CHANGING ORGANIZATIONAL FORMS: EVIDENCE FROM CANADA

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ABSTRACT

The objective of this paper is to analyse the conditions and principles regarding the emergence of new organizational forms across Canada. In comparing data from 1999 and from 2003, the survey results show some directions and processes that Canadian firms have adopted. Based on a set of nine variables described by Pettigrew and Fenton (2000), we established the extent to which internal network form characteristics have emerged in Canada. These research findings reveal widespread, but not revolutionary, change in terms of process and boundaries, yet a relative stability in structures.

Keywords: new organization forms, organizing, strategizing.

1 INTRODUCTION

Even today, the field of organization theory has difficulty explaining the emergence of organizations and new organizational forms (Pettigrew, Woodman, and Cameron, 2001; Pettigrew and Fenton, 2000; Lewin, Long, and Carroll, 1999). It is an important issue for two reasons; first of all, the ability of societies to respond to social problems may depend on the diversity of organizational forms (Hannan and Freeman, 1989). Secondly, emergent organizations are crucial because new organizational forms are indicative of beliefs, values, and norms (Rao and Singh, 1999) that contribute to improve organizational performance.

Although the literature on organizations has been rich in prescriptions of new organizational forms, the predominant form of organization among the largest firms continue to be the multi-divisional one (Lewin et al., 1999). Recent research by Whittington et al. (1999a, b) shows that the diffusion of the divisional structure has effectively suppressed indigenous forms in many European countries. Thus, in the mid 1990s, 75 per cent of the top 100 French firms, 70 per cent of the top l00 German firms and 89 per cent of the top 100 UK firms were divisionally organized. However, despite this apparent homogeneity, there still could be innovative organizing forms among large and medium sized organizations emerging in Canada. In support of this hypothesis, some scholars have suggested the possibility of revolution in the form, character, and processes of contemporary organizations. Some of these new organizational forms include the cellular form (Miles *et al.* 1997), the federal organization (Handy, 1992), the post-modern and flexible firm (Volberda, 1998) and the individualized corporation (Ghoshal and Bartlett, 1998). While some may question whether these ideal types of formulations truly capture the nature and extent of contemporary organizational change, there is now increasing experimental evidence demonstrating the diverse ways that firms are organizing themselves. Some authors have also been able to establish an association between innovative forms of organizing and company performance (Whittington et al., 1999a, b). This link between innovation and performance therefore supports previous claims that competitiveness is partially dependent on innovation, whereas an inflexible and bureaucratic organization cannot succeed.

Although one may try to pinpoint a single reason for the changing organizational forms, it is ultimately a combination of factors, including economic, technological, informational and political. These variables are driving the emergence of innovative forms of organizing; heightened international competition in a global economy is encouraging firms to think and act both globally and locally. Also, there are efficiency drivers to reduce costs, and pressure to concentrate manufacturing resources regionally and to simplify complex matrix structures by de-emphasizing country-based organizations. Internationalizing firms are strengthening internal networks between functions, divisions, countries and regions in order to speed the transfer of knowledge and skill, as well as investing in alliances and other partnerships to compete through co-operation. In this new knowledge economy, success is based on exploiting and exploring new knowledge within organizations. Advances in information and communication technologies are enabling network formation and utilization, in addition to permitting both a quantity and quality of hierarchical control and lateral knowledge sharing previously considered impossible. De-regulation has also been an enormous driver both of increased economic competition and of cultural and individual change in organizations. New skills, knowledge, attitudes and standards are now required in industries and firms previously sheltered from competition.

These multiple causes of organizational change are justifiably creating a new vocabulary regarding innovation in organizational arrangements. The pressures for change are so great that analyzing organizations has taken on a more dynamic and strategic quality. In the last decade, organizing has being portrayed as an instrument of strategic development. Organizing and strategizing are now recognized as truly complementary activities, even to the point where the form of organizing may be synonymous with the strategy of the firm. There is also a new and more inclusive appreciation of the range of levers to pull in organizing. The general trend in literature regarding new forms of organizing minimizes the importance of structure and design while emphasizing the importance of strategy, processes, systems, boundaries and people.

All of these changes leave the empirical researcher, manager and policy-maker with a number of conundrums. First of all, while the motivating factors for innovation in organizing are clear, the responses of firms are still obscure. In their attempt to capture the new reality of organizational responses, some authors have relied on the use of ideal types, for example, the descriptions of the "N" form, the cellular form, the boundaryless form and the individualized corporation. However, such descriptions (often expressed in apocryphal and dramatic language) have rested heavily on case studies of exceptional organizations, notably ABB and 3M (Bartlett and Ghoshal, 1993) or atypical sectors and regions, for instance, West Coast American high-tech (Bahrami, 1992). According to these studies, organizational changes do not just occur in form or structure, but also include dynamic adjustments in process, systems, and boundaries, making an analysis of changes difficult. Theoretical developments are also problematic when the appropriate analytical language is still emerging to describe empirical developments, which themselves are also still in the process of evolution.

This study explores how Canadian firms are engaging in New Organizational Designs and how these Canadian firms differ from firms in other regions. The specific objective of this survey is, firstly, to measure a set of all the indicators of change together.

Another goal is to measure and compare the changes over two time periods (1999 and 2003), and finally, to examine the extent to which the dimensions cohere. For example, the survey will discern if firms were innovating predominantly in the areas of structures, or processes, or boundaries, as well as to examine the extent of these changes.

