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STRATEGIC MANAGEMENT OF UNIVERSITIES?

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Abstract

Much that has been written about higher education in recent years assumes that universities around the world have become increasingly engaged in market activities. If that is so, can strategic management, as taught in business schools, help university leaders devise and implement strategies that will enable their institutions to outperform their competitors? What would strategic management teach them?

This working paper sets out to answer these questions. It focuses on government-dependent universities of the kind that exist in Canada today and begins by asking whether textbook strategic management of such a university is feasible and potentially beneficial. It then draws out some of the potential implications of strategic management, as set forth by Jay Barney in *Gaining and Sustaining Competitive Advantage* (second edition, 2002, New Jersey: Prentice-Hall), for institutional and faculty-level strategies.

In order to address the first of these questions, Part I of the paper considers: the nature of strategic management; the organizational prerequisites for strategic management; what types of university exist and which of these meet the prerequisites; and whether the types of university found in Canada today do so. Part II identifies some insights strategic management might offer major universities and a subset of their faculties.

Strategic Management and its Potential Relevance to Canadian Universities

What is strategic management?

There are many different conceptions of strategic management. For example, writing from a European perspective, Tabatoni and Barblan (2002) describe strategic management as a form of management suitable for complex, uncertain situations, which "stresses dynamic and critical processes, those of leadership, which can bypass present strategies and design new ones. In other words, strategic management prepares people to project themselves into the future" (p. 5). Their conception thus emphasizes organizational learning and development.

In *Gaining and Sustaining Competitive Advantage*, Barney (2002) does not actually define 'strategic management', beyond observing that it "is an inherently integrative activity in a firm — forcing managers to bring the skills and expertise of different business functions together to conceive of and implement a strategy" (p. xiii). It appears that he conceives of it, quite simply, as management rooted in strategy — strategy being defined as an organization's theory, deliberate or emergent, about "how to compete successfully and gain competitive advantages based on its mission" (p. 10).

Strategic management, as set forth by Barney, assumes that:

(a) superior strategy, effectively implemented, results in superior firm performance;

(b) superior strategy is informed by understanding of the structure of supply and demand in a firm's industry and of the value of the resources at the firm's command.

The field enunciates the implications for firms' strategies of insights in industrial organization, the theory of the firm and other branches of economics.

For the purposes of this paper, strategic management is defined — consistent with, but perhaps somewhat more narrowly than, Barney's conception — as management based on strategy *informed by economic insights* for achieving organizational goals.

Organizational Prerequisites for Strategic Management

Strategic management and the economics, finance, accounting and other disciplines that underpin it deal with the world of the firm. Thus, Barney (2002) defines an organization as "an association of productive assets (including individuals) who voluntarily come together to obtain economic advantages" (p. 26). Increasing numbers of universities fit that definition, but the great majority of the world's universities do not. Is strategic management relevant to organizations whose primary purpose is something other than the pursuit of economic returns, i.e., to public and other not-for-profit organizations?

Strategic management teaches managers and prospective managers how firms can respond to market demand so as to enable them to maintain low costs and/or charge high prices relative to their competitors', thereby achieving above-normal profits and returns on investment. This suggests two fundamental conditions for an organization to be capable of being managed strategically: it must (a) need to respond to market demand in order to sustain itself, and (b) have

the capacity to do so. Capacity itself has two dimensions. The first involves authority. Is the organization sufficiently autonomous to respond to demand? Does it, for example, have authority over its offerings and their prices? What about its expenditures? The second dimension involves internal organizational capacity. Are the organization's structure and systems such as to enable it to exercise the freedoms it possesses or do they militate against timely response to the market? There thus appear to be three fundamental organizational prerequisites for strategic management: (1) need, (2) authority, and (3) internal organizational capacity, to serve market demand.

Reflecting the prevalence of the multidivisional structure for firms that span multiple businesses, strategic management addresses both corporate and business level issues. Business strategies involve actions a firm can take within a particular market or industry; corporate strategies are about leveraging a firm's resources and capabilities across several markets or industries. Whether business or corporate strategy is appropriate for a not-for-profit organization depends on whether it is engaged in one or multiple markets and whether or not its structure is decentralized. If it serves only one market *or* if it serves several but has a centralized structure, the organizational centre will decide business strategy. If, on the other hand, the organization serves diverse markets *and* its structure is decentralized (whether the model is described as divisionalised or as responsibility centre, profit centre or break-even centre management), the centre may adopt a corporate role. Then, following Barney (2002), the strategic role of the centre is:

- to decide in which markets the organization will operate;
- to decide how the organization will compete in those markets.
- to specify the economies of scope on the basis of which the organization will operate.
- The centre's role in the implementation of strategy is:
- to encourage co-operation across divisions to exploit economies of scope;
- to evaluate the performance of divisions;
- to allocate capital across divisions.

Decentralization has the virtues of: making the best use of local, expert knowledge about particular businesses (rather than trying to run everything from the centre); making possible timely decisions and action; providing incentives to increase revenues and reduce costs; and fostering accountability. On the other hand, it tends to increase the challenge of coordination and internal exchange (e.g., transfer prices, provision of shared activities). Tompkins and Mawditt (1994) identified the following conditions under which what they described as a profit centre structure is likely to be an effective way of running an organization:

(1) The profit centre business[es] must be largely separable.

(2) There must be enough competent general managers to head up the profit centres.

(3) There must be adequate information and financial control support at the divisional level.

(4) Top management must be committed to devolution of decision-making.

For organizations in which these conditions hold, both corporate and business level strategies may be called for.

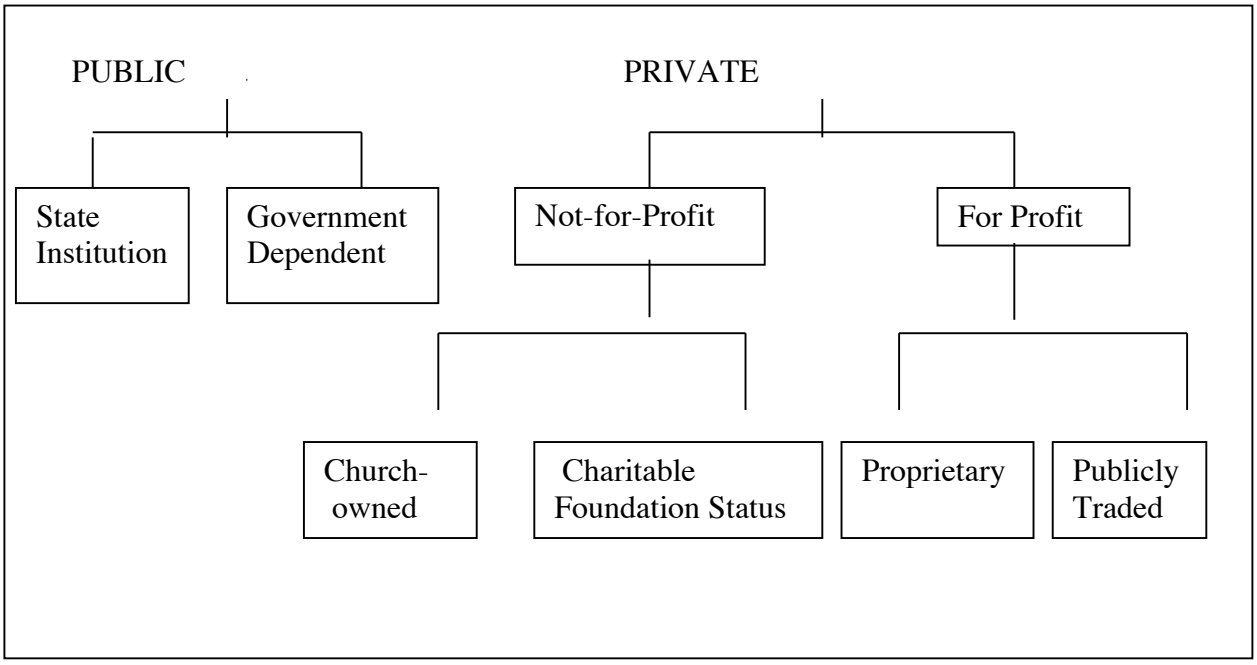
Strategic management of universities?

Types of university

Neat classification of universities is not possible. Whether an institution is public or private, for example, depends on numerous factors (e.g. legal status, finance, common usage) not all of which may accord (Levy, 1986). For examples: private universities in many countries receive public funding; Canadian universities have corporate status but they are funded largely by governments and are perceived as 'public.'

Notwithstanding the complexities, it is possible to distinguish various types of university, depicted below.

Figure 1



Historically, the great majority of the universities in the world have been public or private not-for-profit. The state institution was traditional in many continental European countries: universities fell under the jurisdictions of ministries of education, which controlled budgets and appointments. Faculty members were civil servants. This model was until recently also the dominant one in many developing nations, in which "one legacy of national independence was a state monopoly on tertiary education" (World Bank, 2002, p. 69). Government dependent universities — legally independent institutions financed principally by governments — are characteristic of the U.K., Australia and Canada.

The church-owned university is common in several European countries, where such institutions were typically established by means of a concordat, often part of a broader church-state agreement (Williams, 1996). A more common form of private not-for-profit university, especially in the United States and the U.K., is that with a status akin to a charitable foundation. In return for giving up some financial prerogatives (notably, the right to distribute profits to owners), such institutions enjoy exemption from some forms of taxation, as well as other financial privileges (Williams, 1996). Philanthropic institutions have also played a major part in the growth of private higher education in developing countries since the 1960s (World Bank, 2000).

Although some studies (e.g., Tooley, 1999), lump both private not-for-profit and for-profit institutions together into the category of "private" institutions, this can be misleading, because "the distinction between for-profit and not-for-profit private institutions is of greater practical significance than the more traditional division between public and private institutions, since not-for-profit private institutions frequently resemble public institutions in terms of their mission and their structure" (World Bank, 2000, p. 29). This is not to say that there are no differences between public and private not-for-profit universities. For example, Levy (1986), in his study of Latin American universities in the 1980s, found that:

> It is [ ] the public sector that conforms to important cross-national conceptualizations about the inherent ambiguity and even anarchy of universities as compared to other organizations. Among the roots of this ambiguity are the lack of explicit and meaningful organizational goals, the plethora of organizational goals espoused by diverse constituencies, and the relatively flat governance structure based on the power inherent in both expertise and liberal participatory norms. By contrast, ambiguity is considerably reduced in Latin America's private universities. These universities have a clearer, narrower, and more hierarchical authority structure choosing more explicit and limited goals and financing endeavours through payments by those who support those goals and that structure. (p. 303)

Significant as these differences are, they pale in comparison with those between not-for-profit institutions (public and private) and for-profit ones. Some of the major differences have been identified by Ruch.

Non-Profit and For-Profit Distinctions in Higher Education (Source: Ruch, 2001, p. 10)

Non-Profit	***For-Profit***
Tax-exempt	Tax-paying
Donors	Investors
Endowment	Private Investment capital
Stakeholders	Stockholders
Shared governance	Traditional management
Prestige motive	Profit motive
Cultivation of knowledge	Application of learning
Discipline-driven	Market-driven

Quality of inputs	Quality of outcomes
Faculty power	Customer power

The type of for-profit institution Ruch describes is the publicly-traded one, which represents a relatively recent development. Proprietary institutions — i.e., colleges or other institutions owned by individual proprietors — have historically been the principal form of for-profit institution and remain more common today.

If need, authority and internal capacity to engage in market activity are the fundamental prerequisites for strategic management, how do the different types of university compare on these dimensions?

With respect to need: public institutions receive the bulk of their funds from governments, often benefit from charitable donations, and do not pay taxes. Private not-for-profit institutions may or may not receive government funding (directly or via students) depending on the national setting, receive donations, and are exempt from most forms of taxation. In contrast, for-profit institutions receive minimal (e.g., via student subsidy) or no public support and no charitable donations and pay taxes, as well. In terms of Figure 1, universities' need to secure resources through market activity therefore increases as one moves from left to right.

With respect to authority: the traditional state institution is in many respects an arm of government; the government-dependent institution accepts extensive government regulation in return for funding. Though private institutions, both for-profit and not-for-profit, may also be subject to extensive regulation by government, (in Zimbabwe, for example, regulations require for-profit colleges to seek the relevant ministry's clearance for each member of staff employed, for every fee increase, and for every curriculum change (Tooley, 1999), they generally enjoy greater autonomy than do public institutions.

Universities are so complex and idiosyncratic that generalization about their organizational structures and behaviour is problematic. Nevertheless one can posit, consistent with Levy's finding quoted above, that institutional management hierarchy is more pronounced in private universities than in public ones, particularly state ones. Anecdotal evidence to support this is that some European governments' relinquishment of direct control over universities was accompanied by deliberate efforts to strengthen what had been very weak institutional management (Bauer et al., 1999).

Management hierarchy also appears to be more pronounced in for-profit universities and colleges than in private not-for-profit ones. According to Ruch (2001):

> The governance structures and processes of the for profit university are based on the values of traditional corporate management. Accountability for certain outcomes is fixed with individual managers, who have both the responsibility and the authority to make decisions. In these environments, governance is not 'shared' in the way the traditional academy has operationalized the term. The reason for this can be summarized in one word—bosses. [Whereas hierarchy of authority is blurred in traditional universities, in] the for—profits, your boss is clearly not your colleague but your superior, and you are his or her employee, subordinate in rank, authority, responsibility and power. (p. 15)

While evidence about resource allocation systems is very sketchy, it appears that the types of system traditionally used in public institutions are inconsistent with responsiveness to markets. At the extreme, many of the expenditures of traditional European state institutions (e.g., salaries) came out of the ministry's budget (Clark, 1983). In other not-for-profit institutions, resources were traditionally allocated on a historical/incremental basis using line-item budgeting. This encouraged units to spend to the limits of their budgeted allocation and provided no incentive for revenue generation or cost control (Jones, 1994). Furthermore, as Brinkman and Morgan (1997) have observed, marginal analysis, which is crucial for reallocation of resources to higher-value programmes, is beyond the scope of most not-for-profit institutions, at least in the U.S.:

> Marginal analysis entails a complex calculus of marginal revenues, costs and values. Done in the manner of a for-profit firm, it requires agreement on a surrogate for 'profitability' and on appropriate ways of determining whether 'returns' are 'adequate.' Better ways of assessing quality and marginal cost would have to be found, too. How many institutions currently have the knowledge to support these calculations? (p. 432)

In recent decades, a substantial number of American universities moved to responsibility-centre budgeting (RCB), in which "units are pushed toward marginal analysis or at least toward comparing the relative value of their various programs and activities in some manner" (Brinkman & Morgan, 1997, p. 433). Private universities and colleges were first to do so. Edward Whalen (1996) lamented that relatively few public universities, to which RCB seemed particularly well suited, had done so, due to lack of leadership from governing boards and executive management, conditions attached to state funding, state administrative requirements and the presence of coordinating boards (Whalen, 2001). The annual resource allocation process in for-profit institutions as described by Ruch (2001), in contrast, reflects standard business practices.

Fundamental differences are also apparent in the capacity of different types of university to set priorities and to control costs. Not-for-profit universities are notorious for their limitless ambitions, their tendency to add new activities onto existing ones (rather than to cease doing some things), and their consequent inability to control costs. Howard Bowen' s revenue theory of cost in higher education (that such costs are revenue-driven because universities raise all they can and spend all they raise) pertains to not-for-profits. Universities' tendency to keep adding on is deeply rooted in shared governance, tenure, academic freedom and assumptions that flow from these about 'property rights' (Massy, 1996) (i.e., the assumption that a programme or activity, once initiated, has a 'right' to continue). There is some evidence (e.g., Geiger, 1991; Levy, 1986) that public universities are more prone to this tendency than private not-for-profits — the latter being more selective in their goals and commitments. In contrast to both types of not-for-profit universities, however, for-profit institutions are focused, quick to move out of unprofitable activities, and rigorous in cost accounting and control (Ruch, 2001; Tooley, 2001).

The accounting practices of not-for-profit and for-profit institutions differ greatly. The former practice fund accounting, the essential purpose of which is to show the extent to which management has complied with the wishes of the government, external donors and the board (Herzlinger & Sherman, 1980). For-profit institutions, in contrast, follow commercial accounting practices (Ruch, 2001), which focus on financial performance rather than stewardship. As Tooley (2001) and Ruch (2001) attest, they also practice rigourous cost accounting and control.

Though generalizations about such complex phenomena are suspect, there is thus reason to believe that the consistency of universities' structures and systems with strategic management also increases from the public sector to the private not-for-profit sector and from there to the for-profit realm.

In sum, there are many types of university. These differ in fundamental ways. Whether a university can be managed strategically (or at all) depends to a large extent on the category to which it belongs. In general, the potential relevance of strategic management to higher education institutions (which is in turn a reflection of their need, authority and organizational capacity to respond to market demand) appears to increase as one moves from the public through the private not-for-profit to the for-profit sector, i.e., from left to right as depicted in Figure 1.

