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EDMONTON'S PRODUCER SERVICE COMPLEX

by

Wieslaw Z. Michalak and Kenneth J. Fairbairn

This bulletin reports the findings of a survey of Edmonton's producer service firms. The role and contribution of these firms is discussed within the context of the city's corporate structure. Their subcontracting behaviour is examined specifically.

After a short introduction on the importance of producer services, the survey is briefly described. This is followed by an overview of the sales of producer service firms to different sectors of the economy. Next the proportion of sales each type of producer service sells to each economic sector is presented. Then the subcontracting behavior of the producer service firms is discussed. The subcontracting behavior of producer service firms is examined by comparing the characteristics of those which do with those which don't. Local versus nonlocal subcontracting is broken-down for each type of producer service. The nonlocal purchases of producer services by Edmonton's producer service firms are examined in greater detail to establish why their assistance is used rather than that of local firms. Some observations on the producer services' contribution to the local economy is made by way of summation.

Producer Services

Current productive processes are shifting to information based technologies. The manufacture of goods and the production of services are both affected. At least three changes have resulted.

i. Fewer people with different skills are now required.
ii. Information inputs have increased more rapidly than material inputs.
iii. Production is more flexible: more products, smaller lots, dispersed production sites and contracting out.

Information services encompass the collection, analysis, evaluation and distribution of information which add value to products and services by design and organizational and strategic improvements. Also referred to as producer or business services, they are intermediate activities in that their "product" is sold to other businesses and enterprises and not usually to a final consumer. In functioning to innovate and facilitate product improvement, development and transfer, services strengthen the economic base of a city in at least two ways.

i. They advance the efficiency of existing manufacturers and service providers, thus allowing a competitive advantage over other places.
ii. By keeping abreast of new techniques and knowledge financial savings may be passed to firms unable or unwilling to support research and development programs. Sales of this expertise beyond the city benefits its economy.

Producer services include marketing and advertising, legal, management and employment services, accounting and auditing, computer services, and engineering and architectural services.

The Survey

In 1988 a random sample of 816 producer firms was drawn from Edmonton's total of 1676 as listed in the Yellow Pages, Dun and Bradstreet database and Contacts Influential directory. Care was taken to make certain each producer service type was represented. All 816 firms were contacted either in person (138) or by telephone (678) and 374 agreed to participate. A total of 173 usable questionnaires was returned. Computer services, engineering consultants and accounting services were especially helpful returning over 50 per cent of the questionnaires. The response rates of the other subsectors were lower with the employment services group the lowest at a rate of 25 per cent of potential participants (Table 1) Follow-up reminders failed to improve this sector's response rate.

Table 1
Producer Services' Response Rates

Subsector	Number in Edmonton	Number Approached	Sample	Response Rate
Marketing	103	23	10	43.5
Employment	51	12	3	25.0
Computer	246	38	20	52.6
Management	381	80	35	43.7
Legal	314	32	14	43.7
Engineering	264	86	50	58.1
Architects	93	50	21	42.0
Accounting	224	53	27	50.9
Total	1,676	374	180*	

* 173 usable

THE QUESTIONNAIRE

Each firm was asked to provide information on four aspects of its functioning.

i. Structural characteristics - include the size of the firm and the type of organization, e.g. branch plant.
ii. Locational factors - reasons for locating in Edmonton and the qualities of its environment.
iii. Linkages to other firms relative to sales and purchases.
iv. The geographic locations of producer service sales (exports).

ANALYSIS OF RESULTS

Table 2 breaks down the estimated market share, value and number of individual contracts of producer service firms in Edmonton relative to different sectors of the economy.

Table 2
Value of the Sales of Producer Services by Sector in 1988

Sector	%	Value* (Can $ million)	Number of Contracts
Primary	12.4	216	88
Manufacturing	4.6	80	75
Construction and transport	10.4	182	87
Commerce	7.1	124	73
Financial	7.7	134	75
Producer services	15.7	274	87
Government	26.2	457	116
Final consumers	11.8	206	100
Other	4.1	71	38
Total	100.0	1744	739

* Share value is estimated from averages of the sample revenues multiplied by the number of firms in each of four size groups.

i. The public sector is the largest consumer of Edmonton's producer services. Over one quarter, $457 million, was purchased by various types of government institution in 1988 through 116 contracts.
ii. The producer service sector itself is its second largest customer with over 15 per cent of purchases. A high degree of synergy is present within the sector.
iii. Following in order are: extracting and resource processing industries (the primary sector); final consumers; construction and transportation establishments. Each group purchased over 10 per cent of producer service sales.
iv. Four sectors, the government, producer services, primary industries and final consumers purchased over $1.1 billion of producer services sales, almost 65 per cent.
v. The manufacturing sector bought a very small proportion of services, 4.6 per cent or $80 million. Producer service firms in Edmonton are by no means dependent exclusively on the manufacturing sector.

