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I N D U S T R Y P R O F I L E

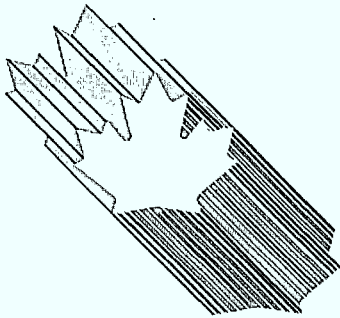


Industry, Science and
Technology Canada

Industrie, Sciences et
Technologie Canada

Architectural Services

Canada



INDUSTRY PROFILE

ARCHITECTURAL SERVICES

DEPARTMENT OF REGIONAL
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FOREWORD

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In a rapidly changing global trade environment, the international competitiveness of Canadian industry is the key to survival and growth. This Industry Profile is one of a series of papers which assess, in a summary form, the current competitiveness of Canada's industrial sectors, taking into account technological and other key factors, and changes anticipated under the Canada-U.S. Free Trade Agreement. Industry participants were consulted in the preparation of the papers.

The series is being published as steps are being taken to create the new Department of Industry, Science and Technology from the consolidation of the Department of Regional Industrial Expansion and the Ministry of State for Science and Technology. It is my intention that the series will be updated on a regular basis and continue to be a product of the new department. I sincerely hope that these profiles will be informative to those interested in Canadian industrial development and serve as a basis for discussion of industrial trends, prospects and strategic directions.

Minister

1. Structure and Performance

Structure

The architectural services industry is made up of private firms owned and operated by architects licensed under provincial legislation to provide independent architectural design and consulting services to the public.

This industry is often considered an integral part of the larger building construction sector. Traditionally, architects play the dominant role in the design of buildings which are primarily used by people rather than industries. These include buildings used for educational, health, residential, commercial, religious, sport, hotel or institutional purposes. In addition, architects carry out non-design functions such as feasibility studies, heritage restoration, urban planning and design, project management and functional programming. An architectural firm acts as the prime consultant to the client or building owner. It establishes the client's requirements, translates them into the overall building design, produces the working drawings or contract documents and supervises construction.

Consulting engineers are used on projects involving larger or more technically sophisticated buildings. They are usually specialists in structural, electrical, mechanical or other engineering services and are engaged under subcontract to the architect. The roles of prime consultant and subcontract consultant are sometimes reversed when the engineering aspect of a project is the major component — at industrial or chemical plants, for example, where the fundamental criteria relate to the efficiency of the industrial process. Engineers apply expertise to the technical aspect of a building, while the architects' role is more subjective. Not only do they create or design the aesthetic features of the building, but they also consider the most efficient use of space for the clients' purposes, as well as the comfort, health, safety and enjoyment of the occupants.

In 1987, this wholly Canadian-owned industry comprised approximately 2700 establishments, employing some 12 000 persons, with estimated total revenue (fees) of \$725 million. Architectural firms have only recently entered the export field. Canadian billings in foreign countries for 1987 are estimated at \$6 million, or less than one percent of total revenues. The share of the domestic market held by foreign firms is not significant.

A few Canadian firms are committed to developing foreign markets and have established permanent offices in foreign countries, mainly in the United States and Australia. They usually employ local staff and management because it is difficult to obtain visas and work permits for Canadians. The architectural work may be carried out either in the foreign office, or in the home office. The major export market for Canadian architectural services is the United States, which accounts for about 35 percent of total export revenues.

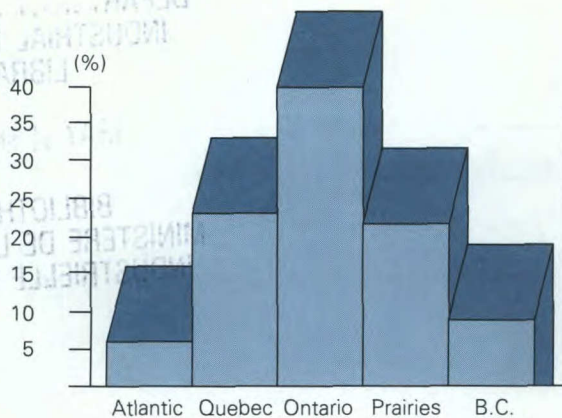
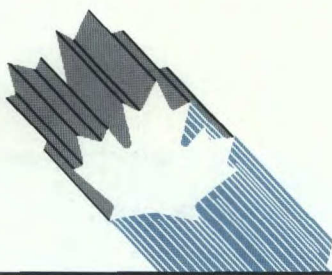
More than 50 percent of foreign projects carried out by Canadian firms involve them in less than their full range of services, partly because of the foreign licensing requirement for a local joint-venture partner. Canadian architects either provide concept design in co-operation with a local firm, or perform non-traditional architectural services such as facilities management, urban design or technological transfer. Most countries have a fairly high degree of domestic capability to satisfy their own requirements and only employ foreign firms for expertise not available locally.