Trends

The potential relevance of strategic management to universities at large can be expected to increase in the future for two principal reasons. The first is a change in the relative importance of the different types of university. The last decades of the twentieth century witnessed a decline in state institutions and a corresponding growth in private not-for-profit and for-profit provision. The principal reason for this appears to have been the inability of governments, particularly in the developing world, to provide sufficient funding to public institutions in order to meet demand for higher education. Most developing countries never developed publicly-funded systems of mass higher education. State institutions served a very small fraction of the population. The cost of expanding these institutions to meet demand from rapidly-growing citizenries vastly outstripped governments' ability to pay. As a result, private institutions emerged to meet the need. According to the World Bank (2002), Latin America, Asia and, more recently, Eastern Europe and Sub-Saharan Africa, have experienced rapid growth in private provision (both not-for-profit, often sponsored by religious or philanthropic organizations, and for- profit). By the mid-1990s, more than 60% of higher education enrolments were in private institutions in the Phillipines, Korea and Indonesia. Between 40 and 60% of enrolments were accounted for by private institutions in Columbia, India, Brazil, Bangladesh, Nicaragua and Paraguay. Private education institutions, prohibited in China until the mid-1980s, accounted for 54% of tertiary institutions in that country in 1998 (Tooley, 2001, p. 22). Growth of private higher education is expected to continue, facilitated by loosening of regulations, in order to meet excess demand (World Bank, 2000).

The growth of private institutions has been much less evident in most OECD countries than in the developing world (World Bank, 2002). Traditionally, for-profit colleges and universities have tended to operate at the margin of the higher education systems of developed countries – providing offerings such as short courses for specific purposes, vocational programmes and exam preparation services (Geiger, 1991). Recent years, have, however, witnessed strong growth in for-profit provision of higher education in the United States. Between 1990 and the late 1990s, the number of for-profit, degree-granting college and university campuses in the U.S. increased by over one hundred percent, from approximately 350 to 750 campuses. During the same period at least 200 non-profit colleges closed (Ruch, 2001). In 1996, approximately 15% of all two- and four-year institutions in the U.S. were for-profit. They accounted for approximately 2.1% of total enrolment and for about 5% of total full-time faculty in the country (Ruch, 2001, p. 4).

The growth of publicly traded higher education companies is a particularly recent phenomenon. Of the 18 private higher education institutions studied by Tooley et al. for the International Finance Corporation of the World Bank, approximately half of which were for-profit and half not-for-profit, 2 were listed companies. NIIT, the largest provider of computer education and training in India, with over 400 centres in that country and annual turnover of approximately $US 73 million in the late 1990s, was listed on the Bombay and Delhi Stock Exchanges in 1993. EDUCOR, a South African company with a combined enrolment of 300,000 students on more than 40 campuses and in distance education, was listed on the Johannesburg Stock Exchange in 1996 (Tooley, 2001). The rise of the publicly-traded higher education company also appears to have been recent in the United States. In 1991, there was only one for-profit postsecondary, degree-granting, accredited institution listed on an American stock exchange — DeVry Inc., which had become a public company that year. Eight years later, there were 40 (Ruch, 2001). Between 1994 and 1999, more than $4.8 billion in private investment capital was raised, through more than 30 initial public offerings and 30 follow-on offerings, for for-profit higher education (Ruch, 2001, p. 6). Of that almost $5 billion, however, nearly $1 billion went to e-learning companies that had flamed out by the end of 2001, according to a senior analyst at Eduventures.com (Symonds, 2001).

In sum, the size of public (particularly, state) higher education relative to the private not-for-profit and for-profit sectors is declining in most parts of the globe. This is one reason that the relevance of strategic management to universities around the world is likely to increase. A second reason is that public universities themselves are under greater pressure to generate revenue from non-government sources.

Whereas public investment in higher education increased in almost all developed countries between World War 2 and about 1980, relative to private funding, it declined in the last decades of the twentieth century. Of the eight OECD countries for which data are available, private expenditures grew faster than public expenditures in seven, (France being the exception). In Canada, Italy, the Netherlands and Switzerland, public expenditures fell in real terms (OECD 2001 in World Bank 2002, p. 68). The effect of this on government dependent universities is illustrated by the situation in the U.K., where reductions in public funding, coupled with government encouragement for entrepreneurialism, led universities to increase the proportion of their total recurrent income accounted for by "earned income" (i.e., from commercial activities and contributions from employers) to as much as one quarter by the mid-1990s (Williams, 1996).

As noted above, need to generate income through market activity is not sufficient for strategic management to be feasible. If a university lacks authority over its offerings or fees, for example, it won't be capable of market activity. Thus, Desruisseau (1999) reported that many leaders of institutions within the League of World Universities:

> felt frustrated by having their hands tied by their government on issues such as charging tuition or raising fees, while at the same time they witnessed private universities 'springing up, many without accreditation and not subject to state supervision …and being flooded with students.' (Lund, 1999, p. 5).

Similarly, an institution whose structure is such that decisions hinge on consensus may not be able to engage in such activity, even if it has need and authority to do so.

Review of the literature suggests, however, that need, authority and capacity are related. In the first place, a need-authority connection is evident. There are indications that as governments

have reduced funding for state institutions of higher education, they have tended to give those institutions more autonomy. Though this pattern may not hold for government dependent institutions (e.g., British and Australian universities, which traditionally enjoyed extensive autonomy, lost autonomy in the late 20th century as government funding diminished (Slaughter & Leslie, 1997; Williams, 1996)), it is evident in Europe, where many governments "stepped back" and eschewed state control for "steering at a distance." This approach has also been taken by governments of countries in other parts of the world and is advocated by organizations like the World Bank (see e.g., World Bank, 2002).

There also appears to be a connection between need and capacity. Public universities, confronted with the need to generate non-government revenue, appear to develop structures and systems that will enable them to do so. For example, numerous British and Australian authors have reported increases in the power of administrators relative to collegial bodies and in the use of institutes and other structures which circumvent traditional departmental decision-making procedures, thereby making possible more timely response to market demand. A second example is in the realm of accounting: As of the mid-1980s, the accounting systems of most British universities "were oriented towards a traditional treasury function concerned mainly with stewardship of funds for the overall institution and annual financial reporting. Thus the costing of activities, the support of iterative planning and budgeting, and formal accountability by regular reporting of segmental costs, were relatively underdeveloped" (Jones, 1994, p. 50) The result was that:

> When universities in Britain began to do contract work on a large scale in the 1980s, their accounting and management systems did not enable them to tell whether or not any income generating activity was really financially worthwhile for them. It soon became clear that often contract research did not even cover its direct costs much less make a contribution to the university infrastructure. (Williams, 1996, p. 52)

In reaction to this state of affairs, the late 1980s and early 1990s witnessed the development of rigorous approaches to costing and much more sophisticated pricing (Williams, 1997). The need for universities to move away from traditional fund accounting toward commercial financial, management and cost accounting — and evidence that such steps are in train — have also been observed on the continental European scene (see Koelman & de Vries, 1999).

A third illustration of an increase in public and private not-for-profit universities' growing capacity to engage in market activity is the launching of for-profit arms by the latter. Prominent American examples include New York University's for-profit School for Continuing Studies, National Technological University's for-profit venture-capital division, NTU Corporation, and Columbia University's digital-media division, Morningside Ventures (Ruch, 2001). According to Warner and Leonard (1997), the trading company is the accepted way to handle all VAT [value-added tax]-attracting activity in U.K. universities.

In sum, strategic management is not applicable to all universities. But (a) the types to which it is relevant are increasing in prevalence, and (b) types of university to which it has not been pertinent in the past (i.e., public universities) may now desire and be able to benefit from its teachings because they need to generate substantial amounts of income from market activities and appear to be acquiring autonomy and developing structure and systems that will enable them to do so.

Strategic management of faculties?

As noted above, firms spanning multiple businesses typically adopt multidivisional structures in which divisions formulate and implement business strategies within the framework of the overall corporate strategy. Although higher education itself is sometimes described as an industry, disciplines and professions differ greatly in content and in the nature of supply and demand for education, research and related services. Does this mean that business strategy should be developed at the faculty level in universities with diverse disciplinary and professional programmes?

As in the case of other diverse organizations, the argument for making effective use of local knowledge about particular markets or fields is compelling. However, desire to capitalize on local expertise is not sufficient for strategic management of faculties. Need, authority and capacity to respond to markets are prerequisites for strategic management at the faculty level, as they are at the institutional level. In the case of faculties, however, these factors are to a large extent a product of institutional structure and policy. Are resources allocated in such a way that faculties need to respond to the markets for their offerings? Do they receive market signals? Do they have sufficient authority over what they provide to manage their affairs strategically or are they subject to central (administrative or collegial) decision-making to such an extent that that is impossible? Finally, do they have the capacity to exercise their freedom to make and implement decisions in response to the market?

Numerous authors have observed that, as public and private not-for-profit universities have had to become more responsive to markets in order to sustain themselves, they have tended to decentralize their budget systems. The steps along the trajectory of budgetary decentralization have been characterized in different ways (see Bourn, 1994; Massy, 1996). Broadly, four steps may be distinguished:

1. *centralized line-item budgeting*, in which the centre allocates general funds to faculties and other units by budget line and the latter units may not shift funds between budget categories. Such budgeting tends to be highly incremental (Massy, 1996).
2. *block budgeting*, in which the centre allocates general funds to faculties and other major units in blocks. The dean is responsible for balancing his or her overall budget but can move funds between categories as he or she sees fit (with the typical exception of controls on academic positions and associated salaries). The size of block grants are typically arrived at by the application of a costing formula (adjusting for inflation, enrolment change, etc) and judgments about the faculty's performance and plans for the future (Massy, 1996).
3. *modified block budgeting*, in which block grants are supplemented by specific revenue-sharing arrangements intended to encourage faculties to engage in some types of activities (e.g., sharing of overhead revenues from contract research or of tuition fees for 'full-cost' programmes). Curry suggests that this situation is inherently unstable for two reasons: (a) the full costs of activities are not apparent, so most deans are convinced that their faculties are subsidizing the rest of the university heavily: suspicion and rancor are rife; and (b) revenue-sharing

arrangements tend to be *ad hoc* and sanctions for non-performance lacking, encouraging "entrepreneurship without accountability." (Massy, 1996, p. 599)

4. *responsibility centre budgeting* (also commonly known in North America as revenue responsibility budgeting and in the U.K. as break-even centre or profit-centre budgeting). In this model, the centre allocates revenue lines, instead of expenditure lines, to faculties and the latter are required to generate revenue sufficient to cover all their direct and indirect costs and any 'taxes' to permit cross-subsidization. As Massy has observed, this system "extends the sensitivity to market forces down through the institution." (Massy, 1996, p. 455)

How are the costs of central administration (e.g., institutional governance and management) and central services (e.g., personnel services, library services) to be covered?

4A. *responsibility centre budgeting with financing of central costs via unallocated funds or taxation*. In this variant, some forms of revenue are not allocated to faculties and other revenue centres, but rather used to fund central administration and services. Alternatively, revenues may be allocated but taxed back for this purpose.

4B. *responsibility centre budgeting with charging of overhead costs to units*. In this variant, revenues are allocated to faculties and other revenue centres and the latter are charged for centrally budgeted indirect costs and overheads in accordance with a methodology based on cost drivers (e.g., enrolment, space usage, staff numbers). Charging out of costs gives faculties incentives to, for example, optimize their use of space in order to reduce overhead charges. At the same time, as Bourn observed, "any dean worth his or her salt will quickly realise that nothing in the charge-out process gives the faculties any direct control over the costs which lie behind the charged-out amounts" (1994, p. 17). Deans will therefore seek to minimize the central activities for which they are charged and to expand the range of services they may purchase within or outside the university or may engage staff to provide. This can lead to:

4C. *responsibility centre budgeting with faculty purchase or provision of services.* In this model, a narrow range of institutional governance and management functions are paid for from unallocated revenues or charged out to faculties. Other traditional central functions (e.g., computing services, library services, student services, facilities management) must compete for the business of faculties, which also have the options of purchasing service outside the university or hiring their own staff to provide it (i.e., which are empowered to decide how these activities will be governed, through market or hierarchical means). The distinction between institutional functions and faculty support services parallels that made in multi-divisional corporations between corporate activities and shared activities (the latter being activities shared by divisions such as common sales forces, manufacturing facilities or R&D functions).

To what extent must a university's budget system be decentralized in order for faculties to manage their affairs strategically? The first (centralized line-item) and second (block budgeting) of the above systems tend to give great weight to history (i.e., to be highly incremental) and to sensitize faculties to institutional priorities, processes and judgments. The third model (modified block budgeting) begins to expose faculties to market forces and revenue centre budgeting does so fully. It would thus appear that a university must have moved at least to the third of the above models for its faculties to begin to manage their affairs strategically.

Model 4A, involving financing of central administration and services from taxation or unallocated funds, might be said to give faculties the need to respond to markets without commensurate authority or capacity. Jones suggested that this was the situation in which the faculties of many British universities found themselves in the early 1990s. He argued that:

While some parallels can be drawn between such enterprises [divisionalized corporations] and universities, they are quite restricted. For example, schools or faculties may have some influence over student mix as between subjects, and the ratios of full funded and fees-only students, and home and overseas students. Spending units can, within budgetary limits, control their spending on departmental grants and capital expenditure. However, such influence tends to be only at the margin because the bulk of costs, salary costs and overheads related to services and space are essentially predetermined. Moreover, the segments of universities have a high degree of interdependence in one of their principal activities — teaching — which is likely to increase as modularity is extended (1994, p. 49).

Brinkman and Morgan (1997) likewise observed that the similarity of the faculties of American 'multiversities' to corporate divisions is limited by the faculties' participation in undergraduate programmes and/or general education programmes which serve markets no one faculty can capture.

Even if a university's budget system brings market forces to a faculty's door, the latter obviously cannot respond strategically if most of its programmes are inseparable from other faculties' or if it lacks the requisite academic and administrative authority and internal capacity.

Thus far, the assumption has been made that universities apply uniform budgetary arrangements to all their faculties, but that is not necessarily the case. It is possible, for example, for one or two faculties to be on responsibility-centre budgeting — and, hence, inclined toward strategic management — in an institution in which block or modified block budgeting for faculties is the norm.

Strategic management may also be relevant to units other than faculties within universities that, as a whole, are not either motivated or able to manage their operations strategically. Common examples of such units include ancillary operations, continuing education units and net revenue-generating 'executive' programmes, which may be organized as revenue centres (i.e., responsibility centres whose actual revenues are measured against budgeted revenues, but not matched with expenditures), profit centres or investment centres.

The role of the centre in a decentralized university

In a university whose faculties are akin to divisions which develop and implement business strategies, how similar is the role of the central administration to the corporate role as depicted by Barney? As noted above, he characterized the strategic role of the centre as being:

- to decide in which businesses the firm should operate;
- to decide how the firm should compete in those businesses;
- to specify the economies of scope around which the firm will operate.

The centre's role in the implementation of strategy is:

- to encourage co-operation across divisions to exploit economies of scope;
- to evaluate the performance of divisions;
- to allocate capital across divisions

The extent to which the central administration of a university is preoccupied with the question of in which disciplines and professions the institution should be engaged — and is active in bringing about diversification, mergers, acquisitions and divestment — is likely to vary by university type. Many of the higher education companies studied by Tooley (2001) and Ruch (2001) had expanded rapidly through start-up and acquisition and intended to continue to do so. For example, Education Management Corporation, a publicly-traded American company (which had 20 campuses in 17 cities in 2000, including art colleges, a restaurant school and a school for paralegal training, with a total enrolment of approximately 25,000) had grown rapidly, principally through acquisition, and planned to open 2 new campuses per year through acquisition or start-up. A second educational company described by Ruch, Quest Education Corp, which operated 30 campuses in 11 states in 2000, specialized in acquiring and turning around failing private colleges (Ruch, 2001). Such companies would appear to conform to Barney's description.

Mergers and acquisitions have also taken place not infrequently amongst public higher education institutions. But most have been either directed or induced by governments (Eastman & Lang, 2001). Although many public universities in North America attempted 'vertical cuts' in the 1980s and 1990s, closing down faculties or schools is notoriously difficult. In other words, divestment by public institutions is rare. As on other dimensions, private not-for-profit institutions may be presumed to fall between public and for-profit ones in frequency of merger, acquisition and divestment activity.

Although deciding in which disciplines and professions to participate does not preoccupy most public institutions, governance of new types of educational and research activities in these fields does appear to be a major contemporary issue. In the realm of e-learning, there are examples of universities creating for-profit subsidiaries (e.g., Morningside Ventures, a for-profit arm of Columbia University, created to market on-line programmes; NYUonline); entering into consortia to pool resources and reduce risk (e.g., Western Governors University, a coalition of 19 western American universities); creating strategic alliances (e.g., Cardean University, a partnership between Unext.com and a number of top American and British universities); and licensing use of content to firms (e.g., UCLA/The Home Education Network; UC-Berkeley/

America On Line). The question of the most appropriate governance framework also looms large with respect to technology transfer and consulting activity, as it did in years past with respect to continuing education, the available models ranging from units within faculties to university offices to subsidiaries to interdependent organizations to independent firms with which the university contracts (Matkin, 1997).

The remainder of the corporate roles identified by Barney appear more equally applicable to the centres of different types of universities, although those roles are likely to be supplemented by that of formulating business strategy for markets (e.g., that for undergraduate education) that span several faculties.

Strategic management: To what end?

Before turning to the applicability of strategic management to contemporary Canadian universities, it is worthwhile to consider for a moment why a university might want to manage its affairs strategically and whom it might entrust to do so.

Although scholars in the field may debate whether or not what a firm does matters, textbook strategic management assumes, as noted above, that superior strategy, effectively implemented, results in superior performance. By far the most common way of measuring firms' performance is by means of simple or adjusted accounting measures such as profitability ratios (e.g., return on assets, return on equity, gross profit margin).

