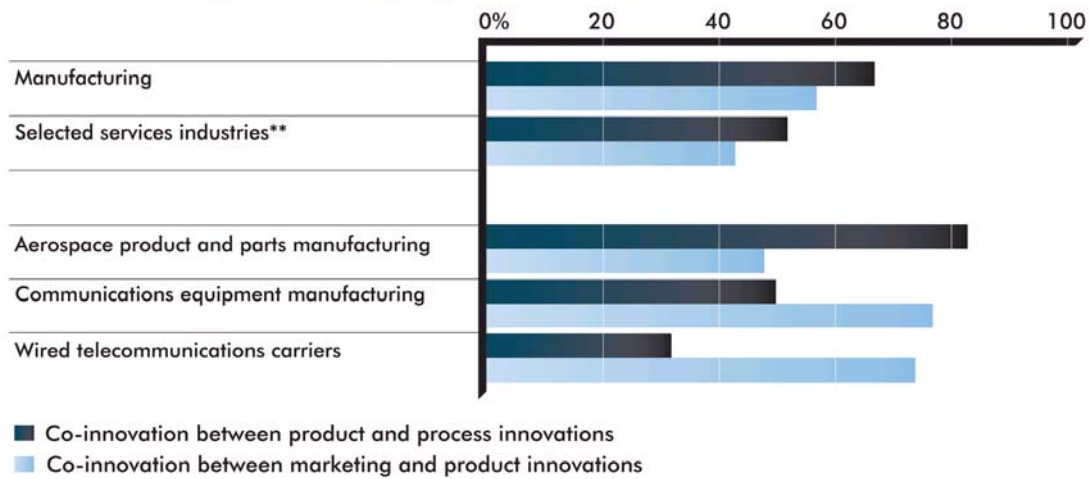
Figure 1: Complementarity between innovation and business activities in 2007-09
Percentage of process, product or organizational innovators



Source: Survey of Innovation and Business Strategy, 2009

The introduction of a given innovation might also require the introduction of another type of innovation, a process referred to as co-innovation. Figure 2 demonstrates that co-innovation is a common occurrence among enterprises in Canada. Although product-process co-innovation is generally more prevalent than marketing-product co-innovation, the incidence of either type of co-innovation is far from uniform across industries, as illustrated by the selected high-tech industries which are also shown in Figure 2.

Figure 2: Co-innovation between types of innovation in 2007-09
*Percentage of marketing or product innovators**



* Light Blue (Dark Blue) bars represent the percentage of enterprises who introduced marketing (product) innovations and report that these innovations involved (required) a new product (the introduction of new production processes).

** Selected service industries include: wholesale trade; transportation and warehousing; information and cultural industries; finance and insurance; professional, scientific and technical services; management of companies and enterprises; and administrative and support, waste management and remediation services.

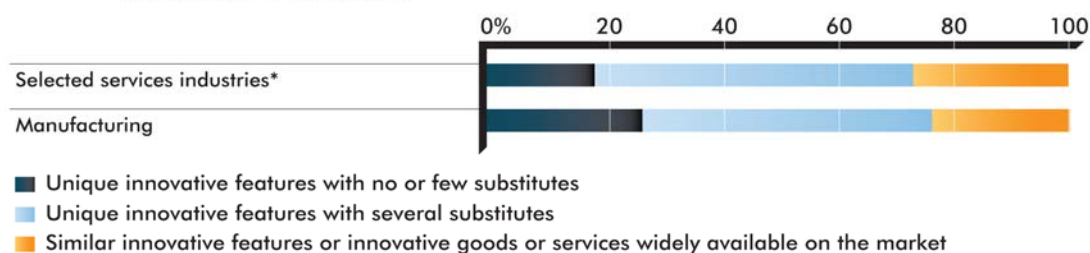
Source: Survey of Innovation and Business Strategy, 2009

Novelty of Canadian innovations

SIBS collected information on the “uniqueness” of the most innovative product—good or service—introduced by enterprises that reported at least one product innovation during 2007-2009. The concept of “uniqueness” refers to both the innovative features of the product and the presence or absence of full or partial substitutes for this innovative feature.

Figure 3 shows that over 50% of product innovators in the manufacturing sector and in selected services industries reported that their most innovative product had some unique features, but that substitutes were available. However, a higher percentage of enterprises in the manufacturing sector reported that their most innovative product not only had unique features, but also that there were few or no available substitutes. This suggests that innovative enterprises in manufacturing industries may introduce innovative products that are more differentiated from their competitors’ products relative to innovative enterprises in the selected services industries. Greater product differentiation may result in bigger pay-offs to product innovation.

Figure 3: Enterprise's most innovative product by degree of novelty in selected industries in 2007-09
Percentage of enterprises



* Selected services industries include: wholesale trade; transportation and warehousing; information and cultural industries; finance and insurance; professional, scientific and technical services; management of companies and enterprises; and administrative and support, waste management and remediation services.