Canada



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Total Billings by Region, 1986

(Total \$ 700 million)

In general, Canadian firms are small, with an average staff of five in 1986, down from 6.6 in 1977. In 1986, however, the median staff was only four. By comparison, the U.S. architectural industry consisted of 16 500 firms with an average staff of 8.5 and a median of four. The top nine Canadian firms each had estimated annual revenues of more than \$5 million and a total combined staff of 730 in 1982. The United States, on the other hand, had 125 firms in the over-\$5-million class, with the top firm earning in excess of \$100 million in annual revenues. During 1986, at the opposite end of the scale, 55 percent of Canadian firms billed less than \$200 000 each, employing about 2200 persons, while 25 percent billed under \$50 000.

The 104 U.S. firms with annual revenues over \$7 million accounted for 45 percent of U.S. export billings. The majority are integrated architectural-engineering firms. Canada, on the other hand, has no architectural firms in the over-\$7-million category, and very few are integrated with consulting engineers. It is evident that the major U.S. export efforts come from firms larger than those established in Canada, with the necessary financial resources to compete internationally. Only 55 of the top 300 U.S. firms are purely architectural, and they account for just two percent of American architectural exports. Seventy-six percent of U.S. export design revenues were earned by integrated architectural-engineering firms.

Unlike other businesses, architectural firms do not receive any limitation of liability if they incorporate, because of requirements embodied in provincial legislation. Consequently, only about one-quarter of these firms are incorporated.

Performance

Although statistical data are limited, it is estimated that the industry experienced a low growth rate since the early 1970s, compared to the 1950s and 1960s. There have been short periods of increased local demand caused by the Montréal and Calgary Olympics, and the Alberta building boom. Revenues of firms in the Atlantic provinces, Quebec, Ontario, Manitoba and Saskatchewan have improved over the 1985-86 period, while billings of companies in Alberta and British Columbia dropped over the same period and into 1988. Although there are regional variations, national projections for building construction into the next decade indicate no growth in real terms between 1987 and 1991, and an average rate of less than two percent between 1990 and 1995.

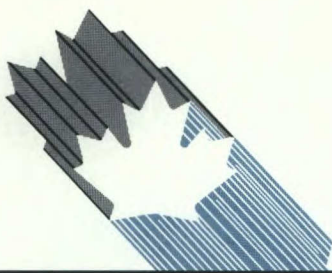
2. Strengths and Weaknesses

Structural Factors

Canadian architectural firms are not integrated with manufacturers or building contractors. Provincial government legislation, under which Canadian architectural firms are licensed, restrict their activities to the provision of architectural and engineering design. Although integration with engineering firms is not restricted, there has been little integration to date. Ownership of architectural firms varies provincially but is generally restricted by legislation to a majority control by licensed architects. Contracting, manufacturing or other construction business is strongly discouraged, if not prohibited. The role of the architect in Canada is that of an unbiased, independent consultant operating on behalf of the client without any potential conflict of interest.

Canadian firms, while very competitive in the purely architectural role, are not integrated into firms capable of providing turnkey services such as those in the United States, the United Kingdom, France and Japan. Consortia or joint-venture organizations are permitted between independent firms, but have only developed on a project-by-project basis. This independent consultant role may serve Canadian clients well, but it inhibits the formation of large design, building and manufacturing corporations. A substantial portion of the export market — that is, turnkey projects — is therefore lost to Canadian architectural firms.

While a number of firms have been successful in international markets, the majority lack the financial resources and experience to organize an effective foreign marketing effort. Most firms are small and generalist by necessity, because of the wide variety of services demanded domestically. Foreign clients, however, usually seek a specialist who is not available locally, or a firm which offers a total integrated capability.



The strengths of the leading Canadian firms lie in their quality of design and use of technology. The Canadian construction industry is a leader in the development and use of new materials and construction techniques, and Canadian architects are quick to incorporate these into their new building designs.