Profitability is an end in itself for for-profit educational institutions. Though it's not its *raîson d'être*, not-for-profits can earn 'profits' — i.e., revenues in excess of expenditures and mandatory transfers — too. Indeed, they must do so. Though they are prohibited from distributing net revenues to owners, not-for-profits "need to generate profits for capital formation, and access to capital is essential for institutional growth, maintenance of quality, and even survival" (Ruch, 2001, p. 90). And, as many authors have observed, universities are driven largely by the quest to do more and better — to expand into new fields, add new programmes, hire more and better people, meet new needs, and so on. For not-for-profit universities, generating 'profit' — though not an ultimate goal, as it is in the for-profit sector — is a means to the larger end of sustaining or building quality, scope and prestige. Indeed, as government funding declines, net market revenue becomes an increasingly important source of finance. Thus, strategic management can assist universities to respond to market demand, institutionally and/or at the unit level, by means of economically sound strategies — and thus to achieve a subsidiary, but nevertheless crucial, resource goal.

Insofar as market success is based on providing superior value to customers, strategic management of universities can also result in more satisfied students and other clients. This will not necessarily — and is indeed unlikely to — entail improved academic quality, as defined by the academic community. Whether or not strategic management results in a better university, as perceived by society, depends on whether or not the university's role is broader than serving students and other clients. If the university does have a broader role, strategic management may diminish its stature, insofar as focus on serving clients leads universities to neglect the production of public goods (i.e., goods which are nonrivalrous (the consumption of which by one individual does not diminish its availability for others) and nonexcludable (the consumption of which by non-payers cannot be avoided). Such goods might include freely available new

knowledge, for example, or the social benefits which result from the education of individuals who aren't able or willing to pay.

Strategic management: By whom?

Most business journalism and much business literature, particularly in North America, assumes that the firm is synonymous with its senior executive, as illustrated by ubiquitous phrases like 'Microsoft takes on…' or 'BMO opts…' The executive is assumed to be able — indeed, to have as its purpose — to decide and implement strategy. As noted above, in for-profit higher education, that is also the case. However, in public and private not-for-profit universities and colleges, it is not, notwithstanding recently reported increases in board and administrative power relative to collegial power in many countries.

In both the traditional Continental European model and the British model, a great deal of power was held by the faculties. The late 20th century witnessed some strengthening of the institutional levels of universities in many European countries (Geiger, 1992), bringing them somewhat closer to the North American tradition of sharing of authority between the board and the senate or other academic governing body. Insofar as governing authority is shared, development and implementation of strategy impinging significantly upon academic matters is beyond the purview of the board and administration. Does that mean that strategic management of not-for-profit institutions is impossible? If shared governance means that no individual or group is capable of making decisions, presumably, yes. But if it means instead that decisions, rather than being made by university officials autocratically are made in consultation or jointly with academic representatives, strategic management, rather than being irrelevant in not-for-profit universities, may be of wider interest. In other words, to the extent that responsibility for strategy development, approval and implementation is shared, strategic management may usefully inform the plans and decisions of more organizational actors. That said, diffusion of authority is likely to affect the feasibility of alternative strategies and the way they can be implemented.

To summarize the argument made thus far: Strategic management can enable universities to improve their financial health and performance by responding effectively to the markets for their offerings. Universities' need and capacity to engage in strategic management vary by type of institution. That said, the field is becoming more relevant even to public universities, which need to generate a greater proportion of their revenue from non-government sources than they did before. The fact that decision-making in not-for-profit institutions is more consultative and participative than in for-profit ones does not negate the relevance of strategic management to the formers' decisions.

Universities involved in diverse disciplines and professions can function like corporations, in which divisions *qua* faculties develop and implement business strategies. For that to occur, however, not only must need, authority and capacity to respond to market demand exist at the institutional level, they must be replicated within the institution by means of decentralized decision-making and resource allocation systems.

Strategic management of Canadian universities?

The need, authority and capacity of universities to respond to markets vary greatly by country, principally because of the immense role of governments in shaping the development of higher education systems. Where do Canadian universities fit in?

Canada is a federation in which constitutional responsibility for education rests with the provinces. Provincial governments set higher education policy and have provided operating funding to universities since 1976, when direct federal grants to universities ceased (Cameron, 2002). There is thus no Canadian university 'system.' The federal government supports universities through transfer payments to the provinces, student assistance programmes, and funding for university research and technology transfer. In recent years, the federal government has invested heavily in the last of these activities.

Canadian universities are not-for-profit corporations established by acts of provincial legislatures. Some were founded by colonial or (after 1867) provincial governments; others, sponsored by churches or private benefactors (Lang, 2001). During the first half of the twentieth century, most were small and essentially private in character and received little public attention. That changed in the aftermath of the Second World War, when governments, the business community and the public became convinced of the vital social and economic importance of higher education (Axelrod, 1982). The resulting injection of public funds fueled massive university expansion in the 1960s and early 1970s and Canadian higher education assumed a decidedly 'public' character. Whereas, in 1959-60, the universities derived approximately 29% of their income from tuition fees, 20 % from federal grants and 35% from provincial grants, by 1976–77, provincial grants accounted for approximately 75%, federal grants had ceased, and tuition fees made up only about 12% of the income of the greatly-expanded university sector (Lang, 2001, p. 17).

Legally independent, but supported principally by public funds, Canada's universities are of the government-dependent type — a type that has traditionally had little interest in or capacity for strategic management. But did Canadian universities, like their British and Australian counterparts, acquire greater need and capacity for strategic management late in the 20th century?

Slaughter and Leslie (1997), studying 'academic capitalism' (i.e., "institutional and professorial market or market-like efforts to secure external moneys"(1997, p. 8) in Australia, Britain, Canada and the U.S. in the 1980s and early 1990s, found that Canadian higher education had not undergone the same degree of change as the other three countries. They wrote:

> Movement toward academic capitalism is far from uniform; indeed, it is characterized by unevenness. Even within the English-speaking countries, there exists a continuum on this dimension, with Canadian academics probably least involved with the market and U.S. academics perhaps most involved. U.S. higher education institutions have always participated to some degree in commercial activity although [ ]the intensification in the last fifteen years has greatly exceeded past involvement…In contrast, higher education in the United Kingdom and Australia has moved rapidly toward the market, the United Kingdom in the mid 1980s, Australia in the late 1980s. (p. 13)

But was Canada different or was it just late? Slaughter and Leslie also observed that:

> the crucial question in the immediate future is whether [the Canadian] model can be maintained, given the size of Canada's national debt. Canada's national debt as a percent of GNP/GDP stood at 40.3% in 1990, almost ten percentage points higher then the other three countries. (p. 62)

Canada's total debt continued to rise in the early 1990s and stood at $545 billion in 1995. In 1994–95, covering the interest costs consumed 26% of the federal budget. The federal government initiated an expenditure control programme and recorded a budget surplus in 1997–98 for the first time in 28 years. Subsequent surpluses made possible reduction of the country's net debt, which peaked at $583 billion in 1997–98, to $536 billion in March 2002. This represented a reduction in the country's debt to GDP ratio from 71% in 1995–96 to 59% in 1999–2000 (Government of Canada, 2001).

Was one result of federal expenditure control that higher education became more exposed to the market? To get further insight into whether Canadian universities' distance from the market changed in the late 20th century, one can look at what happened to their need, authority and capacity to respond to it.

Need to engage in market activity

As in most other OECD countries, government spending on university education in Canada declined in the last decades of the 20th century. The particulars varied from province to province, but, overall, operating funding per student fell from approximately $11,500 per student in 1977 to $7,000 per student in 1997 in constant 1992 dollars. The average reduction in university operating grants between 1993 and 1999 in constant dollars was approximately 20% (AUCC, 1999, cited in Lang, 2001, p. 21).

As government funding declined, universities' dependence on tuition and other sources of revenue increased. During the 1980s, real tuition levels were essentially stable, but during the 1990s, they increased annually by an average of more than 10% nationally, or 120% over the course of the decade (Junor & Usher, 2002, s. 3.II). Whereas in 1980, universities on average received $6.44 in government grants for every dollar of tuition collected, by the end of the 1990s, they received approximately $2.97 for every dollar of tuition collected (Little, 1997, cited in Lang, 2001, p. 12). Other income — including gifts, bequests, investment income, research grants and contracts, sale of services (e.g., parking, bookstores), and other non-government funding — gained in importance, as well — rising from about 5% of total university income to 10% by the 1980s and nearly 25% by 1996–97 (Lang, 2001, p. 17).

Thus, decreases in government funding in the 1980s and 1990s led Canadian universities to become more reliant on tuition fee income and to seek out alternative sources of revenue. At the beginning of the 21st century, their need to generate revenue through market and other activities would appear to be substantial.

Authority over institutional offerings

How, and the extent to which, universities are regulated varies from province to province, but, in general, Canadian universities have been and are relatively free from government control. As independent corporations, they have the capacity to enter into contracts, determine employment arrangements, allocate funds internally, and so on. They and/or their faculty members own intellectual property. (Copyright in literary and artistic works typically resides with the faculty member; patents and copyrights on software may belong to the faculty member or the institution or be jointly owned.)

Canada's universities have not been subject to the close state supervision traditional in continental Europe. Nor, thanks largely to the workings of Canadian federalism (Cameron, 2002), have they been subject to the type of far-reaching higher education reforms introduced late in the 20th century in Britain, Australia and New Zealand. Though these reforms were intended to create pseudo-markets in education and to free institutional managers from bureaucratic regulation, their actual effect was to intensify government control. This is principally because, as Williams explained with regard to the British context, the shift from traditional line item input budgeting to output budgeting was accompanied by tighter and tighter specification of the outputs sought. For example, whereas universities had previously been funded based on enrolments, there came to be "different unit costs for students of different subjects, allocations for successful course completion as well as for enrolment [and] quality threshold criteria." Thus, paradoxically, "the move to output budgets both increases the financial autonomy of universities and colleges and [ ] results in increased state intervention" (Williams, 1996, p. 55) In contrast, the bulk of public funding to Canadian universities is still based on enrolment formulas or across-the-board reductions or additions (Lang, 2001, p. 31). Only two provinces — Alberta and Ontario — employ performance funding; in both cases, only a very small proportion of universities' funding is involved (Lang, 2001, p. 9).

State control over public higher education also grew in the United States during the late 20th century (Kells, 1992; Kerr & Gade, 1989).

In contrast to the governments of other Anglo-Saxon countries, neither the federal nor the provincial governments in Canada succeeded, at least until recently, in harnessing universities to explicit public purposes: the federal government, because it lacks jurisdiction over education; provincial governments, because they lacked the will or because universities and faculty associations managed to frustrate their efforts to exert greater control (Cameron, 2002). Recent federal research and technology transfer programmes appear to promote institutional differentiation and segmentation by concentrating resources in the country's most research-intensive universities, but whether and the extent to which this will affect autonomy is unclear. As of this writing, therefore, Canadian universities appear to enjoy more autonomy than most of their public counterparts elsewhere in the developed world.

Notwithstanding this relative autonomy, the country's universities are constrained in significant ways in their ability to respond to market forces. The nature of the regulations to which they are subject vary from province to province, but typically include approval of new or modified degree programmes by government agencies (in order for enrolments in the programmes to be eligible to be counted for funding purposes) and/or monitoring of institutional mechanisms for review of existing programmes by government or interuniversity bodies.

Most provinces regulate tuition fees in some manner. In 2001–2002, only Alberta, Saskatchewan, Nova Scotia and New Brunswick did *not* do so (Junor & Usher, 2002). No clear trend was apparent late in the late 1990s: while some provinces froze or rolled back tuition fees and two (Ontario and Alberta) that had allowed fees to rise aggressively restrained their growth, British Columbia deregulated tuition fees in 2002–2003. Lang (2001) has suggested that what happened in the 1990s might be described, not as 'deregulation' but as 're-regulation' or 'looser regulation' (p. 2).

The trend in the regulation of international student fees was much more apparent. Prior to the mid-1990s, most provinces had required universities and colleges to charge differential fees for international students, the revenue from which went into provincial coffers for redistribution to the institutions as part of their operating grants (i.e., in a manner that did not favor those institutions enrolling these students). This changed to a policy of allowing universities to set their own international student fees and to keep the resulting revenue. As in many other respects, Quebec is unique among Canadian provinces: its differential fees are 5 to 10 times higher than those charged to domestic students but almost 50% of the international students in the province are exempt from those fees under the province's policy of encouraging francophone students from other parts of the world to attend university in Quebec (Moran, 1996).

In contrast to domestic and international student tuition fees, ancillary fees (i.e., mandatory and/or universal fees levied by an institution to support things like athletic activities, health service, student government, and the like) and mandatory equipment and supplies fees that are course- or programme-specific have traditionally not been regulated in Canada.

Universities are free to set enrolments, but their decisions may have funding consequences. For example, in provinces in which a university's funding is based on an agreed enrolment 'corridor', allowing enrolment to fall below the floor or to exceed the ceiling is likely to have an adverse financial impact. Universities' capacities to manage enrolments also varies by discipline. Enrolments in medicine and other high-cost programmes may effectively be determined by provincial policy.

A final form of regulation — one which has traditionally served to protect the public universities' monopoly, rather than one to which they've been subject — involves degree-granting authority. The approach varies from province to province, but the effect is to prevent private not-for-profit or for-profit institutions from offering programmes without permission from the provincial government or an intermediary body. Until now, Canada's public universities have enjoyed a virtual monopoly. The private institutions that do exist are mostly small and religiously-based. However, several provinces have recently become more open to the provision of higher education by private institutions, not-for-profit and for-profit (Maxwell et al., 2000).

Capacity to respond to markets

The great majority of Canadian universities are bicameral: that is, they have two sources of authority: a board and a senate typically composed of senior faculty members and academic administrators (Jones et al., 2002). This does not represent a marriage of equals, since the board has overall responsibility for the corporation (Hatton, 1990), nevertheless, the board typically has authority over financial and administrative matters; the senate, over academic ones.

The university governance reforms and fiscal and social climates of the late 1960s and early 1970s resulted in more participatory, decentralized and complex university decision-making processes and a reduction in presidential and board power. It appears, however, that during the 1990s, power shifted back to senior administrators and boards and senates' roles in decision-making declined (Jones et al., 2002). Though less pronounced and dramatic, this reflects the same trend toward strengthened management hierarchy evident in the U.K. and Australia — a trend consistent with institutional responsiveness to market forces.

A potential constraint on such responsiveness is faculty and staff unionization. Fifty of the 65 Canadian universities for which information was available in 2002 had certified faculty trade unions. Most of the rest had mechanisms for collective bargaining that include similar provisions, except the right to strike. Some form of binding arbitration is often a feature of these non-union arrangements. Staff unionization is even more pervasive. On the faculty side, very detailed specification of appointment, tenure and promotion procedures, lack of provision for merit in salary policies, and unworkable dismissal and layoff procedures are common, particularly at unionized universities, and contribute to organizational rigidity (Cameron, 2002).

Canadian universities, like their not-for-profit counterparts elsewhere, practice fund accounting. Very little has been written about their budget systems or their approaches to costing and pricing. According to Lang (2001), responsibility centre budgeting remains rare in Canada. Systematic cost accounting (e.g., activity-based costing) also appears to be the exception. This suggests that Canadian universities' budgeting and accounting systems are not particularly conducive to market activity.

In sum, Canadian universities need to obtain new revenues and appear to have considerable and growing authority and capacity to respond to market demand, notwithstanding provincial regulation, shared governance, unionization and traditional budgeting and accounting practices. This suggests that strategic management may be beneficial and increasingly feasible for them.

Strategic management at the faculty level?

As noted above, for a university to operate in a manner akin to a divisionalised corporation, it must have diverse faculties and decentralized authority and budget systems. The Canadian universities with the most extensive arrays of faculties are those referred to by *Maclean's* magazine, in its annual survey and ranking of universities, as 'medical/doctoral' universities, i.e., "universities with a broad range of Ph.D. programs and research, as well as medical schools" (Dowsett-Johnston & Dwyer, 2002, p. 31). (*Maclean's* includes 15 universities in this category, although a 16th, Memorial University, also has a medical school.) Owing to their distinctive intellectual and cost profiles, such universities constitute a 'strategic group' — i.e., a group of universities that faces threats and opportunities that are similar and that differ from those facing other universities in the country.

Do Canada's medical/doctoral universities operate like divisionalized corporations? Are their faculties in a position to manage their affairs strategically in terms of need, authority and capacity? Very little has been written about such universities' budget systems. Recent interviews conducted by this author at four medical/doctoral universities in different parts of the country found that the four operate modified block systems, in which faculties receive blocks or 'envelopes' of funds from the university, as well as access or partial access to some revenue

lines. At all four universities, faculties carry forward surpluses (in one case, up to 5% of their operating budgets) and deficits. The types of revenues to which faculties may have access include shares of: revenue from increased and/or differential tuition fees, international student fees, fees from full cost-recovery programmes, overhead on contract research, licensing revenue, continuing education revenue and faculty-funded 'fee-for-service' activity. At three of the four universities, the trend appeared to be one of devolution of decision-making and budgetary authority to faculties. (At the fourth, some moves toward decentralization appeared to be counterbalanced by centralizing measures.)