Source: Survey of Innovation and Business Strategy, 2009

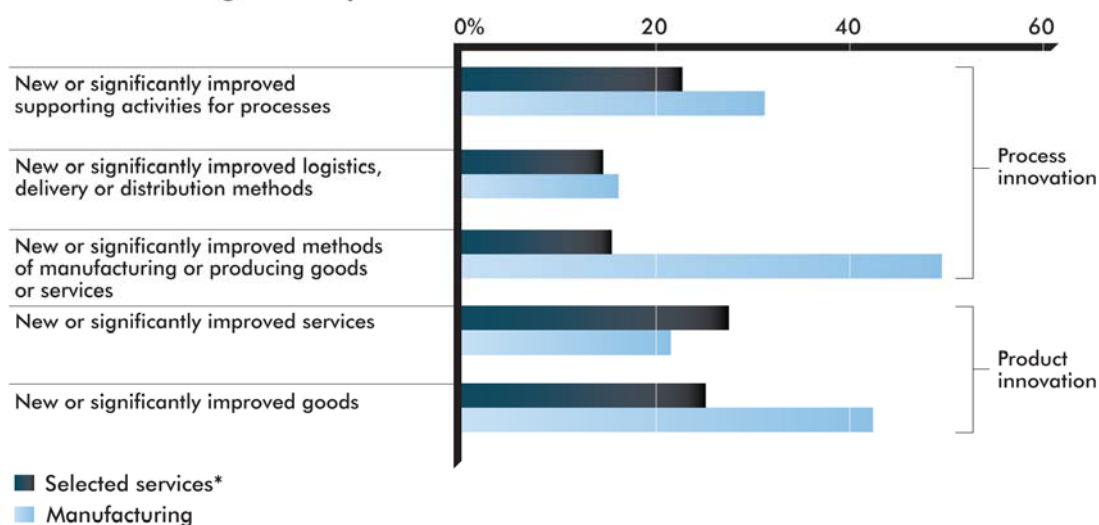
Types of innovation introduced by Canadian enterprises

Figures 4 and 5 examine the prevalence of 12 different types of innovation activity among enterprises in the manufacturing sector and in selected service industries. The 12 specific types of innovation activity are grouped into the four broad types of innovation: product innovation; process innovation; organizational innovation; and marketing innovation. Figures 4 and 5 show that each of the twelve innovation activities is carried out by a significant proportion of enterprises in each of these broad industry groups.

Of note, Figure 4 shows that 50% of manufacturing enterprises introduced new or significantly improved production methods, while over 40% introduced new or significantly improved goods. Turning to Figure 5, the four types of marketing innovation are introduced in about equal proportions by manufacturing enterprises. Finally, new business practices for organizing procedures, such as knowledge management and supply chain management, are the type of organizational innovation most frequently introduced by manufacturing enterprises (45%).

The most frequently used type of innovation activity by enterprises in the selected service industries is new methods of organizing work responsibilities and decision making (36%). New business practices for organizing procedures are also widely used (31%). The introduction of new promotional techniques is the most frequently used form of marketing innovation (31%) for enterprises in the selected service industries.

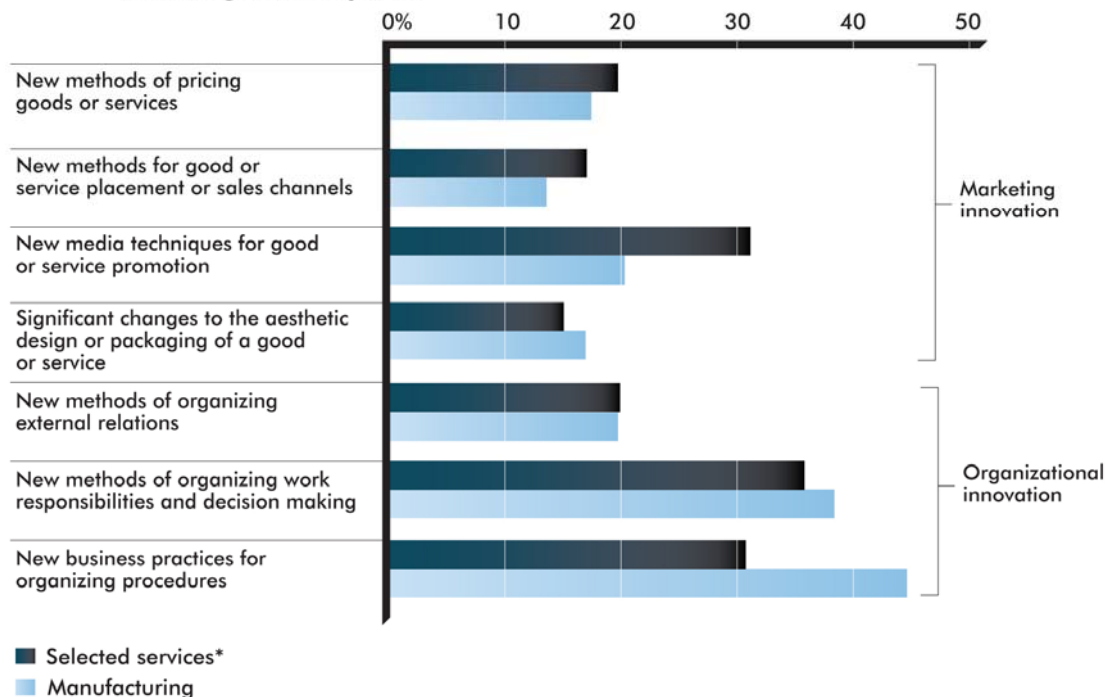
Figure 4: Type of product and process innovations introduced by enterprises in 2007-09
Percentage of enterprises