Without data on the exact nature of the purchases, the assumption is made that producer service firms substantially increase the productivity of the public and primary sectors of the local economy.

Table 3 details the market share each of the eight types of producer service supplied each sector of the economy.

Table 3
Market Share of Sales by Producer Service Subsectors (%)

Sector	Ma	Em	Co	Mg	En	Le	Ar	Ac	Total
Primary	16.8	16.5	18.3	7.1	23.4	2.5	4.1	11.3	100
Manufacturing	12.5	42.7	7.9	4.2	11.2	6.9	3.6	11.0	100
Construction and transport	3.6	10.0	14.3	2.8	22.9	1.3	30.6	14.5	100
Commerce	7.9	10.9	15.1	5.0	3.7	14.1	26.0	17.3	100
Financial	21.8	1.6	9.0	25.8	3.9	27.1	1.3	9.5	100
Producer services	20.2	5.2	9.9	12.8	4.5	14.1	11.8	21.5	100
Government	10.2	4.3	18.1	13.0	25.6	4.6	19.5	4.7	100
Final consumers	2.1	27.4	5.6	19.7	1.1	30.6	4.2	9.3	100
Other	29.8	0.0	8.3	19.3	4.5	8.0	5.1	25.0	100

Note: Ma: marketing and advertising services; Em: employment services; Co: computer and data-processing services; Mg: management and personal relations services; En: engineering and R&D services; Le: legal services; Ar: architectural services; Ac: accounting and auditing services.

i. Government services require mainly engineering and architectural services. Computing, management and marketing services are important but to a lesser extent. In general government requires the higher level, technical and consulting services.

ii. Services required by the producer service sector itself are of the "low-tech" routine type - accounting and auditing, marketing and advertising, legal and management. Rarely are these services performed in-house, reflecting their flexible demand. Purchases are made only when needed, in the right quality and quantity from other specialist firms capable of providing them at a lower price than using in-house resources.

iii. The primary sector spent most on engineering consulting firms, computer and data processing, marketing and advertising, and employment services. Information and organizational technologies now play a strategic role in the production and processing of the relatively low value-added products characteristic of the primary resource sector. It is important then to keep operating costs to a minimum and contracting out many functions is one solution.

iv. Final consumers (individuals) and construction and transport both used producer services to strengthen their particular economic operations. With the former legal, employment and management and public relations services dominated; architectural and engineering services dominated with the latter.

SUBCONTRACTING BY PRODUCER SERVICE FIRMS

The intra-sectoral linkages of producer service firms reveal at least two significant features of advanced capitalist economies.

i. Their ability to provide all productive processes with a complete array of service requirements.
ii. Their capacity to respond promptly to changing productive processes.

Effectively they accommodate and advance the division of labour thereby increasing productive efficiencies while ensuring innovations are passed on to all other sectors of the economy.

Producer service firms involved in subcontracting differ from those which do not in respect to their specialties but not in terms of their status (independent or part of an organization) and number of employees.

Over 52 per cent, 90, firms in the sample performed all services in-house - mainly legal and accounting and auditing firms. The remainder, 82, subcontracted, at least, a portion of their work. The most frequently subcontracting firms include architectural services where 76 per cent of the firms subcontracted a part of their work; engineering and research and development services, 67 per cent; advertising and market research consulting, 56 per cent; computer and data processing services, 50%; and management and public relations consulting services, 49 per cent.

These data reveal that, in Edmonton, the computer service firms contributing most to the competitiveness of other firms are also those most liable to subcontract. But flexibility in the production process is not shared by all producer firms (especially the routine and standardized services). Nearly all, 96 per cent, of accounting and auditing service firms used in-house expertise entirely while over 778 per cent of legal services did not subcontract. Nonetheless, subcontracting to firms within the group enhances the competitiveness of the producer firms themselves as each can specialize in its own particular service line.

For three reasons it is important to examine the spatial location of each subcontractor.

i. When subcontracting is locally based payments are retained within the local economy to its general benefit.
ii. Exports of producer services beyond the city's boundaries bring capital into the local economy although this benefit may be counterbalanced by purchases of services from outside.
iii. To determine the extent to which Edmonton is dependent on larger metropolitan areas such as Toronto and Montreal and those in the United States.

The locations of subcontractors supplying producer services to other producer service firms in Edmonton is shown in Table 4.

Table 4
Subcontracting by Location of Firms (%)

Subsectors	Subcontractors from Edmonton	Subcontractors outside Edmonton
Marketing and advertising	85.7	14.3
Computer services	74.5	25.5
Management services	81.3	18.8
Engineering services	81.0	19.0
Legal services	83.3	16.7
Architectural services	84.2	15.8
Accounting and auditing	81.3	18.7

i. For the most part (over 80 per cent) supplies of producer services originate locally. For example, over 85 per cent of all supplies of producer services to marketing and advertising firms came from local firms located within Edmonton's metropolitan area.
ii. In all but one case, 80 per cent of all producer services came from local suppliers.
iii. Exporting firms bought a sustantially higher proportion of producer services from outside Edmonton.
iv. Only computer and data processing firms subcontracted more than one quarter of their needs to suppliers outside Edmonton.
v. These findings indicate a high level of independence (local ingenuity!) by Edmonton's producer service firms which, contrary to popular belief, are not dependent on Canada's industrial core or the United States. A prominent example are architectural services which obtained over 84 per cent of their producer service requirements locally.