Though faculties of major Canadian universities continue to be constrained by central academic (e.g., senate) and administrative authority, it appears that the faculties of at least a few such institutions have some room to manage their affairs strategically.

So, what insights can strategic management offer to medical/doctoral universities and their faculties?

Potential Lessons from Strategic Management

Insights into Strategic University Management

'Business'-level higher education strategy

Strategic management, as articulated by Barney, suggests that a firm's business strategy should:

(a) exploit the opportunities and neutralize the threats it faces – these threats and opportunities arising in large part from the structure of its industry.

(b) capitalize upon the value of its particular resources.

Although higher education is highly differentiated by field and level, it nevertheless constitutes a broad industry. Following Barney, the structure of this industry should inform universities' strategies. Since the development of strategy for the provision of types of education and research that involve multiple faculties (e.g., undergraduate liberal arts education, interdisciplinary research) is likely to fall to the centre, the structure of supply and demand for those are of particular import.

Two frameworks developed by Michael Porter help elucidate the structure of an industry – and hence the strategic options available to firms within it.

What type of industry is this?

The first framework focuses principally on the nature and maturity of demand. Porter identified five types of industry on this basis: emerging, fragmented, mature, declining, and international. To these, Barney added 3 other types of industry: network, hypercompetitive, and empty core. Recognizing that higher education is highly differentiated by field and that different

fields will fall into different industry types, how should the overall Canadian higher education industry be classified?

Amongst the factors that contribute to demand for university education in developed countries are the emergence of the so-called 'knowledge economy' and the increasingly rapid obsolescence of knowledge and skills.

The first of these phenomena refers to the growth, over the course of the twentieth century, of the relative contribution of new knowledge in scientific, technical and related fields to economic competitiveness. According a recent World Bank report:

> The ability of a society to produce, select, adapt commercialize and use knowledge is critical for sustained economic growth and improved living standards. Knowledge has become the most important factor in economic development. (World Bank, 2002)

Highly educated individuals, particularly in scientific, technical, business and related fields (Slaughter and Leslie, 1997) are thus in strong demand. Although the percentage of adults with postsecondary qualifications in industrial countries rose from 22% in 1975 to 41% in 2000, this did not satisfy the demand. Labour market studies in Canada, the U.K. and the U.S. report continuously rising demand for young workers with college or university education. For men between the ages of 26 and 30, the wage premium associated with the completion of postsecondary education increased threefold in the U.S. and the U.K. between 1980 and 1996 and almost doubled in Canada (World Bank, 2002, p. 26). The impact of higher education on individuals' employment and income prospects naturally contributes to demand for it.

A corollary of the rapid advance of knowledge is that existing knowledge quickly becomes obsolete. Earning a degree may lead to employment but it is not sufficient for a career. To keep their knowledge and skills current, employees need to update their knowledge and skills periodically. Corporations invest heavily in employee training, as well (Merrill Lynch, 2000). The extent of their investment is illustrated by the fact that there are approximately 1,600 "corporate universities" in existence today, up from 400 ten years ago (World Bank, 2002, p. 34). Corporate universities of course represent only one of many types of corporate investment in education and training.

Though the advent of the 'knowledge economy' augurs well for universities generally, Canada is not characterized by the excess demand for higher education that exists in many countries. For one thing, the rate of growth of Canada's population has slowed. The country's population grew by only 4% between 1996 and 2001. Though well above the average rate of population growth of developed countries (1.5%), this is much less than that of less developed nations (8.4%) (Statistics Canada. 2001a). Secondly, Canada has a well-developed system of mass higher education. Total enrolment in Canadian universities went from about 35,000 in 1930 to 70,000 in 1955 (Cameron, 2002, p. 147) to almost 900,000 in the early 1990s (Junor & Usher, 2002) before dipping for the rest of the decade (due to a decline in part-time enrolments). Many new universities were created in the 1960s, but since then the bulk of university enrolment expansion was absorbed by existing institutions in most provinces.

Access to higher education in Canada is now very high. In 1951, just 2% of the Canadian population over the age of 15 had education beyond high school. Now, 20% of the working age population has had a university education. In this regard, Canada ranks fourth in the world, (the

comparable figures being 28% in the U.S., 26% in Norway and 21% in the Netherlands), according to the OECD (Statistics Canada 2001b). Canada ranks first amongst OECD countries in the proportion of its population aged 25 to 64 with either a university or a college education (41%, compared to 37% in the U.S., 36% in Ireland and 34% in Japan) (Statistics Canada 2001b). The percentage of persons holding university degrees — 26% of the 25 to 29 age group — is correspondingly high and continuing to rise (Lang, 2001, p. 10). Particularly impressive are the rates of participation of women in university education, which rose dramatically during the 1980s (Junor & Usher, 2002) and, by 1999, were 44% greater than that for men (20.5% versus 14.2%) (Lang, 2001, p. 12). Although students from wealthier families and whose parents are university-educated are more likely to attend university than students from families with less income and education, it appears that much of the recent growth in university enrolment has come from students whose heritage is neither French nor English and whose parents are not well-to-do (Lang, 2001, p. 12).

These phenomena — slowing growth in total demand, the development of experienced repeat customers (in the form of students whose parents attended university) and slowdown in growth of capacity — are characteristic of a mature industry. Their extent varies from province to province. For example, whereas the national university participation rate for 18- to 21-year-olds was just over 17% in 1998-99, the rate was 34% in Nova Scotia, approximately 20% in Ontario and in Saskatchewan, and 12% in British Columbia. (Nova Scotia's exceptionally high participation rate reflects the presence of out-of-province students at its universities, but even if out-of-province students were excluded, its participation rate would be between 25% and 30% (Junor & Usher, 2002).

Accordingly, while Nova Scotia sought in the 1990s to reduce the number of institutions of higher education institutions in the province, British Columbia created new institutions to improve access. A further differentiating factor is demographic: whereas the populations of Ontario and BC are growing (with rates of growth of 6.1% and 4.9%, respectively, between 1996 and 2001), that of Saskatchewan is decreasing (declining by 1.1% during the same period) and that of Nova Scotia, static (Statistics Canada 2001a). Similarly, underserved groups — for example, aboriginal people, whose participation and attainment rates lag behind those of the rest of the population (Junor & Usher, 2002) — are not evenly distributed across the country.

Thus, the market opportunities faced by a university in Nova Scotia — a province with a very high participation rate and a stagnant population — differ considerably from those of a university in Saskatchewan, with a declining overall population but a large aboriginal one, and from a university in British Columbia, where university spaces for the growing population are in short supply.

Notwithstanding these interprovincial differences, the Canadian market for university education can overall be characterized as mature. Furthermore, Canadian spending on higher education remains high relative to other countries. According to 1995 OECD data, Canada spent a higher proportion of its GDP (2.5%) on postsecondary education than did any other OECD member. (The OECD average was 1.3% and the comparable US figure 2.4%.) Given that a higher proportion of funding for higher education comes from governments in Canada than in the U.S., Canada probably ranked first in public spending on higher education that year, as well (Bakvis & Cameron, 2001, p. 94). This suggests that — although numerous provinces have

moved to fund the expansion of specific (principally professional or technical) programmes — a significant injection of public funding into general university education is unlikely.

What options does this leave Canadian universities with? The principal opportunities for firms in mature industries involve refining existing products, improving service quality, and introducing process innovations to reduce production costs and/or improve production quality (Barney, 2002, p. 116). Though, as noted above, not-for-profit universities are structurally unsuited to pursue cost leadership strategies, product differentiation through refinement, service and process innovation may all be suitable strategies to maintain or increase share of, and reap increased net revenue from, the domestic — particularly, the general undergraduate — market. A second broad option is to placed increased emphasis on specialized programmes and services, the domestic markets for which are not yet mature — a possibility that will be returned to below. A final possibility, followed by many firms in mature industries, is to move into international markets — a so-called market extension strategy. This possibility is worth considering, because, notwithstanding the temporary existence of excess demand for university education in Canada owing to the so-called 'double cohort' of Ontario high school graduates, overall demand for university education appears stronger outside the country than inside it.

Merrill Lynch, extolling the merits of investment in e-knowledge industries, forecast in 2000 that "global demand for higher education [will] reach 160 million by 2025," up from the "84 million students enrolled in higher education worldwide today" (Merrill Lynch, 2000). A major factor in this projected growth is unmet demand for higher education in the developing world. Access to higher education in much of the developing world remains limited, notwithstanding rapid recent enrolment growth. Whereas in the 1940s and 1950s, few people in developing countries pursued higher education, by 1980, there were 28 million students enrolled in higher education there. By 1995, the number had risen to 47 million. They accounted for approximately half the world's higher education students at the turn of the century (World Bank, 2000). In spite of this growth, the enrolment gap between developing and OECD countries has increased, rather than diminished. Whereas in 1980, the postsecondary enrolment rate in the U.S. was 55%, compared to 5% in developing countries, by 1995, it was 81% in the U.S. and 9% in developing countries. Postsecondary enrolment rates remain low in some of the world's most populous countries — for examples, China (5% in 1997) and India (6%) (World Bank, 2002). Given that access to higher education in the developing world remains very limited, growth in demand is expected to continue.

Canada exports more university education than it imports. In 2000–2001, approximately 64,000 international students came to Canada to pursue postsecondary education (44,000 of them to pursue university education), while approximately 30,250 went to study at universities and colleges abroad (Junor & Usher, 2002). The Department of Foreign Affairs and International Trade estimated that international students contributed approximately $3.5 billion to the Canadian economy in 2000 (AUCC, 2002).

South Korea, the United States, France, China and Japan provided the greatest numbers of students. In contrast, more than three-quarters of Canadians studying abroad go to the United States (Junor & Usher, 2002).

According to the AUCC (1999), most international students in Canada study in the social sciences, general arts and sciences, and engineering and applied sciences. Within those broad categories, most students take commerce, followed by economics and computer science.

International enrolment tends to be concentrated, particularly at large universities. In 1999–2000, three universities (McGill University, l'Universite de Montreal and l'Universite du Quebec) accounted for more than 25% of international university enrolment.

International enrolments at Canadian universities have fluctuated substantially over the past 30 years. The number of full-time international students increased steadily during the 1970s and first reached 30,700 in 1983. It decreased markedly over the next few years, before creeping back up to 30,000 in the early 1990s, only to fall again (AUCC, 1999). The 2000–2001 figures exceeded those of a decade earlier only as a result of a string upward spike in enrolment at the end of the decade (Junor & Usher, 2002).

The national figures obscure significant differences between provinces. Whereas the number of international students at B.C. universities and colleges increased steadily and very substantially during the 1990s (for a cumulative percentage change of more than 100% over the course of the decade), and those in Saskatchewan and Nova Scotia increased by between 20% and 35%, international enrolments in postsecondary institutions in Ontario fell by more than 25%. In 1998-1999, international students constituted the following percentages of total university enrolment in these provinces: British Columbia: 6.4%; Saskatchewan: 4.0%; Ontario: 3.8%; Nova Scotia: 5.7% (Junor & Usher, 2002).

Although Canada has a positive balance of trade in international education, it lags behind the United States, France, Germany, Britain and Australia in the extent to which it serves international markets. In 1995, the U.S. had most international students — 34% of all international students in OECD countries — France had 13%, Germany and Britain, 12% each, Australia, 7% and Canada and Japan, 4% each. (Notwithstanding the differences in the countries shares of international enrolment, international students made up approximately the same proportion of all university students in Canada and the U.S. — just over 3%) (AUCC, 1999, p. 65).

The major host countries have very different attitudes and policies. As of 1996, neither France nor Germany charged differential fees, wishing to encourage enrolment by students from abroad largely for national and cultural reasons. In contrast, British and Australian universities had been aggressively earning income through the recruitment of full-fee paying students since the early (in Britain's case) and late (in Australia's case) 1980s. (Moran, 1996) The results of their efforts were dramatic. In Australia's case, the number of full-fee-paying foreign students increased from 1,019 to 30,296 between 1987 and 1992. In 1993, foreign students spent $1.7 billion in the country, making education one of Australia's major export earners (Rhoades & Smart, 1996, p. 135). A recent publication of the American Council on Education and the European University Association (Green et al., 2002) characterizes Anglo-Saxon countries as the most aggressive exporters of higher education. The report quotes van de Wende (2001), who observed that:

> With English as the *lingua franca*, [the Anglo-Saxon countries'] flexible degree structures, more student-centred approaches, strong traditions in distance learning, off-shore delivery strategies (especially the U.K. and Australia), their (differential) fee systems, which provide incentives to institutions to actively market themselves, also overseas, and governments that actively support international marketing strategies, they have an undeniable foothold in the international market.

Largely because of provincial government policies that provided no financial incentive to Canadian universities to enrol international students in the 1980s and early 1990s (Moran, 1996), Canada has been a latecomer to this game. A survey of its members conducted by the Association of Universities and Colleges of Canada in 1993 did not list revenue generation amongst the possible rationales for internationalization. A repeat survey conducted in 1999 did include revenue generation amongst a list of 6 possible reasons for enrolling international students. It ranked third in the frequency it was identified as one of the three most important reasons (behind "to integrate domestic and international students in and out of the classroom" and "to increase institution's profile and contacts in target countries") (Knight, 2000, p. 53). The author of the survey report wrote that, "while academic rationales continue to have prominence, the need/desire to generate income has become more important during the last six years" (Knight, 2000, p. 87). Though many universities appeared eager to recruit more internationally, in part for financial reasons, a majority lacked models for calculating the costs of recruiting and educating international students and/or income-sharing models. Only 21.1% of responding institutions said that they had a costing model and 18.6% that they had an income-sharing model in place. Although another 15.8% and 15.3% respectively indicated they were developing such models (Knight, 200, p. 58), this suggests that most Canadian universities and colleges were either recruiting international students for reasons other than revenue generation or were at an early stage in the development of international education as a revenue source.

Further support for this view was provided by the responses to questions about the delivery of education and training programmes outside Canada by means including distance education, offshore campuses, and twinning or other programmes, and the provision of products and services including consulting, software and franchised programmes or course materials. Only 42% of the responding institutions indicated they were actively marketing and exporting educational products and services. Within this group, 29% described their current level of activity as low, 62% described it as medium, and only 8% reported a high level of activity (Knight, 2000, p. 66).

The most common type of academic programme offered abroad consisted of distance education (134 programmes offered by 22 Canadian institutions in more than 40 countries on 5 continents, primarily at the undergraduate or certificate level and in fields such as business, education, nursing and information technology), followed by programmes jointly developed and delivered by Canadian and local instructors (50 programmes offered by 19 Canadian institutions in a wide range of countries, principally certificate programmes in areas including business and science), followed by programmes developed and delivered outside Canada by Canadian instructors (32 programmes offered by 13 institutions, principally at the master's level in business and management), programmes involving a combination of distance education and direct contact with Canadian instructors outside Canada (21 programmes offered by 7 institutions, principally at the diploma or master's level in fields such as information technology, environmental studies, education and management), "twinning programmes" — Canadian programmes delivered in co-operation with local institutions — (21 offered by 12 institutions in a wide variety of fields and levels, frequently in East Asia) , and finally, joint degree programs (10 offered by 8 institutions, in Egypt, France, Thailand and Mexico, at the graduate level in fields including engineering, business and social development) (Knight, 2000, pp. 69–70).

Though Canadian universities are increasingly interested and active in serving international markets, the competition is fierce and the endeavour fraught with uncertainty and risk. Many developing countries are concerned about the provision of low-quality offerings by foreign institutions to their citizens, as well as about the extent of fraudulent activity (World Bank, 2002). There is also concern about the threat to national cultures and higher education systems posed by the "McDonaldization" of higher education (Green et al., 2002). Conversely, exporting institutions and countries are concerned about reluctance to recognize credits and credentials and about protectionism on the part of other nations. In December 2000, the United States first proposed that higher education be included in the General Agreement on Trade in Services, negotiated under the auspices of the World Trade Organization. The GATS is a legally enforceable multilateral agreement covering international trade in services. Australia, New Zealand and Japan have also presented proposals on higher education. What will emerge from the negotiations is as yet unclear. (Green et al., 2002). There is also uncertainty and controversy about the international application of intellectual property rights — with many exporting institutions arguing for strict commercial protection of ownership and others favouring a 'public goods' model which would make access to educational materials available to students and institutions, particularly in the developing world, at low cost (World Bank, 2002).

Nevertheless, the strength of international demand for higher education, coupled with the maturity of the Canadian market, suggest that international strategies are worthy of Canadian universities' consideration, along with the pursuit of product differentiation through refinement and service and process innovation, in order to maintain or increase share of, and reap increased net revenue from, the market. How do these broad suggestions compare with what Porter's second framework, which focuses more on supply factors, would suggest?

Threats

The "five forces" model developed by Porter, building on earlier work in the field of industrial organization, suggests that five characteristics of an industry threaten a firm's capacity to earn returns greater than those achievable under perfect competition. Those characteristics, as described by Barney (2002), are:

1. *The threat of entry:* This threat — that new firms will enter a profitable industry, intensifying competition and reducing profitability — is reduced when there are barriers to entry. The latter typically originate in: economies of scale; product differentiation (i.e., the existence of brands to which customers are loyal); cost advantages independent of scale (e.g., proprietary technology, favorable access to resources or locations, or know-how); contrived deterrence; and government regulation of entry.
2. *The threat of rivalry:* The level of rivalry or intensity of competition in an industry tends to be high when: (a) there are a large number of firms of relatively equal size; (b) industry growth is slow; (c) products are undifferentiated (leading to competition on the basis of price); and/or (d) production capacity is expanded in large increments (leading to periods of oversupply).