Trade-related Factors

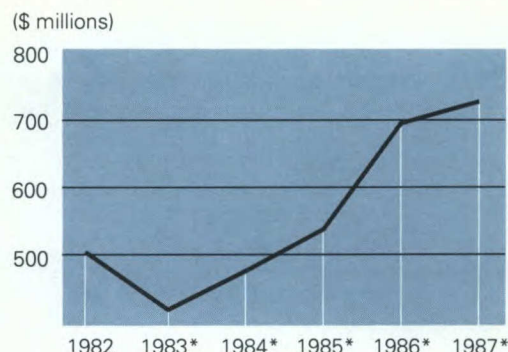
There are no tariff restrictions to trade in architectural consulting services, as no product is sold. Most countries, including Canada and the United States, have non-tariff restrictions, however, which control the provision of traditional architectural services by foreign firms. These restrictions are more irritants than barriers, as many experienced firms have found ways to circumvent them through local joint ventures or subcontract arrangements. Other professions, such as consulting engineering, are also affected by similar irritants, which include professional licensing, immigration controls, work permit requirements and local preferential procurement practices.

All architectural firms operating in the United States must be registered and licensed by state licensing boards. U.S. regulations vary from state to state and often require Canadian architects to write examinations to obtain a licence. This document may be issued for just one project, for a period of time, or on a permanent basis. Currently, the U.S. National Architectural Accreditation Board (NAAB) does not accredit any Canadian university. All applicants must have an acceptable degree before applying for a licence. This requirement means that each Canadian applicant must have his or her university course accredited individually, before the conferral of a licence is considered. American architectural firms attempting to compete in Canada face a similar regulatory regime.

The Canada-U.S. Free Trade Agreement (FTA) will not affect government procurement of architectural services, but it will assist the industry in three important ways:

- temporary-entry immigration will be eased as of January 1, 1989;
- agreement has been reached that future regulations are to be no more restrictive than current ones;
- the agreement acknowledges an accord between U.S. and Canadian architectural associations. It sets out a workplan and timetable for both countries to work toward the harmonization of their licensing, work practices and professional conduct restrictions before 1990.

Temporary-entry immigration regulations require a consultant to obtain both a visa and a work permit before entering the United States to do business. These must be applied for in advance and may take six to eight weeks (or longer) to obtain. This requirement will be relaxed under the FTA.



Total Billings

Total Billings

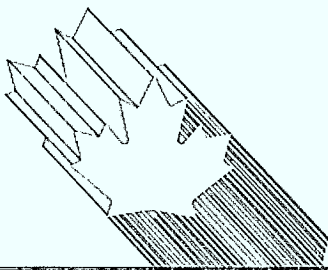
* ISTC estimate

Local preferential procurement practices exist both in Canada and the United States. While having no restrictions against foreign firms, the General Services Administration (GSA) of the U.S. government awards contracts only to firms with an operational office in the specific location of the project. This will not change under the FTA. Most provincial and municipal governments in Canada also have local preference restrictions.

The four major handicaps facing Canadian firms pursuing international markets are:

- strong competition — Canadians are latecomers attempting to establish themselves in markets where other foreign firms are firmly entrenched;
- licensing restrictions and immigration regulations imposed by other nations, including developing countries that have, or are in the process of developing, their own architectural capability, which usually fulfils most of their requirements;
- the small size of the firms, which tend to lack the human and financial resources of their international competition; and
- a lack of integrated firms with design-build or turnkey capability.

Architectural consulting requires a concerted effort to promote the capabilities of the firm and to secure contracts. It is more difficult to gain the confidence of a client when selling an intangible concept rather than a tangible product. A number of visits to potential clients are usually required for the architect to develop credibility. In the export market, this need translates into increased travel costs. In addition, the need to provide clients with preliminary plans and drawings that illustrate the architect's concept before signing a contract can cost hundreds of thousands of dollars, which are not reimbursed to unsuccessful firms.



Technological Factors

The architectural services industry performs little research and development (R&D), although it often acts in a consulting role — testing or applying the results of R&D. Provincial government legislation, under which architectural firms are licensed, restricts the financial interest of architects in any material or product, as this may conflict with the best interests of the clients.

Architects, however, play an important role in the innovation process. They develop new uses for existing materials or identify requirements for new ones. The development of new design concepts and their use or function differs from the traditional concept of R&D. To illustrate this distinction another way, the engineer designs an industrial or manufacturing process for the most efficient production of the end product. The architect designs a building not only for the most efficient use by its occupants but also for their health, safety and enjoyment. These factors are often subjective and do not permit scientific measurement.

Architectural R&D must be financed either by architects or, sometimes, by their clients. Lack of funds usually limits the intensity of efforts in this direction. Since architectural R&D is usually non-proprietary, the results benefit not only the individual architect and client, but also the building industry at large and the general public. Most architectural R&D does not, therefore, benefit the architect financially.