* Selected service industries include: wholesale trade; transportation and warehousing; information and cultural industries; finance and insurance; professional, scientific and technical services; management of companies and enterprises; and administrative and support, waste management and remediation services.

Source: Survey of Innovation and Business Strategy, 2009

Figure 5: Type of marketing and organizational innovations introduced by enterprises in 2007-09
Percentage of enterprises



* Selected service industries include: wholesale trade; transportation and warehousing; information and cultural industries; finance and insurance; professional, scientific and technical services; management of companies and enterprises; and administrative and support, waste management and remediation services.

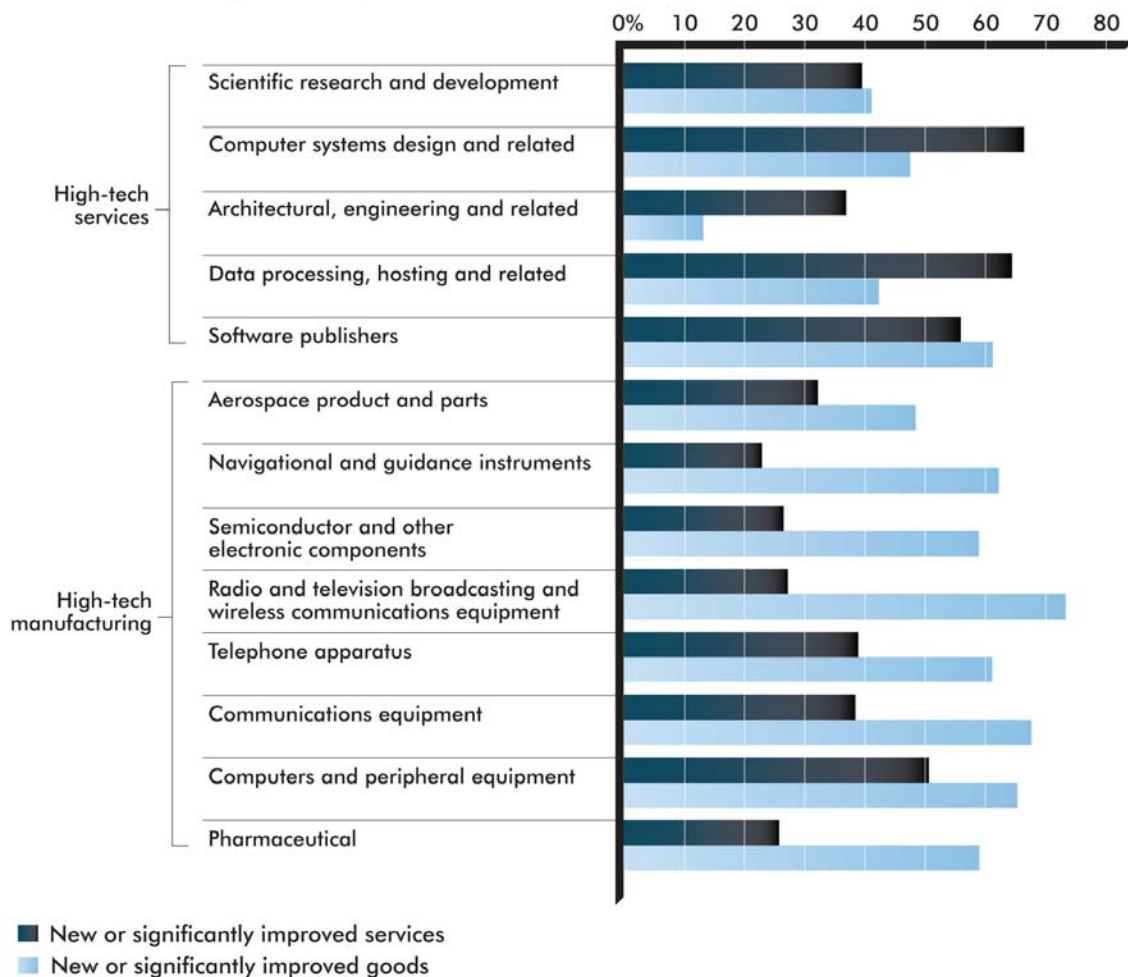
Source: Survey of Innovation and Business Strategy, 2009

Innovation in high-technology industries

Enterprises in high-technology industries, both in the manufacturing sector—for example, aerospace manufacturers or pharmaceutical manufacturers—and in the service sector—for example, software publishers and engineering service enterprises—are often regarded as being more innovative than enterprises in other industries.