3. *The threat of substitutes:* This threat is high when there are other products or services capable of meeting customers' needs.
4. *The threat of suppliers*: The capacity of suppliers to siphon off a firm's profits by increasing their prices or reducing the quality of the goods or services they supply depends on factors including the number of suppliers and the availability of substitutes for the suppliers' product.
5. *The threat of buyers*: The capacity of buyers to force prices down is greatest when: (a) there are few buyers; (b) products are not differentiated; (c) buyers themselves are not earning significant profits; (d) the cost of the product in question accounts for a significant portion of buyers' costs; and (e) buyers are capable of backward vertical integration (i.e., of supplying themselves).

The greater the number and severity of threats in an industry, the more its dynamics approach perfect competition and the less likely it is that firms will be able to earn greater than normal economic returns.

How great are the threats to Canada's medical/doctoral universities?

The threat of entry

With respect to entry, one must distinguish between the emergence of new medical/doctoral universities, on one hand, and entry by new players into particular fields, on the other. The former is much less plausible than the latter.

There are two possible sources from which new medical/doctoral universities might emerge: the public sector and the private sector, not-for-profit or for-profit. (In the latter connection, Stone (1990) described attempts in Australia in the late 1980s to establish universities that would pay for themselves or generate profits through ancillary real estate, research parks and recreational and tourist potential.) There are major barriers to entry from both sectors. The principal barrier to the emergence of private medical/doctoral universities is the extent to which public ones are subsidized in Canada; the primary barrier to new public entrants is government policy.

For-profit entry. As Winston has explained, the extent to which a university or college is subsidized by government and private sources represents the minimum cost reduction necessary for an entering for-profit institution to compete with it at a competitive price and still make an economic profit (Winston, 1999). Thus, highly subsidized institutions like Canada's medical/doctoral institutions are much less vulnerable to across-the-board for-profit competition than are institutions like those private U.S. colleges that attract few private donations and little government subsidy.

How do for-profit institutions manage to compete with subsidized ones at all? One element of their strategy is to focus squarely on students' and prospective employers' satisfaction, thereby keeping costs down. According to Ruch (2001, p. 86), the average costs to the institutions of educating an undergraduate student for 2 semesters in 1997–98 were the following at public, private (not-for-profit), and for-profit institutions in the United States:

Public: $17,026

Private: $23,063

For-Profit: $6,940

(The for-profit figure is for DeVry Institutes of Technology. The other averages were based on data from the National Center for Higher Education Statistics.) How do places like DeVry (which, in 2000, had approximately 50,000 students at 19 DeVry campuses in the United States and Canada and at 35 sites of the Keller Graduate School of Management, in programmes from the certificate to the master's level) do this? Since they do not provide tenure to faculty members and do not operate on the basis of shared governance, such companies are able to move in and out of areas of activity quickly, in response to changes in demand and profitability. They control costs tightly, eschewing expenditures (e.g., on athletic or recreational facilities) that do not relate directly to their students' academic success. According to Ruch, whereas not-for-profit universities and colleges in the U.S. have tended to compete by adding expensive amenities that may have little to do with education:

> the for-profits...keep costly amenities to a minimum by offering a no-frills option, allocating resources instead to expenses that have a direct relationship to students' education, such as classroom facilities, instructional laboratories and educational technology. (Ruch, 2001, p. 86)

They do little or no research (other than curriculum or instructional technology-related R&D). Ortmann found in a survey of American market analysts who follow the education industry that:

> [A]nalysts consider it to be important that publicly traded education companies operate under a 'pricing umbrella' spanned by inefficiently run public and private non-profits, which allows them to increase prices at or above the rate of inflation. …[T]he use of the adjective 'inefficient' here refers to faculty paying too much attention to their research instead of teaching. (2001, p. 298)

In other words, for-profits' single-minded focus on meeting clients' educational needs enables them to achieve major cost reductions, even in the absence of scale.

Winston suggests that high-subsidy institutions are relatively immune from for-profit competition because the height of their subsidies corresponds, if imperfectly, to "how much better students' perception of [a for-profit entrant's] product would have to be in order for [the students] to feel they were getting as good a deal [from it] as from the traditional school" (1999, p. 4 of 12). In contrast, he predicts that low-subsidy universities and colleges, which have until now tended to increase their expenditures in the quest to move up in the prestige hierarchy, will increasingly come under pressure from educational companies to reduce their costs.

If for-profit institutions gain a significant foothold in Canada, this pressure may take a particular form: those universities which are unable to remain competitive in research may be forced to curtail or abandon it. The financial implications of university research in this country have changed substantially with the federal government's recent willingness to fund indirect costs of research. To date, grant-funded research has represented a financial drain on universities: the more successful they were in attracting grants, the more costs they had to absorb. Funding of indirect costs would change that, but — as will be noted below — it is becoming increasingly difficult for the majority of the country's universities to remain players in

the research game. At institutions that are unable to maintain their shares of external research funding, the traditional proposition that a faculty member should spend a substantial fraction of his or her time on scholarly research may come into question.

Though medical/doctoral universities — as highly-subsidized, research intensive institutions — may be relatively immune, they are nevertheless vulnerable to what Winston describes as "for-profit functional cherry-picking" – i.e., competition to provide programmes and courses that are minimally subsidized or that generate net revenue and on which companies can make a profit. Winston suggests, building on the work of Oster, that whether or not a company can make a profit on an educational activity depends largely on the complexity of the activity's goals and whether or not there are scale economies (Winston, 1999). Ruch's description of for-profit educational institutions' *modus operandi* — as involving complete standardization of the curriculum, deployment of faculty members as "delivery people," and systematic measurement of students and faculty members' performance — lends support to the view that goal complexity militates against for-profit provision, i.e., that 'training' is more amenable to for-profit provision than is 'education.' This need not be 'low-level' training. One of the companies profiled by Ruch, Argosy Education Group, provides doctoral education in psychology. It is the largest provider of graduate education in psychology in the United States, graduating 360 doctoral students in 1998 (Ruch, 2001, p. 38). This suggests that training in other health professions may be amenable to standardization. Thus, as medical/doctoral universities in Canada seek to sustain themselves by recovering their costs or generating net revenue on particular programmes and courses, they may encounter competition from for-profit institutions, to the extent that that is permitted by provincial regulation of degree-granting authority. At a minimum, the emergence of such competition would force the universities to get a better grip on the net costs of their programmes and courses.

Public entry. The public sector is also a source of potential new medical/doctoral universities. Isomorphism is an extremely strong force in public higher education. Many institutions aspire to move up in the pecking order — and medical/doctoral universities tend to be at the top. The principal obstacle to entry into the group is government policy. As noted above, in many provinces, government bodies must approve proposals for new degrees in order for enrolments in the latter to be counted for funding purposes. Since, as David Cameron (2002) put it, "the postsecondary boom of the 1950s and 1960s turned to bust in the 1970s" (p. 150), provincial governments have sought to curb the proliferation of expensive professional and graduate programmes — the very feature that distinguishes medical/doctoral universities.

Current federal policy is increasing the height of the barrier to entry. Traditionally, there has been little differentiation amongst Canadian universities: Relative to most other jurisdictions, the hierarchy has been flat. Recent initiatives by the federal government, however, are concentrating resources at the country's most research-intensive universities. For example, almost one third of the 2,000 Canada Research Chairs announced in the 2000 budget will go to the three most research-intensive universities (the University of British Columbia, the University of Toronto and McGill University) and almost three-quarters will go to the top fifteen (Cameron, 2002, p. 160).

Given that most medical/doctoral universities are research-intensive, it will become increasingly difficult for other types of public university to close the gap and join their ranks.

Foreign entry. What about the possibility of foreign universities and colleges recruiting Canadian students to study abroad? Do they constitute a threat to entry? The number of Canadians studying abroad increased by 50% during the 1990s, but the total number remains small (approximately 30,000 in 1998–99) (Junor & Usher, 2002). Although the specter of the loss of Canada's top students to prestigious American institutions has been raised, other factors (e.g., programme availability, athletic scholarships) also contribute to the net outflow of students to the U.S. (Junor & Usher, 2002). In any case, given the breath of public higher education in Canada and the extent to which it is subsidized, mass exodus is unlikely. Whether distance education originating abroad is a threat will be dealt with under the heading of 'Substitutes' below.

Subsidy and government policy are not the only barriers to entry. Product differentiation (notably, the importance of 'brand' in higher education); professional regulation; economies of scale and scope; sources of cost advantage independent of scale (e.g., the possession of valuable locations and land by existing institutions); and customer switching costs (e.g., barriers to transfer of credit); all protect medical/doctoral universities from new competition.

In sum, the threat of across-the-board competition to medical/doctoral universities from new entrants is small to nil. To the extent that provinces permit degree-granting by for-profit institutions, however, universities may be vulnerable to for-profit competition in the provision of programmes and courses which are minimally subsidized or generate revenue and/or which are amenable to standardization and other forms of cost reduction.

The threat of rivalry

Medical/doctoral universities have different rivals in the different markets in which they operate. In the undergraduate education market, their traditional rivals include local, primarily undergraduate universities and comprehensive universities, as well as institutions such as themselves. In the graduate education market, their rivals include similar institutions across the country and abroad. In the continuing education market, they may include for-profit providers, professional associations and community colleges. As noted above, universities may face new for-profit competition in markets for particular types of degrees.

In general, the extent of domestic rivalry between public institutions is a function of the adequacy or scarcity of students and of government and private funding.

Given the maturity of the Canadian market for university education, competition between universities is likely to intensify as the number of students seeking university admission shrinks in the wake of the double cohort, particularly if provincial governments continue to reduce real spending per student. That said, rivalry will continue to be moderated by institutional loyalties and reputation. The growing gap between medical/doctoral and other types of university can also be expected to shield the former from rivalry to some extent.

The threat of substitutes

One substitute for attending university is engaging in distance education. New technology greatly enhances what can be offered at a distance. And large sums of money have been invested in the development of on-line courses and degrees. Merrill Lynch reported in 2000 that "creating

an effective, engaging online course can cost up to $1 million, with entire programs easily costing tens of millions of dollars" (p. 187). Many of the institutions and companies that invested heavily in online business education in the late 1990s subsequently scaled back their efforts, moved into other areas, or went bust. Underestimated start-up costs, overestimated short-term demand, and the dot.com meltdown are some of the factors cited for their setbacks (Mangan, 2001). But the fundamental unresolved question is perhaps: for what is online education a substitute?

Although a number of élite universities around the world have developed extensive online distance offerings, many (Symonds, 2001) appear to be of the view that such programmes are not their sort of thing. In other words, on-line education is not a substitute for what they provide, either to young people studying on campus or to mid-career individuals seeking professional development, though it may well supplement or complement traditional forms of education.

There are, however, major markets for distance education. One is in developing countries, where such education — via radio, television or the internet — expanded greatly during the 1980s and 1990s. The five largest distance education programmes in the world, all based in developing countries, collectively enrolled approximately 2 million students in 1997 and accounted for about 10% of enrolment growth in those countries during the previous two decades (World Bank, 2000). As the necessary infrastructure is developed, new satellite- and internet-based technologies can be expected to greatly expand the numbers of students reached by such programmes, expanding access at relatively low cost.

There is also a market for distance education in developed countries. In the United States, for example, approximately 2 million students took higher education courses online in 2001. (Symonds, 2001) Older students — most typically, women with families and jobs — were most drawn to distance education (Carnevale, 2002). A growing number of online institutions, for-profit and not-for-profit, are serving what has been described as "the convenience market," composed of working adults with little time who want fast, convenient access to degree programmes. The University of Phoenix, for example, which traditionally offered classroom-based education, has created Phoenix Online. In 2002, it had 49,400 students (representing 70% annual enrolment growth), brought in $327 million, and reported net income of $64.3 million (Olsen, 2002).

Given that the "convenience market" in developed countries and students in developing world constitute markets not served by many Canadian universities to date, the emergence of online education as a substitute for university attendance may represent an opportunity for them, rather than a threat. The temptation is to use the power of one's brand to capture a share of these markets. The difficulty is how to do so without undermining one's position in one's core market.

According to *Business Week*, "the big e-learning winners so far [in the U.S] are the traditional nonprofit universities," which had captured 95% of online enrolments by 2001, while many for-profit e-learning companies struggled with lack of name recognition and accreditation (Symonds, 2001, p. 80). Most active in the e-learning market were state and community colleges with strong brand names, accreditation and a tradition of extension programmes. In contrast, many elite universities appeared to be cautious about diluting the value of their names by entering into the field. *Business Week* quoted Professor W.E. Sasser, Chairman of HBS Interactive, which develops e-learning programmes for companies, as saying, "We will never offer a Harvard MBA online" (Symonds, 2001, p. 80). Other prestigious universities appear to

have found ways of entering the market without undermining their brands. For example, Duke University's School of Business offers online MBAs in which 65% of the work is done online (for up to $90,000) (Symonds, 2001). Mangan (2001) reports that Duke created a spin-off company for this purpose, which gives it more flexibility in hiring (e.g., to offer faculty members higher salaries, to hire for short periods, to offer employees equity in the company).

Another option for universities seeking to enter the online education market is the consortium. Textbook strategic management suggests that the risk and uncertainty associated with the reception of online education, coupled with the very high development costs, argue for the adoption a strategy of flexibility by universities wishing to exploit this opportunity. This involves building into a strategic investment options such as that to defer, that to grow, to contract, to shut down and re-start, and to abandon (Barney, 2002). Such a strategy requires forms of organization that are flexible, which units of public universities are typically not. This suggests that universities wishing to move strongly into the field are likely to use structures at a remove from their cores, e.g., non-faculty continuing education units, subsidiaries and strategic alliances. This is consistent both with Duke's approach and with the formation of consortia by other major universities to develop online offerings. Universitas 21, for example, is a consortium of major universities around the world (of which two Canadian universities, the University of British Columbia and McGill University, are members). It formed a joint venture with Thompson Corporation to develop an online MBA programme, in which the consortium and the corporation have each invested $25 million. Its American and European members are insulated geographically, as well as structurally, from its operations, because it will not offer its programmes in the United States or Europe (Arnone, 2002). This presumably restricts the extent to which what 'it' does will detract from what 'they' do. Nevertheless, Universitas 21 has attracted controversy on the campuses of many participants. Faculty unions in five countries have complained that Thomson is developing the courses and that member universities' professors have no involvement in doing so. (Universitas 21 has created a subsidiary company, Pedagogica, the role of which is to evaluate the courses developed by Thomson). Another source of controversy is that business schools and other faculties within member institutions are likely to be subject to pressure not to compete with its offerings (Arnone, 2002). Whereas the University of British Columbia and McGill University are members of Universitas 21, the University of Toronto pulled out in 2001. It was a founding member of the consortium in 1997, when the latter's stated aim was to enhance collaboration between members in research and to promote student and faculty exchanges. It withdrew because it did not agree with the proposal to develop and market online degrees and had been advised by its legal counsel that it would share liability for any problems with the online project if it remained a member of the consortium, even if it did not participate directly in it (Arnone, 2002).

The threat of suppliers

The fourth type of threat in Porter's 'five forces' model is that of suppliers who are able to increase the price, or decrease the quality, of the products they provide. Some suppliers of specialized products to universities do raise the latter's costs, because they dominate their industries and produce differentiated products for which substitutes are lacking. Publishers of scholarly journals are a prominent example. Manufacturers of scientific and clinical equipment are also able to charge high prices to university clients. Problematic as this is, such costs do not

represent a sufficiently high proportion of universities' costs to threaten their performance. Furthermore, universities have been able to reduce the threat of some types of suppliers to a limited extent by acting collectively.

A more immediate threat to Canadian universities is the supply of faculty members. There were at least 10% fewer faculty members at Canadian universities in 1999 than in 1992 (Lang, 2001, p. 35) and a wave of retirements was on the horizon. According to the Association of Universities and Colleges of Canada, the universities collectively needed to hire between 2,500 and 3,000 new faculty per year between 1999 and 2005 in order to provide replacements and deal with enrolment growth. (Cameron, 2002, p. 161). Although the extent of the faculty shortage will undoubtedly vary between fields, inability to attract qualified faculty members in high-demand disciplines at salaries they can afford — and to retain their best people — can be expected to be a real threat to the performance of many universities and colleges.

The threat of buyers

Governments clearly pose the greatest threat to universities in Canada. By determining funding levels, controlling tuition fees in many provinces, deciding on the tax treatment extended to private gifts, negotiating international trade agreements, and many other means, they very largely determine the adequacy of the resources universities have available to them. Students and their parents can also be a threat, insofar as they are able to resist tuition fee increases, but, again, successful resistance tends to require government action, e.g., imposition of a freeze on or rollback of fees.

Medical/doctoral universities can reduce their financial dependence on government by diversifying their revenue sources, but success in doing so may make them appear more like their profit-making counterparts, thereby lessening their claim on public support. They can lobby for lessening of the regulations to which they are subject, but they rely on regulation of degree-granting authority and of publicly-funded programmes to protect them from competition from other public and from private institutions. The threat posed by government may perhaps be lessened, but it cannot be removed.