Almost all architects now use computer technology to support office procedures. However, the technology for computer-aided design (CAD), or computer-aided drawings used by consulting engineers, does not produce the same cost-benefit returns when applied to the more complex, less standardized architectural field. The highly artistic and subjective nature of architectural design still far exceeds the economic application of computer technology on a scale to fit the relatively small office of the Canadian architect. It is believed that the adoption of computer technology by Canadian architects is slower and at a lower technical level than their U.S. counterparts. In part, this difference may be due to the greater number of larger, better financed American firms.

3. Evolving Environment

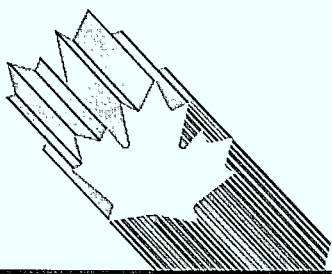
The building rate in a region is closely related to the level of general economic activity. If business is improving and new buildings are required, construction firms and architects are employed. At the present time, an overcapacity of constructed buildings is developing in many regions (with the exception of Ontario and Quebec) in the commercial, residential and industrial sectors. Government funds control growth in both education and health and, in times of restraint, building construction for these purposes tends to decrease. In 1986, more than 85 percent of architectural fees were derived from institutional, commercial and multi-family residential buildings.

The architectural services industry is evolving. Even though the market for traditional design services is static, opportunities are emerging in non-traditional areas. Overall annual growth between 1987 and 1991 is forecast at an average rate of only one percent, although there will be higher growth in certain regions such as southern Ontario. More aggressive firms explore new markets and a broader range of services. These include such non-traditional items as urban and housing policy development, urban and community planning, urban design, pre-feasibility and feasibility studies, architectural programming (a detailed analysis of client needs translated into building terms), facility planning, interior design, project management and building evaluations.

Joint ventures between architectural and engineering firms are becoming more common, as are co-operative projects with other Canadian developers, material suppliers or financial institutions. These joint ventures are usually on a project-by-project basis and consequently do not give rise to the sustained marketing effort needed for effective export promotion. The FTA is expected to have little immediate impact on the exchange of architectural services between Canada and the United States.

4. Competitiveness Assessment

The Canadian architectural services industry has not been a major player in world markets, as firms have focused primarily on the rapid economic growth in Canada in the post-war period. In fact, until the mid-1970s, Canadian architects were fully employed in Canada. Since that time, a few firms have been slowly breaking into the export market, despite their relatively small size and modest financial resources.



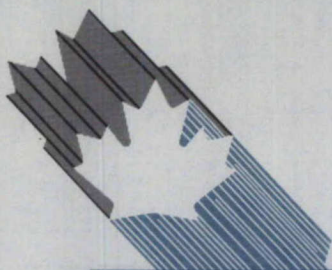
In the international market, some Canadian firms have been successful in providing high-quality architectural design. The leading firms have won contracts for large, high-profile projects abroad against stiff foreign competition from larger companies. However, significant penetration of the international market is not expected. Canadian architectural firms are not competitive with the large, integrated companies which provide architectural services as well as engineering, financing, construction and sometimes even ongoing facilities management. Canada has not yet developed this type of firm.

Canadian architectural firms are highly competitive domestically. Aesthetically as well as technically, Canadian buildings are equal to those built in any other country. Generally, foreign firms do not gain more than a few significant Canadian projects annually in the Canadian market.

For further information concerning the subject matter contained in this profile, contact:

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PRINCIPAL STATISTICS

SIC(s) COVERED: 775 (1980)

	1977	1982	1983 ^e	1984 ^e	1985 ^e	1986 ^e	1987 ^e
Establishments	1 600	2 200	N/A	N/A	2 550	2 600	2 700
Employment	11 000	10 000	N/A	N/A	N/A	11 500	12 000
Payroll (\$ millions)	N/A	150	N/A	N/A	N/A	205	225
Total billings (\$ millions)	305	501	420	480	533	700	725

TRADE STATISTICS

	1977	1982	1983	1984	1985	1986 ^e	1987 ^e
Canadian domestic billings (\$ millions)	N/A	490	N/A	N/A	N/A	694	719
Canadian billings in foreign countries (\$ millions)	N/A	11	N/A	N/A	N/A	6	6
(as a % of total billings)	N/A	2.2	N/A	N/A	N/A	0.9	0.8
Destination of exports (% of total value)	U.S.	Africa	Europe	Latin America	Middle East	Asia	Others
1982	36	12	7	18	6	10	11

REGIONAL DISTRIBUTION — 1986

	Atlantic	Quebec	Ontario	Prairies	B.C.
Establishments — % of total	6	25	37	17	15
Employment — % of total	5	29	36	20	10
Billings — % of total	6	23	40	22	9

^e ISTC estimate
N/A Not available

Note: Statistics Canada data have been used in preparing this profile.

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