Figure 6 examines the level of product innovation for enterprises in those industries usually considered as high-tech; it confirms a high level of product innovation within these enterprises. More than 45% of enterprises in each high-tech manufacturing industry introduced a new good during 2007 – 2009. Similarly, more than 35% of enterprises in each high-tech service industry introduced a new service during that same period of time. Interestingly, in two high-technology service industries—scientific research and development services and software publishers—a higher percentage of enterprises introduced a new good instead of a new service.

Figure 6: Product innovation introduced by enterprises in selected industries in 2007-09
Percentage of enterprises



Source: Survey of Innovation and Business Strategy, 2009

Final remark

Future research at Industry Canada will analyse in detail those business strategies that are conducive to innovation and productivity growth. This analysis will take into account the effects that an enterprise's competitive environment, its use of advanced technologies and its global value chain management practices have on its choice of business strategy.

Annex A – Description of SIBS

SIBS is a joint project undertaken by Industry Canada, Foreign Affairs and International Trade Canada and Statistics Canada to better understand the market and policy factors that encourage or discourage the adoption of entrepreneurial and innovation-oriented business strategies. In addition to detailed information about innovation, the SIBS provides information about the business strategies, global value chains, competitive environments and marketplaces of enterprises in Canada. Analysis of each of these topics is available in the Industry Canada report, "[Business Innovation and Strategy: A Canadian Perspective](#)".

A sample of 6,233 enterprises in Canada, each with more than 20 employees, and spanning 67 industries were surveyed. As a result, SIBS results are representative of all enterprises in Canada with more than 20 employees and revenues of at least \$250,000 in the selected industries. The overall survey response rate was 70%. A more detailed description of the SIBS is available on the websites of [Industry Canada](#) and [Statistics Canada](#).

Annex B – Examples of different types of innovation

Examples of product innovations: goods and services

Goods	Services
<ul style="list-style-type: none"> ▪ New lines of products/models with improved performance and/or appeal to new customer groups ▪ Cameras in mobile telephones ▪ IP (Internet protocol) telephones ▪ Laser cutting tools ▪ Automated packaging ▪ Programmable radiators or thermostats ▪ New medicine with significantly improved effects ▪ Built-in wireless networking in laptops 	<ul style="list-style-type: none"> ▪ Consultancy on disposal issues ▪ New scoring and rating methods for assessing credit risks ▪ Introduction of new programming languages for software development ▪ Internet services such as banking or bill payment systems ▪ Video on demand via broadband Internet ▪ Websites allowing customers to customize orders and obtain price quotes

Source: Adapted from Oslo Manual, Third edition, OECD, Paris 2005.

Examples of process, marketing and organizational innovation

Process innovation	
New or significantly improved methods of manufacturing or producing goods or services	Automated packaging, digitisation of printing processes, or improved testing equipment for monitoring production
New or significantly improved logistics, delivery or distribution methods	Portable scanners/computers for registering goods and inventory, GPS tracking systems for transport equipment
New or significantly improved supporting activities for processes	New or improved software or routines for maintenance systems, New software tools designed to improve supply flows
Marketing innovation	
Significant changes to the aesthetic design or packaging of a good or service	Implementation of a fundamentally new design of bottles for a body lotion to give the product a distinctively exclusive look
New media techniques for good or service promotion	First time use of a new media for advertising; a new brand image; introduction of loyalty cards.
New methods for good or service placement or sales channels	First time use of a new advertising franchising or distribution licences; direct selling; exclusive retailing; new concepts for good or service presentation
New methods of pricing goods or services	First time use of variable pricing by demand; discount system
Organizational innovation	
New business practices for organizing procedures	Supply chain management; business reengineering; knowledge management; lean production; quality management.
New methods of organizing work responsibilities and decision making	First time use of a new system of employee responsibilities; team work; decentralisation; integration or de-integration of departments; education/training systems
New methods of organizing external relations	First time use of alliances; partnerships; outsourcing or sub-contracting

Source: Adapted from Oslo Manual, Third edition, OECD, Paris 2005 and Survey of Innovation and Business Strategy [questionnaire](#).