In spite of that, the environment in which Canada's medical/doctoral universities function appears to be relatively benign. The likelihood of the emergence of new such universities from either the public or the private sector is low. They are potentially vulnerable to programme-specific for-profit competition, but the increasing extent to which they are differentiated from other types of institution shields them from some of the rivalry to which other colleges and universities are subject. The advent of online education is not as great a threat to them as it is to institutions serving 'convenience' markets. Indeed, given the strength of their brands, it may give them the opportunity to go beyond the relatively mature Canadian market to serve burgeoning new international ones. Though the supply of faculty does pose a threat, it is less threatening to them than to other types of university and college. Even government, which wields the greatest power over medical/doctoral universities, is relatively enamoured of them at present owing to the contribution of their scientific, commercial and technical expertise to the country's economic performance.

In terms of industry structure, this means that the context in which medical/doctoral universities operate is very far removed from perfect competition, in which the threats of entry, rivalry, substitutes, suppliers and buyers are high. Such universities appear to be more like monopolistic competitors or, even, oligopolists — relatively insulated from competition. According to the Structure/Conduct/Performance (SCP) model, the strategic options most suitable for monopolistic competitors are cost leadership or product differentiation and for oligopolists, collusion (Barney, 2002, p. 77). As noted above, the structure of public universities militates against cost leadership. This suggests, consistent with the observations above about the maturity of the Canadian market, that medical/doctoral universities should focus on two of the five basic business strategies described by Barney, product differentiation and collusion.

What do these strategies entail? Collusion is one of two broad categories of co-operation, (the other being strategic alliances). It involves firms cooperating to reduce competitiveness and to raise prices above those that would prevail under perfect competition (Barney, 2002). Because Canadian universities are still on the public end of the university spectrum, they are able to collude openly in ways that would be illegal for firms in most countries. Examples of such 'collusion' include coordination of the dates of undergraduate admissions offers, attempts to maintain a common front on contract overhead rates, and the recent adoption by some universities of 'national norm' tuition policies. Many activities in a public sector context, that represent desirable co-operation in the interests of students and society (e.g., limiting the expansion of specialized forms of professional education to avoid oversupply) would constitute collusion in the for-profit sector. As Canadian universities become more commercial, such practices are likely to come under increased scrutiny. This has already happened in the United States, where co-operation amongst universities in order to facilitate admissions of minority students was challenged by regulatory authorities in the 1990s.

The likelihood that tacit agreements will be adhered to is greatest in industries with: a small number of firms; product and cost homogeneity; price leaders; well-developed industry social structure; high order frequency and small order size; large inventories and order backlogs; and entry barriers (Barney, 2002, p. 354). This suggests that the potential for collusion in Canadian higher education may be greatest in fields such as medicine, dentistry and other accredited professions in which there are few schools across the country, protected by high entry barriers, offering programmes standardized by virtue of accreditation, for which there is very high demand.

Product differentiation involves increasing the perceived value of one's product or service, relative to those of one's competitors, in the eyes of customers. It enables a firm to charge prices greater than its average costs. The duration of the competitive advantages resulting from product differentiation depends on the basis of differentiation. Product features tend to be easy to duplicate and therefore to result in only temporary competitive advantages. Product mix, customization and complexity, links with other firms, and consumer marketing may or may not be difficult to duplicate. Links between functions, timing, location, reputation, distribution channels, and service and support tend to be difficult to duplicate (Barney, 2002, p. 282).

Firms pursuing product differentiation strategies face the organizational challenge of reconciling the need to foster creativity and innovation with the need to coordinate and focus activity (Barney, 2002). A strong argument can be made that research-intensive universities traditionally favoured creativity and innovation over coordination and focus to an extreme

degree. The organized anarchy and the garbage can model are ideally suited to the curiosity-driven quest for knowledge. But such extreme favouring of creativity and innovation over coordination and order is possible only if resources are relatively plentiful and do not depend on meeting clients' needs. Serving clients requires coordination and focus, which is why management hierarchy and controls tend to increase from left to right, with proximity to the market, across the spectrum of types of university in Figure 1 above. Whereas some firms need to loosen controls in order to unleash creativity and differentiate their products, research-intensive universities generally need to do the opposite in order to harness intellectual capacity to the needs of students and other clients. The recent increase, noted above, in management hierarchy and controls in public universities in many western countries suggests that this has indeed happened.

The resource-based view

Porter's models and other forms of analysis of threats and opportunities based on industry or strategic group structure assume that all firms within an industry or strategic group are substantially similar and have similar strategic options. An alternative perspective — the "resource-based view of the firm" — suggests that firms derive competitive advantages from the particular resources — i.e., financial, physical, human and organizational capital — they control. Specifically, this perspective suggests that firms derive sustained competitive advantage from resources that are valuable, rare and inimitable, and that they are organizationally capable of capitalizing upon. A firm can obtain a competitive advantage from a resource that is valuable and rare, but not difficult to imitate, however, the duration of the advantage will only be temporary. A firm's business strategy should thus exploit its valuable, rare and inimitable (or, difficult to imitate) resources, as well as capitalizing on the opportunities and neutralizing the threats facing its strategic group and industry.

What resources might a university possess that would give it a competitive advantage? One example of a financial resource that would do so is preferential (i.e., above average per weighted full-time equivalent student) access to government funding. Another example is endowments. Endowments are valuable, rare and difficult to imitate because a form of Matthew effect governs their acquisition: richly endowed universities are able to offer high subsidies to students and faculty, which enables them to attract 'the best,' which sustains or raises institutional prestige, in turn, attracting more endowments (Winston, 1999b). Endowments are thus a source of competitive advantage, as are special links to donors, foundations and other funding sources, at least temporarily.

Physical plant and equipment, geographic location and access to raw materials can also be sources of competitive advantage. Many universities possess physical capital that is historic in origin and thus inimitable, or imitable only at much greater cost, by competitors. Prime examples are location and land. Most older universities were given land and/or purchased it at prices far below today's, making their campuses sources of competitive advantage. Some types of physical facility may also be a source of competitive advantage. Projects perceived to fulfill a general community need and therefore likely to attract private and/or public donations (e.g., a new business or medical school building or athletic facility) would not fall into this category**.** However, physical facilities so specialized and expensive and/or of interest to so few donors that an attempt to duplicate them would not attract funding (e.g., a synchrotron) may be sources of

sustained competitive advantage (or, if they prove not to be valuable, sustained disadvantage). Similarly, faci1ities that are the products of one-time competitions (e.g., the recently-awarded Statistics Canada regional data centres) may be sources of competitive advantage until they become outmoded.

Human capital includes the "training, experience, judgment, intelligence, relationships and insight of individual managers and workers in a firm" (Barney, 2002, p. 156). Higher education is labour-intensive: universities typically spend most of their budgets on salaries. But is human capital a source of competitive advantage? There is no doubt that outstanding faculty members, university leaders and staff constitute valuable, rare resources. Whether or not they are a source of competitive advantage appears to rest on whether they are imitable. If the resource in question consists, for example, of top researchers in a specialized field, the supply is finite in the short run; one cannot duplicate them and may be able to substitute for them only to a limited extent. The question then boils down to: (1) whether or not another institution can lure them away; and (2) whether or not their performance is to some extent context-specific. If the individuals in question are (1) mobile — i.e., willing to move; and (2) paid what a competing institution would have to pay to get them, they are not a source of competitive advantage. If, on the other hand, they are unwilling to move for one reason or another and are paid less than they would be elsewhere, their presence may be a source of temporary competitive advantage

Organization capital is an attribute of collections of individuals. It includes "a firm's formal reporting structure [ ]; its formal and informal planning, controlling and coordinating systems; and its culture and reputation, as well as informal relations among groups within a firm and between a firm and its environment" (Barney, 2002, p. 156). Organizational capital can be an important source of competitive advantage for universities and colleges. An especially important type of such capital is reputation, which attracts students, research clients, donors and government funding and which may be helpful in repelling external threats. Insofar as their activities are coordinated by means of norms, rather than rules and hierarchy, universities and colleges have strong cultures, which may be sources of either competitive advantage or disadvantage. Finally, organizational capital can be valuable, rare and inimitable insofar as the performance of an individual, team or group is context-specific. For example, it may be that a faculty's performance is enhanced by the leadership of a dean who, were he or she hired away, would not be as effective elsewhere. Alternatively, a department may have a tremendously creative group of people in a particular field, whose dynamics could not be replicated elsewhere, even if most or all of its members were lured away. In these instances, the context-specificity of the individual's or group's performance may make it a source of competitive advantage.

The challenge for universities is thus to be clear about which of their resources are valuable, rare and difficult to imitate — and to capitalize on them. In the case of medical/doctoral universities (and others with diverse faculties), a further challenge is to do so without intruding more than necessary on faculties' autonomy, because another insight from strategic management is, as noted above, that insofar as disciplines and professions operate in their own little worlds, universities should push faculty-specific decision-making down.

The corporate role of the centre

As observed in Part I, universities with diverse faculties can structure themselves so as to give their faculties the need, authority and capacity to operate in a manner akin to that of

corporate divisions. Interviews at four medical/doctoral universities in Canada revealed that three had clearly decentralized aspects of their resource allocation systems. To the extent that Canada's medical/doctoral universities are beginning to go down the devolution path, what can they learn from corporate practice?

Barney (2002) depicted some of the major components of the multidivisional corporation and their roles, as follows:

Table 1: Division of Responsibilities within Corporations

Senior executive — Strategy formulation:
- Decides the businesses in which the firm should operate.
- Decides how the firm should compete in those businesses.
- Specifies the economies of scope around which the diversified firm will operate.

Strategy implementation:
- Encourages co-operation across divisions to exploit economies of scope.
- Evaluates performance of divisions.
- Allocates capital across divisions.

Corporate staff:
Provides information to the senior executive about internal and external environments for strategy formulation and implementation.

Division executive — Strategy formulation:
- Decides how the division will compete in its business, given the corporate strategy.

Strategy implementation:
- Coordinates the decisions and actions of functional managers reporting to the division general manager to implement divisional strategy.
- Competes for corporate capital allocations.
- Cooperates with other divisions to exploit corporate economies of scope.

Shared activity — managers
Support the operations of multiple divisions.

Source: Barney, op. cit., modified version of Table 13.1, p. 453

Whereas Barney's is a general corporate framework, Bourn (1994) provided a model of devolved university management, in which the centre functions as "a 'holding company,' with the faculties and academic services as 'operating subsidiaries' and administration and estates as 'service subsidiaries' " (1994, p. 20). His treatment, quoted at length, depicted the roles of the major components as follows:

The centre:

- "*Integration* of the differentiated operational and service groups, targeting the economies of scope and of scale which justify the existence of the one larger institution over disintegration into smaller specialised units.
- *Policy-making*, the determination of the set of criteria by which the direction and pace of change may be set, the uncovering of a range of feasible and desirable development paths, and the selection according to the determined criteria of projects which can be expected to move in desired directions.
- *Instrument design*, or the creation of instrumental means of encouraging the implementation of policies, using incentives and disincentives [ ] of various kinds [possibly including] indirect financial encouragements and discouragements, direct tax or subsidy, and requiring/enabling/discouraging/preventive regulations.
- *Performance monitoring*, which is essentially the processes of academic audit, performance indication, staff appraisal, and financial audit in respect of the academic and service groups.
- *External relations*, including looking-out ('scanning the environment'), accountability to stakeholders…, proactive and reactive public relations, and membership of the cartel of higher education institutions."

Central staffs in areas such as "accounting and finance, personnel, legal, registrarial, student affairs, public affairs, campus services, utilities, maintenance, residences and catering, etc. Each would employ a small number of highly qualified 'experts' and have three main responsibilities:

- *Routine short-term service provision and information-handling,* as long as there are economies of scale or scope from organising these activities in a centralised structure, rather than passing them to the faculties.
- *Setting technical standards* in relation to a wide range of issues, including financial regulations, standing orders on contracts, employment contracts, health and safety, staff and student facilities, buildings and accommodation, maintenance of accounts and records, security, and insurances.
- *Policy advice and guidance* to the faculties (including academic services units) and to the centre."

Faculties:

- "*Teaching*, i.e., everything from recruitment and selection of students through to graduation and alumnus contact;
- *Research*, i.e. everything form the conception of projects to the creation of published reports of work done, inventions, and any other outputs of the work;
- *Administration*: i.e., the undertaking of information-handling activities necessary to facilitate 'teaching' and 'research'…;
- *Policy implementation*, i.e., shaping and implementing strategies to resolve the past and present into a near future according to knowable ideas about the direction and pace of change."

Academic services:

"Their functions are to contribute as directly as possible to the operational activities set out above. They should remain centralised for only as long as the balance of advantage in terms of economies of scale and scope lie that way." (Bourn, 1994, pp. 19–21)

The models depicted by Barney and Bourn offer some important insights. Perhaps the most important is the need to be clear about whether and why it is more valuable for faculties to be within one university, than to exist separately. If the faculties' activities, taken together, are not more valuable, or less costly, than they would be separately, there is no economic justification for the faculties to be under one roof. If economies of scope do exist (i.e., if the value of the activities combined is greater than their value separately), the university should be organized so as to capitalize on them.

Economies of scope are of various kinds (Barney, 2002). They can be:

operational — in other words, based on:

- shared activities that reduce costs (e.g., through economies of scale or learning curve advantages) or increase revenue (e.g., by giving clients access to valuable combinations of offerings).
- core competencies (collective learning applicable to the challenges and tasks of the various faculties).
- other resources or capabilities that are potential sources of cost reduction or revenue enhancement (e.g., reputation, preferential access to common factors of production);

financial — based, for examples, on: preferential access to government funding; unrestricted endowments; alumni or potential donors in one field who would be willing to donate to another; risk reduction (e.g., reduction in the risk of decline in student demand), or

anticompetitive — involving, for example, the exploitation of market power in one field to eradicate competition in another.

One of the ways in which firms capitalize on economies of scope is through shared activities, for example, common manufacturing plants, sales forces, and research and development units serving multiple divisions. Such activities can be organized as cost centres or as profit centres. Sometimes, firms' executives require divisions to use shared services in an attempt to ensure that economies of scale or scope are realized — in effect, creating internal monopolies. Barney advises against this, on the grounds that it is likely to result in excessive costs and/or poor quality (2002, p. 463). If shared activities are operated as cost centres, the fact that they do not have to generate profits will give them cost advantages over competitors and enable them to retain faculties' business, given sound quality. The risk that faculties will not use the services of shared activities is greater if the latter are operated as profit centres. Although eschewing their services may be in the interest of individual faculties, it may not be in the institutional interest and may cause inconvenience or confusion for external audiences. If, for example, faculties decide not to use common recruitment, co-op administration or fundraising services, it may result in inconsistent or overlapping external communications. Nevertheless, Barney suggests that the benefits of exposing shared activities to internal and external competition outweigh the risks of failure to capitalize on economies of scope due to divisional opting-out.

A related lesson from Barney is about the need to distinguish clearly between shared activities and corporate functions. He cautions that failure to make this distinction is common even in the corporate world — and highly counterproductive. It causes problems because the roles and responsibilities of the two types of unit — and the way in which their performance should be measured and rewarded — are very different. The role of corporate staff groups is to support the corporate executive; that of shared activities is to support divisions' operations. Confusion between the two types of function is no doubt even more common at universities. Shared activities such as student services, audio-visual services and computing services tend to be considered 'administrative' (i.e., non-academic), just like public relations and human resources. Some units (e.g., faculties of graduate studies) provide both institutional oversight and support to faculties, complicating the classification. Nevertheless, a decentralized university needs to distinguish between corporate functions and shared activities clearly and to manage them accordingly. It may also be appropriate to distinguish between activities shared by some faculties — for instance, those who contribute to common (e.g., undergraduate or other interdisciplinary) programmes — and activities shared by all faculties. The former might include common undergraduate recruitment services or advising services, for example, and the latter, photographic services.

What about contracting out a service currently organized as a shared activity — or, for that matter, the governance of a new educational, research or related activity? Barney also presents useful lessons here. Transaction cost economics suggests that the most appropriate governance structure — market, intermediate (e.g., sequential contracting, strategic alliance, joint venture) or hierarchical — is that which minimizes the threat of opportunism in an exchange at the lowest cost. The threat of opportunism is in turn a function of: (i) the level of transaction-specific investment, and (ii) the level of uncertainty and complexity inherent in the exchange. Another analytical framework addresses resource-based considerations and suggests that resources that are sources of sustained competitive advantage should be managed hierarchically, i.e., in-house. Finally, 'real options' logic argues that when there is a high level of uncertainty about the future value of an investment, the need for flexibility (i.e., non-hierarchical governance) should be preferred. Although these three frameworks differ in some of their implications, they are all consistent with the observation that routine services (e.g., cleaning, catering, bookstores) are more often contracted out by universities than ones that are more complex and closer to their cores (e.g., student advising, technical support). They also help explain why activities characterized by a relatively high level of uncertainty (e.g., technology transfer) are not infrequently organized through intermediate forms of governance (e.g., through consortia or joint ventures). An additional motivation for universities to distance more commercial, technology-intensive activities from traditional ones may be to avoid controversy and to permit different rules and norms to govern the two.