All 172 producer service firms were asked to rank each of 10 reasons for subcontracting nonlocally.

i. Reliability (reputation and quality of products) of supplier topped the list as the major concern.
ii. Nonavailability of a local supplier, internal policy of parent company and price, followed.
iii. Factors typically influential in the decision to subcontract e.g. communication and transportation costs and personal contacts, did not appear to play an important part.

Table 5
Reasons for Subcontracting Outside Edmonton

Reason	Mean Score	Rank
Reliability	3.90	1
Service not available locally	3.84	2
Internal policy of head office	3.49	3
Competitive price	3.40	4
Accessibility	3.38	5
Personal contacts	3.28	6.5
Competition	3.28	6.5
Other	2.95	8
Communication and transportation costs	2.93	9
Part of exporting policy	2.35	10

iv. The results are summarized in Table 5. It is clear that in terms of an economic strategy attention should be given to those factors that can be controlled locally. Encouraging firms to establish here and paying particular attention to pricing policies and reliability must be given attention.

Table 6
Inputs of Good and Final Services (%)

Subsectors	Local Inputs	Nonlocal Inputs
Marketing and advertising	75.5	24.5
Employment services	82.2	17.8
Computer services	63.6	36.4
Management services	83.1	16.9
Engineering services	81.5	18.5
Legal services	79.4	20.6
Architectural services	93.4	6.6
Accounting and auditing	86.5	13.5
Total	81.3	18.7

Table 6 summarizes the origins of the inputs of goods and final services used by the producer service firms. It clearly indicates the producer service impact on the local economy.

i. Over one third of such inputs was obtained outside Edmonton.
ii. The largest nonlocal inputs were in the computer and data processing sector.
iii. Marketing and legal service firms purchased over 20 per cent of goods and final services outside the local market.
iv. The remaining service sectors purchased locally the overwhelming proportion of their inputs. Architectural services purchased over 90 per cent of all goods and final services from local establishments.
v. The importance to the local economy can be estimated as in the order of $1.4 billion (80 per cent of $1.7 billion turned over by the producer service sector). The multiplier effect on this local reinvestment must be substantial.

CONCLUSIONS

In spite of, but perhaps because of, its peripheral location Edmonton has developed an almost complete array of producer services. The public sector must also be credited with this expansion.

Within the local economy producer services were shown to play the strategic role of integrating the economic components into an informal aggregate business organization. This is achieved not solely through the intangible services they provide other activities but also by the purchases for on-going operations producer services make from other enterprises. The findings indicate that some of the key linkages of producer services are intrasectoral rather than intersectoral. This tendency explains the small average size of producer service firms which prefer to subcontract parts of their contracts rather than permanently enlarge their staff (that is, internalize inputs). Typically, in order to complete a contract several small specialized producer service firms temporarily form a 'business group' which works together until a particular contract is completed. Architectural firms form extensive linkages. The same firm may be involved, at the same time, in several business groups. Business groups may also hire independent 'footloose' consultants, make short-term appointments, or utilize available higher education research facilities. Such arrangements often involve firms in differet cities. The life span of such groups is usually quite short and does not exceed the time necessary to finish a contract. The end result of such a structure is a *complex of corporate services*. This type of organization has replaced the simple partnership organization of producer service firms characteristic of an earlier stage of development.

Additionally, the subcontracting or intra-sectoral links, within the producer firms themselves raises the efficiency of the whole corporate complex enabling its components to compete with more advantageously placed areas.

The results presented here indicate that Edmonton's producer services may be divided into two. Those providing the standardized and routine services do little subcontracting. The technical and nonroutine types of producer service are flexibly organized. They are involved in frequent and large scale contracting to propel activities to greater levels of innovativeness and efficiency.

Hopefully, it has been shown that producer services are now as much an integral part of the economy as the primary and secondary activities. Consequently, they must be given greater attention in economic policy-making. Of paramount importance is the continued investment in sophisticated technological educational/research systems and facilities as well as public sector job training programs. By these means the independence of peripheral economies, such as ours, will be assured at a time when society generally is less reliant on the manufacturing mode of industrial organization. However, this cannot be accomplished without proper regard for product quality and reliability of local producer subcontractors.There has been a high rate of closure of producer service firms in Edmonton. Producer services, particularly engineering and computing, have expressed concern about local suppliers and favored nonlocal subcontractors. Local economic development agencies need to address this particular rationale for the leakage of expenditures beyond the Edmonton market.

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