Corporate practice, as depicted by Barney, may be least instructive concerning the strategic role of the centre relative to that of the faculties. This may reflect the limitations of the application of corporate-style divisionalization to the university context. Barney suggests that business strategy should be left exclusively to the divisions. But can universities' central administrations do that? One obstacle, noted above, is that some university offerings (e.g., liberal arts education, multidisciplinary research) tend to involve more than one faculty. A second is that higher education is itself an industry, albeit one that is highly differentiated by field. If a university has decided to pursue an overall product differentiation strategy, on the grounds that

that is what is most suitable given its particular resources and the maturity of the Canadian market, it may well want to prevent a faculty from pursuing a cost leadership strategy involving extensive use of part-time instructors and a very standardized curriculum. Not only might such a faculty strategy undermine the consistency of the university's external image, it would be likely to give rise to internal tensions (e.g., complaints from the faculty association about reliance on part-time instructors and from academic approval bodies). Conversely, a university that has decided that its best institutional strategy is to provide a cost-effective alternative to the offerings of competitors may squelch a faculty that aspires to 'quality.'

If too much is dictated by corporate strategy, it will prevent faculties from competing as successful as they could in their particular markets. If, on the other hand, too much is left up to faculties, their activities may cross-cut each other and undermine institutional strategy and the university may fail to capitalize on economies of scope.

One answer to the question of what should be decided at what level is simply that faculty strategies should conform to the university's strategy, whether it provides broad direction or is comprehensive and detailed. Potentially helpful in this connection is a typology, presented by Barney (2002), of structural alternatives available to corporations operating in numerous countries (p. 544). If one accepts that major fields of study are analogous to countries, in which different languages are spoken and different market conditions prevail, these alternatives may be pertinent to universities grappling with the tradeoff between local responsiveness and institutional consistency. The four options are:

1. The *decentralized federation* — in which operations in each country are full profit-and-loss divisions, there are few shared activities and other corporate economies of scope and the corporate centre plays but a limited strategic role — strategic and operational decisions being delegated to divisions. Full RCB in a university context would resemble this model.
2. The *coordinated federation* — in which each country's operation is a full profit-and-loss centre and operational decisions are made at the divisional level, but broad strategic decisions are made at the corporate level.
3. The *centralized hub* — in which both strategic and operational decisions are made at the corporate level and the role of divisions is to implement corporate decisions and to provide feedback to the centre on the outcomes.
4. The *transnational structure* — which is like a coordinated federation in that strategic decisions are generally made at the corporate level and operational decisions at the divisional level, but in which resources and capabilities belonging to a division that provide competitive advantages are made available to other divisions, through special mandates, alliances or other means. In a university context, this might mean that a faculty that developed particular expertise in distance education or international recruitment, for example, might be given a mandate to serve other faculties in these respects, as well.

Which, if any, of these arrangements is appropriate for a given university would depend on the threats and opportunities facing it as an institution, those facing its faculties, and the extent to which the resulting strategies differ.

Insights into the strategic management of faculties

Structure/Conduct/Performance (SCP) models such as Porter's 'five forces' model assume that the structure of a firm's industry very largely determines its strategic options. A corollary, with respect to universities, is that the greater the differences in supply and demand for education and research in different fields, the greater the differences in faculties' strategies should be. How great are the differences in 'sub-industry' structure? To get an appreciation of their extent, it may be helpful to consider the markets for higher education and research in four different fields: the arts (i.e., humanities and social sciences); business; dentistry; and science.

It makes sense to begin by considering the nature of the educational 'product.' The degree of Doctor of Dental Surgery, earned anywhere in Canada, carries with it the opportunity to earn a high income. Postgraduate degrees enable dentists to further enhance their incomes through specialization. Such degrees are rare. In 1997–98, for example, only 433 people earned dentistry degrees and 61 earned dental specialty qualifications in Canada (Statistics Canada, 2003a). Enrolments in Doctor of Dental Surgery programmes (the standard first professional degree) are very stable. There were 947 students in such programmes in 1950; 1,916 in 1975 (Statistics Canada 2003b); and 1,810 in 1998–99 (Statistics Canada, 2000).

Undergraduate and master's level business programmes are also intended to prepare students directly for employment, but the degrees are much more numerous and their net present value, much more varied. Enrolment in such programmes mushroomed after the Second World War, more than doubling every decade until the 1970s and continuing to grow until the early 1990s, by which time every Canadian university had an undergraduate business programme (Boothman, 2000, p. 295). Undergraduate enrolment peaked in 1991 at 13% of full-time undergraduate enrolment in Canada and dropped approximately 5% thereafter, while graduate enrolment increased slightly (Boothman, 2000, p. 297). In 1998, approximately 14,500 undergraduate degrees in business, management and commerce were granted by Canadian universities (Statistics Canada, 2000, p. 139). In 1997, 3,990 master's degrees were granted in the field (AUCC, 1999, p. 73). According to Boothman (2000), "Canadian demand for business majors had reached saturation in many areas" by the end of the century (p. 297).

The National Graduate Survey, which tracks the employment status and earnings of young graduates, found that the median earnings of 1995 bachelor's graduates in commerce, management and administration working full-time, 5 years after graduation, were approximately $42,000 (in constant 2000 dollars) — below those of graduates in engineering and applied sciences ($56,000) and mathematical and physical sciences ($54,000), but above those of graduates in the social sciences ($40,000), agriculture and biological sciences ($39,000), education ($37,000) and the fine and applied arts (approximately $36,000). The income of the 25th percentile of young commerce graduates 5 years out was $35,000, that of the 75th percentile, $53,000 (Allen, 2003, p. 35), indicating substantial 'risk' that an individual will receive earnings higher or lower than the median. It would appear that the utility of a particular business degree as a means to employment and income depends on a variety of factors, possibly including the reputation of the school and its links with employers.

In contrast to professional programmes, most of those in the arts and sciences do not seek to prepare students specifically for employment, other than, at the graduate level, academic employment. In 1998, approximately 42,000 bachelor's degrees were granted in the humanities and social sciences (excluding business and law) and 17,000 in the mathematical, physical and

life sciences (Statistics Canada, 2000). Despite the much vaunted contribution of the scientific and technical fields to competitiveness in the knowledge economy, the humanities and the social sciences (defined by Statistics Canada to include business and law) still account for the largest share of full-time enrolment at the bachelor's, master's and doctoral levels — approximately 39%, 49% and 40%, respectively, in 1998–99 (Junor & Usher, 2002) In contrast, the agricultural and biological sciences, taken together with mathematics and the physical sciences, accounted for approximately 14% of full-time undergraduate enrolments, 15% of master's level enrolments, and 23% of doctoral enrolments, in the same year. (Junor & Usher, 2002).

As noted above, the median earnings after 5 years of 1995 bachelor's graduates varied considerably between fields in the arts and sciences. In mathematics and the physical sciences, in particular, the range of graduates' earnings was, in addition, quite dispersed (Allen, 2003, p., 23). Degrees in the arts and sciences are also, of course, stepping stones to further study and/or eventual academic employment. The factors that render a degree valuable for employment purposes may not be the same as those (e.g., departmental academic reputation) that render it valuable for these purposes.

Opportunities and threats facing faculties

As noted in part I, the higher education industry in Canada is, overall, mature. The same can be said of the main degree products offered by faculties of arts, business, dentistry and science, even though the rarity, homogeneity and net present value of the degrees differ greatly. Does this mean that the strategic options available to the four types of faculty are the same (i.e., product differentiation or cost leadership)? No, because such faculties have: (i) different cost structures; (ii) different opportunities to participate in other markets, domestic and international; and (iii) different threats.

Business

Business schools have opportunities to generate revenue from several markets, above and beyond that represented by students of traditional university age, but these markets appear to be characterized by higher levels of competition than those to which most other faculties are subject. These supplementary markets include the provision of: continuing professional education, broad-based (e.g., executive MBA) or niche, for individuals; training programmes or materials for corporations; consulting services; and assorted products (e.g. ,software) or services (e.g., data services). The strength of international demand for business education and the rapidly-changing, global character of contemporary business give Canadian schools opportunities to serve markets abroad, as well as at home.

That said, the competition is substantial and growing. The globalization of business appears to have exposed business schools to increased foreign competition. In the realm of master's education, approximately 1,100 institutions of higher education in 125 countries offered 2,100 MBA programmes in the year 2000 (Gray, 2000, p. 60). As noted above, higher education companies (offering both classroom and distance education) and online providers, public and private, are making major inroads into the 'convenience market.' The success of 'high end' programmes employing online instruction (e.g., Duke University's MBA programme) and video-conferencing (e.g., in Canada, Queen's and Western's executive programmes) Boothman (2000)

suggests that the effective integration of distance technology may be important in facets of these markets, as well. "Corporate universities" and consulting and training companies compete to serve corporations' training needs.

To a much greater extent than faculties of arts, dentistry or science, business schools must produce graduates, programmes and services that conform to employers' needs — needs that evolve very rapidly. Niche degrees, as well as customized ones (i.e., programmes mounted for a particular corporate client), tend to be temporary in nature and require business schools to be able to introduce new 'products' much more quickly than has been traditional in universities. Insofar as specialized credentials gain in value, the greater the number of people who possess them and the more widely recognized they are, the markets for such credentials exhibit some of the features of a network industry. Given that higher education companies are much better organizationally equipped than public institutions to make decisions, redeploy resources, and implement new offerings quickly, they provide formidable competition to traditional business schools in the education and training markets. If the latter's traditional structures and behaviour give them an advantage over other not-for-profit institutions and for-profit providers in any area, it is arguably in the realm of research — i.e., the generation of new knowledge, rather than its application to clients' needs.

Though provincial regulation of degree-granting authority still provides some protection for Canadian business schools, globalization, the availability of online degrees and the growing acceptance of for-profit business education mean that such protection is unlikely to last. Unfortunately, many Canadian business schools appear to be ill-equipped to meet the challenge of saturated traditional markets, new demands and increased competition. Budgetary constraints in the 1990s led many schools to suspend hiring or hire less qualified individuals, reduce sessional lecturers, cut support services and take other measures that weakened their capacity and their programmes' quality. The salaries and support received by Canadian business faculty deteriorated relative to those of their American counterparts (Boothman, 2000). At the end of the decade, some of the country's medical/doctoral universities had embarked upon major recruiting drives in fields including business, but many schools still lacked the resources to do so (Boothman, 2002). The challenge of recruiting in business is particularly great because of the very high salaries commanded in accounting and other fields.

In sum, the market for traditional university business education in Canada appears to be mature or even declining. New needs, opportunities and technological options have emerged, but business schools are also subject to increased competition from both other not-for-profit institutions and for-profit providers, domestic and foreign. Schools at some of the country's medical/doctoral universities may be insulated to some degree by the latter's reputations, financial resources, and strength in complementary disciplines, but their resources fall far short of those of major American schools. To survive, let alone prosper, in such an environment, business schools must have more flexibility and capacity for responsiveness to clients' needs than most other types of faculty. A strategy of product differentiation in core markets may be pursued simultaneously with other options. Business schools may seek to capture first-mover advantages by entering quickly into specialized new fields — or, alternatively, pursue a strategy of flexibility and postpone decisions and investments until market and technological options are clearer. Insofar as the supply of traditional business education is fragmented amongst a large number of schools, there may also be opportunities for consolidation

Dentistry

Canadian dental schools are in a very different situation. First, there are very few of them: only ten Canadian universities offer the Doctor of Dental Surgery. As noted above, the programmes are relatively homogeneous, owing to accreditation, and the degrees provide access to high lifetime earnings.

Relative to business or arts education, dental education is very expensive. The costs arise in large part from the fact that North American dental faculties, unlike their medical counterparts, must operate clinics in which their students can acquire practical experience. The high cost per student of dental education led to the closure of some dental schools in the United States in the 1980s and 1990s and to attempts to close several in Canada in the 1990s. (The latter attempts resulted in the merger of two dental schools with the medical faculties of their universities).

Like business schools, dental schools have opportunities to generate income from several markets other than that for the core degree. Dentists in many provinces are required to engage in continuing professional education, guaranteeing demand for such programmes. Graduates of dental schools from outside North America who have emigrated to Canada also constitute a market. In order to practice in Canada, they must pass an eligibility examination administered by the Association of Faculties of Dentistry of Canada and complete a qualifying programme at an accredited Canadian dental school. There is strong demand for access to such programmes. Foreign-trained dentists who do not intend to practice in Canada also constitute a market. The fact that dental programmes in most parts of the world begin after high school means that international demand for North American first professional education is limited, however, there is demand on the part of dentists in Asia and other parts of the world for North American postgraduate education. There are also markets for the fruits of dental research: such research attracts external sponsorship and can present opportunities to generate revenue through technology licensing and spin-offs. Finally, dental schools serve markets for clinical services, both through their clinics and their faculty members' practices. Whether they can generate net clinical revenue by either means is questionable. It appears that most dental school clinics currently, at best, recover their costs. And Canadian dental professors traditionally have the prerogative to practice privately one day a week — an opportunity to generate income which, given the discrepancy between professorial and practitioners' salaries in the field, may be important in retaining dentists in academe.

Governmental and professional regulation constitute an important barrier to entry into the markets served by dental schools. For cost reasons, provincial bodies that approve degree programmes for funding purposes are presumably loathe to permit new public sector entrants into dental education and research. Entry is also regulated by professional bodies. Each province and territory has a licensing body which establishes regulations and requirements for general practitioners and specialists. Educational programmes in dentistry and allied professions are accredited by the Commission on Dental Education of Canada — a non-governmental, peer review body that establishes national requirements and standards and assesses programmes in light of them. Graduates of accredited schools in most provinces are eligible to be licensed without further examination. Lack or loss of accreditation would render a school's degrees virtually worthless. Proximity to faculties of medicine and science is also important for dental education and research and constitutes a further barrier to entry.

With a small number of producers of a relatively homogeneous product, surrounded by high barriers to entry, dental education resembles a highly subsidized and regulated oligopoly. Not only is rivalry low, there are no substitutes for dental schools' main product: one must have a degree from an accredited school in order to practice. And the clinical component of instruction means that online education is very unlikely to replace traditional education, as it may in some fields. There are, however, some threats. The protracted study required to become a faculty member and the demands and length of the tenure process, coupled with the discrepancy between academic salaries and professional earnings, threaten the supply of dental faculty. Scientific and clinical equipment costs rise much faster than inflation or than other educational costs. The biggest threats to dental schools appear, however, to emanate from their universities, on one hand, and regulatory bodies, on the other. The closures and threatened closures of North American dental faculties of the 1980s and 1990s showed that not all universities regard dentistry as an integral part of their offerings. With respect to regulatory bodies: both provincial governments and the dental profession have an interest in limiting the expansion of dental education and, hence, of numbers of dentists. But, were that to change, its impact on existing schools could be serious. Insofar as dental education is amenable to standardization, traditional dental schools might find themselves threatened by for-profit competitors who eschewed research and were thus able to operate at much lower cost. As tuition fees for dental students, which have increased dramatically on average since the mid-1990s (Junor & Usher, 2002), continue to rise, higher education companies may become increasingly interested in this prospect. Provincial governments also pose a threat insofar as they regulate tuition fees and thus constrain the capacities of dental schools and universities to capture the market value of costly dental programmes.

In contrast to business schools, which must pursue strategies that will enable them to compete effectively, strategic management suggests that the best strategic option available to dental schools is collusion. Dental education exhibits almost all the features that, according to Barney, facilitate successful tacit collusion (to wit: small number of firms; product homogeneity; cost homogeneity; price leaders; industry social structure; high order frequency and small order size; large inventory and order backlogs; and entry barriers). If they can manage the threats posed by their universities and regulatory bodies, dental schools may be able to coordinate their output and prices in order to secure additional resources, without developing the capacity for responsiveness business schools will need.

Arts

Both 'arts' and 'science' comprise a host of disciplines, attempts to generalize across which produce inaccuracies. For example, though it may be true that most faculty members in the arts and sciences do not provide clinical services, that is not the case in psychology. The following generalizations about the types of markets served by faculties of arts (i.e., humanities and social sciences) and science will thus not apply to each and every discipline of which such faculties are comprised.

Relative to business and dental schools, arts faculties appear to have few opportunities to serve markets other than those for their core degrees. There is little or no demand for continuing professional education in most disciplines. The market for general continuing education dropped sharply in the 1980s and is no longer significant. The cost of scholarship and research in the arts

is less than that in the sciences, but levels of external sponsorship and opportunities for contract research are also fewer. Opportunities to generate revenue through technology transfer are also few. Consulting is a potential source of revenue in some disciplines (e.g., economics, geography), but, as in the case of clinical practice in dentistry, it tends to be done by faculty members on an individual basis. The principal, traditional form of intellectual property commercialization in the arts — the publication of textbooks — is also an individual activity, but there may be opportunity for faculties of arts to generate revenue through the sale of multimedia material, software and other products.

By far the principal markets for the offerings of arts faculties would thus appear to be those for traditional degrees. Demand is international, as well as domestic. As noted above, most international students in Canada study in the social sciences, general arts and sciences, and engineering and applied sciences — and within those broad categories, most students take commerce, followed by economics and computer science (AUCC, 1999). This suggests that international market extension strategies may be appropriate for faculties of arts.

Though they appear to have fewer market opportunities than business schools, arts faculties also appear to face fewer threats. Higher education companies pose less of a threat because: (1) demand for education in most arts disciplines is not sufficiently great to attract for-profit providers; (2) the overall subsidy barrier, particularly at medical/doctoral universities, remains considerable; and (3) arts education is perhaps less amenable to standardization than professional training. Though other types of faculties in Canada and arts faculties abroad might also eat into Canadian arts faculties' domestic student clientele, the figures cited above suggest that the latter are holding their own on both fronts. For arts faculties catering to students of traditional university age, distance education poses less of a threat than it does to faculties catering to adults. The supply of faculty members and of specialized equipment and materials are also less of a threat than in many other fields. Given the large number of arts faculties and the maturity of the domestic market, significant rivalry amongst arts faculties is to be expected. As is the case in other fields, provincial governments also pose a threat insofar as they control funding and regulate tuition fees.

With its large number of 'firms', heterogeneous products and moderate (relative to business, on one hand, and dentistry, on the other) ease of entry, arts education is closest to monopolistic competition. Though SCP logic suggests that cost leadership is a strategic option for firms in such industries, arts faculties catering to students of traditional university age – particularly ones located in medical/doctoral universities — are much more likely to pursue product differentiation as a strategy. Pursuit of this strategy may involve product features (e.g., innovative majors, career preparation), linkages between functions (e.g., admissions, accommodation, student employment), timing (pace of new programme development), location, product mix or links with other educational institutions (e.g., student exchanges). Reputation is also a very important basis for product differentiation in higher education. The paucity of other markets for their offerings suggests a strong focus on differentiating one's degree programmes in the eyes of Canadian students and parents by the above means, coupled perhaps with international market extension. For faculties of arts involved in declining fields, leadership, niche, harvest and divestment are possible strategic options.

Science

The costs of education and research in science, like those in dentistry, are high relative to arts and business. For science faculties of medical/doctoral universities, threats are likewise relatively few. New entry into this group from the public sector is unlikely because of the associated capital requirements and because the federal government's current policy of promoting differentiation between institutions makes it increasingly difficult for new players to move up in the research rankings. The threat of for-profit competition is relatively low because of the maturity of the market for most degrees (with the exception of fields like biotechnology and computer science) and the height of the subsidy barrier. Furthermore, for-profits achieve low costs largely by eschewing research (Ruch, 2000), whereas new knowledge and its applications are precisely what is sought by industry. Research-intensive science faculties would thus have a key advantage over any higher education companies that wished and were permitted to enter particular science-based fields. Much more vulnerable would be science faculties that are less active in research — ones that have costs higher than those of for-profits because of traditional governance and personnel systems, but find themselves increasingly far from the forefront of knowledge. The threat posed by distance education is relatively low because the laboratory components of education in many scientific disciplines may limit its potential application in those fields.

Whereas threats are few, market opportunities for research-intensive science faculties appear relatively plentiful. Science faculties lack the opportunities professional schools have to serve continuing professional education and training markets, but, as noted above, there are markets abroad for Canadian science degrees, especially in computer science and related fields. There is also strong demand, domestic and foreign, for research and technology transfer, resulting in opportunities for external sponsorship, contract research, licensing and other forms of intellectual property commercialization. Of the 325 new patents issued to Canadian universities in 1999, the agricultural and biological sciences accounted for more than 64; mathematics and the physical sciences for 12; engineering and applied sciences for 119; health sciences and technologies for more than 104 (Read, 2000, p. 19).

It is doubtful that much research and technology transfer activity generates net revenue. Until recently, the federal government did not compensate universities for the indirect costs of grant-funded research. As of 1999, Canadian universities' collective expenditures on intellectual property commercialization exceeded their revenues from that source by $806,000 (Read, 2000). Nevertheless, revenue from research and technology transfer undoubtedly makes it possible for universities to do more in these realms — and, now that there is some compensation for the indirect costs of grant-funded research, to do so with less financial drain on other activities.

Due to the increased market value of the intellectual products of scientists, it appears that faculties of science, like business schools, participate in rapidly-changing environments. But the drivers of change appear to be different. The principal drivers of change in business education and research appear to be the changing needs of business, to which the schools must respond. In contrast, it appears that in the life sciences, for example, it is new discoveries that are driving change. Insofar as science faculties are themselves generating those discoveries, they are in the driver's seat. They thus appear to have less need to be flexible and responsive to industry in order to secure or maintain "market share." Indeed, insofar as their capacity to generate new

knowledge is what attracts resources, one could speculate that faculties of science will continue to employ traditional university structures that foster creativity at the expense of coordination.

The resource-based view of the faculty

As noted earlier, strategic management suggests that strategy should be informed, not only by the nature of a firm's industry, but also by the particular resources — financial, physical, human and organizational — at its disposal. By analogy, a faculty's strategy for generating revenue should reflect the value, rarity and inimitability of its particular resources, as well as the structure of its industry subsector.

A faculty's resources may be seen as being of two types: institutional resources and faculty-specific resources. Examples of the former are institutional reputation, access to institutional capital, general purpose endowments, institutional culture and campus location. The latter include faculty reputation and culture, faculty-specific endowments, alumni and so on.

Given that faculties' budgets are devoted principally to salaries, faculty and staff are obviously a crucial resource. As noted above, they can also be a source of competitive advantage if their capabilities are valuable, rare and cannot be imitated. In the case of top researchers in a specialized field, the supply is finite in the short run: one cannot duplicate them and can substitute for them only to a limited extent. If the professors in question are mobile and paid what a competitor would have to pay to get them, they are not a source of comparative advantage for their faculty or university. If, on the other hand, they are unwilling or reluctant to move and are paid less than they would be elsewhere, they may be a source of at least temporary competitive advantage.

Another reason that people may be a source of competitive advantage for a department or faculty is that their performance may be influenced by the interaction between them, in other words, it may be to some extent context-specific. Socially complex phenomena can be an important source of competitive advantage for faculties and for universities.

Faculties' strategies should thus reflect, not only the natures of supply and demand in their fields, but also the value, rarity and inimitability of their resources and those of their universities. This may mean capitalizing on a valuable resource or counteracting the effects of a resource that is actually a source of weakness. For example, whereas a faculty in a university with a strong reputation could differentiate its offerings by highlighting the university brand, a faculty in a university with a poor reputation might well choose to downplay the institutional connection.

The above speculations about demand and supply for education and research in different fields suggest that the threats and opportunities facing faculties of arts, business, dentistry and science are very different. In these circumstances, strategic management would call for them to adopt different strategies. For instance, whereas business schools require substantial flexibility and capacity for responsiveness, dental schools have the strategic option to collude. (Note that a relative absence of market competition does not mean the absence of any competition, but rather that faculties and their members can compete for things other than market share e.g. academic or professional prestige.) Although product differentiation is likely to be the principal strategy of both faculties of arts and faculties of science, the former are likely to focus more on the education market, while market demand for scientific research and technology transfer may lead the latter faculties to differentiate themselves principally on the basis of research. SCP-based

analysis thus suggests that, insofar as universities decentralize the development and implementation of business strategies, different faculties will head off in different directions. The centrifugal pressure on universities resulting from their faculties' pursuit of different SCP-based strategies will be exacerbated insofar as the faculties attempt to capitalize on valuable, rare and inimitable faculty resources and will be moderated to the extent that they seek to capitalize on institutional ones.

The differences in the structure of different fields of study presents a compelling argument for decentralization. In such circumstances, how could 'the centre' of a major university with diverse faculties possibly make good business-level decisions? At same time, differences in sub-industry structure mean that, as decision-making and resource allocation are decentralized, faculties will pursue different strategies and will want to organize themselves differently – putting huge strain on the centre and on remaining institution-wide structures (e.g. graduate schools, senates, unions). If the assumptions behind SCP-based models are correct, the similarities between the strategies of faculties of the same kind at different universities will indeed be greater than the similarities between the faculties within one university.

Summary and Conclusion

Strategic management is not relevant to or feasible for all types of universities, but it is increasingly applicable even to public ones. Although Canadian universities appear to lag their counterparts in other Anglo-Saxon countries in becoming more market-responsive and there are still substantial constraints on their authority and capacity to manage their affairs strategically, it appears that strategic management may be increasingly beneficial and feasible for them.

Textbook strategic management suggests that medical/doctoral universities in Canada, which are in a position between monopolistic competition and oligopoly, should cooperate to differentiate their offerings from those of other institutions, while capitalizing individually on their reputations, particular intellectual resources, endowments and other valuable, rare and inimitable resources.

SCP logic suggests that the strategies optimal for different types of faculty will themselves differ substantially. Insofar as medical/doctoral universities decentralize to give faculties greater need, authority and capacity to respond to markets, they are likely to let loose strong centrifugal forces which run up against remaining central structures and bodies. One way to moderate, if not avoid, disaggregation may be to do a thorough resource-based analysis before decentralizing. What is it that makes the university more that the sum of its faculties? Where are the economies of scope? What are the valuable, rare and inimitable resources held in common? By basing overall institutional strategy and structure on the answers, it may be possible to enable faculties to serve their particular markets effectively without losing the university.

References

Allen, M., Harris, S., & Butlin, G. (2003). *Finding their way: A profile of young Canadian graduates*. Ottawa, ON: Statistics Canada. Catalogue no. 81-595-MIE no. 003.

Arnone, M. (2002). International consortium readies ambitious distance education effort. *The Chronicle of Higher Education, 48*(42), A28–A30.

Association of Universities and Colleges of Canada. (2002). International student recruitment. Background document. www.aucc.ca/en/innovation/intlstudent_recruitment. December 17, 2002.

Axelrod, P. (1982). *Scholars and dollars: Politics, economics and the universities of Ontario, 1945–1980.* Toronto, ON: University of Toronto Press.

Bakvis, H., & Cameron, D. (2002). Old wine in new bottles: Postsecondary education and the social union. In T. McIntosh (Ed.), *Building the social union: Perspectives, directions and challenges* (pp. 83–97). Regina, SK: Saskatchewan Institute of Public Policy/Canadian Plains Research Centre.

Boothman, B. (2000). Canadian management education at the millennium. In B. Austin (Ed.), *Capitalizing knowledge: Essays on the history of business education in Canada* (pp. 295–356). Toronto, ON: University of Toronto Press.

Bourn, M. (1994). A long and winding road: The evolution of devolution in universities. In R.H. Berry (Ed.). *Management accounting in universities*. London: The Chartered Institute of Management Accountants.

Brinkman, P., & Morgan, A. (1997). Changing fiscal strategies for planning. In J.L. Yeager et al., (Eds.), (2001), *ASHE Reader on finance in higher education*, second edition. Boston, MA: Pearson Custom Publishing.

Cameron, D.M. (2002). The challenge of change: Canadian universities in the 21st century. *Canadian Public Administration, 45*(2).

Carnevale, D. (2002). Distance education attracts older women who have families and jobs, study finds. *The Chronicle of Higher Education*, *49*(11)*,* November 8, A33.

Curry, J. (1996). The USC experience. In J.L. Yeager et al. (Eds.), (2001), *ASHE Reader on finance in higher education*, second edition. Boston, MA: Pearson Custom Publishing.

Dowsett Johnston, A., & Dwyer, M. (2002). Ranking Canadian universities. *Maclean's*. *115*(46), November 18, 31–32.

Eastman, J., & Lang, D. (2001). *Mergers in Higher Education: Lessons from theory and experience*. Toronto, ON: University of Toronto Press.

Geiger, R.L. (1991). Private higher education. In P.G. Altbach (Ed.), *International Higher Education: An Encyclopedia*. New York, NY: Garland.

Government of Canada. (2001). *2001 Canada Yearbook*. www:canadianeconomy.gc.ca/english/ economyoverview: visited March 17,2003.

Gray, G. (2000). Getting down to business: Can Canadian business schools compete with their bigger, richer and soon-to-be online American rivals? *National Post Business*, February, 58–65.

Green, M., Eckel, P. & Barblan, A. (2002). *The brave new (and smaller) world of higher education: A transatlantic view.* Washington, DC: European University Association/American Council on Education.

Hardy, C. (1996). *The politics of collegiality: Retrenchment strategies in Canadian universitie.* Montreal, QC: McGill-Queen's.

Hatton, M.J. (1990). *Corporations and directors: Comparing the profit and not-for-profit sectors*. Toronto, ON: Thompson Educational Publishing.

Jones, G., Shanahan, T., & Goyan, P. (2002). Traditional governance structures — Current policy pressures: The academic senate and Canadian universities. *Tertiary Education and Management,* 8, 29–45.

Jones, S. (1994). Modelling and muddling: Resource allocation in British universities. In R.H. Berry, (Ed.), *Management accounting in universities*. London: The Chartered Institute of Management Accountants.

Kells, H.R. (1992). *Self-regulation in higher education*. London: Jessica Kingsley Publishers.

Kerr, C., & Gade, M. (1989). *The guardians: Boards of trustees of American colleges and universities.* Washington, DC: Association of Governing Boards of Universities and Colleges.

Koelman, J., & de Vries, P. (1999). Marketisation, hybrid organizations and accounting in higher education. In B. Jongbloed, P. Maassen, & G. Neave (Eds.), *From the eye of the storm: Higher education's changing institution*. Dordrecht: Kluwer Academic Publishers.

Lang, D.W. (2001). Financing higher education in Canada. Draft paper. To appear in S.O. Michael (Ed.), *International perspectives on higher education finance*. Kent, OH: Kent State University Press, in press.

Levy, D.C. (1986). Alternative private-public blends in higher education finance: International patterns. In D.C. Levy (Ed.), *Private education: Studies in choice and public policy.* New York, NY: Oxford University Press.

Levy, D.C. (1986). *Higher education and the state in Latin America: Private challenges to public dominance*. Chicago, IL: University of Chicago Press.

Lund, H. (1999). *Making and saving money: Income generation and cost saving in higher education*. Commonwealth Higher Education Management Service. www.acu.ac.uk/chems: visited February 15, 2003.

Mangan, K.S. (2001). Expectations evaporate for online MBA programs. *The Chronicle of Higher Education*, October 5.

Massy, W.F. (1996). Re-engineering resource allocation systems. In J.L. Yeager et al. (Eds.), (2001), *ASHE Reader on finance in higher education*, second edition. Boston, MA: Pearson Custom Publishing.

Matkin, G.W. (1997). Organizing university economic development: Lessons from continuing education and technology transfer. In J.L. Yeager et al. (Eds.), (2001), *ASHE Reader on finance in higher education*, second edition. Boston, MA: Pearson Custom Publishing.

Maxwell, J., Provan, D., & Fielden, J. (2000). State controlled or market driven? The regulation of private universities in the Commonwealth. CHEMS Paper No. 31, Commonwealth Higher Education Management Service. Association of Commonwealth Universities.

Merrill Lynch & Co. Global Securities Research and Economics Group. (2000). *The knowledge web: People power – Fuel for the new economy*. May 23.

Moran, G. (1996). Balancing objectives: Setting international student tuition fees. CBIE Research paper No. 9. Ottawa, ON: Canadian Bureau for International Education.

Olsen, F. (2002). Phoenix rises: The university's online program attracts students, profits and praise. *The Chronicle of Higher Education, 49*(10), November 1, A29–A31.

Ortmann, A. (2001). Capital romance: Why Wall Street fell in love with higher education. *Education Economics, 9*(3), 293–311.

Ruch, R.S. (2001). *Higher Education, Inc.: The rise of the for-profit university*. Baltimore, MD: Johns Hopkins University Press.

Statistics Canada. (2000). *Education in Canada 2000*. Catalogue number 81-229. Ottawa, ON.

Statistics Canada. (2001a). 2001 Census. Geography. Highlights and Analysis. www.geodepot.statcan.ca/Diss/Highlights/Page 2: visited on March 17, 2003.

Statistics Canada. (2001b). 2001 Census. Analysis Series. Education in Canada. www12.statcan.ca/english/census01/Products/Analytic/companion/educ: visited on March 17, 2003.

Statistics Canada. (2003a). Degrees in the health professions, 1997/98. www.statcan.gc.ca/english/Pgdb/health10.htm: visited on February 27, 2003.

Statistics Canada. (2003b). Full-time undergraduate enrolment by field of specialization and sex, Canada, selected years, 1861 to 1975. www.statcan.gc.ca/english: visited on February 27, 2003.

Symonds, W.C. (2001). Giving it the old online try. *Business Week.* December 3, 76–80.

Tabatoni, P, & Barblan, A. (2002). Strategic management, A tool of leadership – Concepts and paradoxes. *Thema*, 2, European University Association .www.unige.ch/eua: visited on Dec. 13, 2002.

Tomkins, C. & Mawditt, R. (1994). An attempt to introduce profit centre management within the University of Bath: A case study. In R.H. Berry (Ed.), *Management accounting in universities*. London: The Chartered Institute of Management Accountants.

Tooley, J. (2001). *The global education industry*, second edition. London: Institute of Economic Affairs.

Van de Wende, M. (2001). Internationalisation policies: About new trends and contrasting paradigms. *Higher Education Policy, 14,* 249–259.

Williams, G. (1996). The many faces of privatisation. *Higher Education Management 8*(3), 39–57.

Williams, G. (1997). The market route to mass higher education: British experience 1979–1996. *Higher Education Policy, 10*(3/4), 275–289.

Winston, G.C. (1999). For-profit higher education: Godzilla or chicken little? *Change, 31,* January–February 1999, 12.

Winston, G.C. (1999b). Subsidies, hierarchy and peers: The awkward economics of higher education. In J.L. Yeager et al. (Eds.), (2001), *ASHE Reader on finance in higher education*, second edition, (pp. 25–41). Boston, MA: Pearson Custom Publishing.

World Bank Task Force on Higher Education and Society. (2000). *Higher education in developing countries: Peril and Promise.* Washington, DC: The World Bank.

World Bank. (2002). *Constructing knowledge societies: New challenges for tertiary education*. Washington, DC: The World Bank.