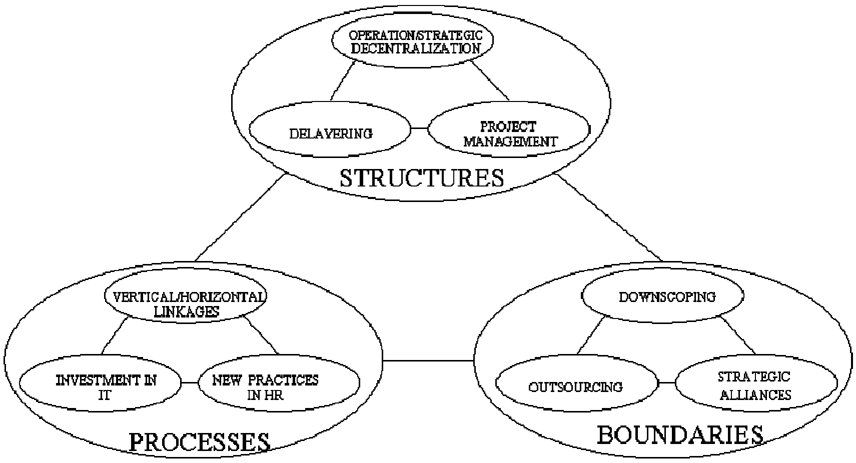
The following section presents the methods used during this study, which comprises a large-scale standardized survey of new organization practices in Canada. These innovative forms of organizing are defined in terms of changes in structures, processes and boundaries. Finally, the speed and extent of changes in Canada will be discussed.

2 MAPPING NEW FORMS OF ORGANIZING

The main causes of this new competitive environment are information technology and internationalization (Hitt et. al., 1998); the results are hypercompetition, the blurring of industry boundaries, greater focus on knowledge, and discontinuous change. This competitive environment renders anachronistic tradition and efficiency-oriented vertical structures, as well as triggering the contemporary search for new organizational practices in which flexibility, knowledge creation and collaboration are essential features (Volberta, 1998; Brown and Eisenhardt 1998).

Based on the INNFORM survey instrument (Pettigrew and Fenton, 2000), three clusters of indicators of contemporary change were used in the design of this study: ‘changing structures’, ‘changing processes’, and ‘changing boundaries’. Here, these three dimensions are defined, with some of the significant interdependencies drawn out between them, and also, the extent of systematic and large-sample surveys of new organizational forms is indicated. Figure 1 summarizes nine areas of change measured in this study.

Figure 1. New Forms of Organizing along Nine Variables



2.1 Changing Structures

The new competitive environment has put traditional hierarchical structures under two sets of pressures. First, the heavy hierarchical layers of middle managers have become too expensive; secondly, these layers have impeded the information flow and speed of response necessary for flexibility and innovation. As a result, firms have apparently been resorting to widespread delayering in order to remove these costly barriers to action.

The removal of 1ayers has been accompanied by a decentralization of the decision-making process. Increased operational decentralization (e.g. product design) has been necessary both to improve response times and to harness knowledge of operating managers. Strategic decentralization (e.g., increased responsibility for investment decisions) increases the profit-orientation and accountability of business managers, involving them in an increasingly competitive environment; ABB's business managers have even reported their ability to retain profits on their local balance sheets from year to year. Decentralization into smaller units promotes the formation of cross-functional and cross-boundary teams. In place of rigid traditional structures, organizations are increasingly shifting towards more flexible, project-based forms of organization. Structures are therefore taking on a more horizontal character, with projects being the vehicle for bridging the 'divisions' of traditional organization (Ghoshal and Bartlett, 1995).

2.2 Changing Processes

The flexibility and information required in the new Knowledge Economy requires intensive interaction, both vertical and horizontal. Learning organizations are communication-intensive, requiring new investments in information technology; these investments unite different parts of the organization in intense exchanges of information. These information flows are mainly horizontal, promoting 'co-adaptive' exploitation of cross-business synergies. However, these flows of information are moving outwards as well, embracing suppliers and customers through electronic data interchange (EDI) and similar initiatives. The new communication-intensive organization allows further process innovation, in terms of participation, polycentricity and flexibility.

For these processes to work, the hard infrastructure of IT needs to be underpinned by 'softer' investments in human resources. As Ghoshal and Bartlett (1998) insist, the new strategies and structures require unique ways of managing and different kinds of managers. Whittington and colleagues (1999a) suggest that the human resources function has become central to making new forms of organization work. These new Human Resources (HR) practices have two broad dimensions for the emerging model of organization: those concerned with supporting horizontal networking and those concerned with maintaining organizational integration.

The new HR practices foster horizontal processes in a variety of ways. Companies report a growing use of corporate-wide conferences, seminars and similar events to seek occasions on which to bring together key personnel for exchange knowledge. Also, communities of practices are a good example of a horizontal process levered by IT. Companies are increasingly viewing their key resource as the employees and the knowledge they bring, so that corporate-wide management of careers across organizational boundaries is becoming important. These horizontal processes also need integration within a corporate sense of purpose. High profile leadership and corporate mission building are necessary to provide a sense of shared corporate identity on which exchange can be built. Investment in managerial development plays a key part in cementing a common purpose within a 'boundaryless organization', such as GE. In this case, the deliberate cultivation of cross-unit teams and cross-unit communications are key functions (Nohria and Ghoshal, 1997).

2.3 Changing Boundaries

Large-scale organizations drive upper hierarchies; the wide scope stretches horizontal relationships (Jacques, 1990). Delayering and more interactive processes are likely to be accompanied, therefore, by a decreased scale and an increased focus on narrower spans of activities. This correlate of changing structures and processes is reinforced by increased competitive pressures forcing companies to focus on "core competencies," reforming their boundaries around what constitutes or supports their true competitive advantage (Prahalad and Hamel, 1990; Quinn 1992).

This competitive pressure is reflected in the widely observed shifting of businesses towards smaller, more decentralized units (Shutt and Whittington, 1987; Zenger and Hesterly, 1997). Hierarchy and scale can hamper the strategic flexibility required for competing in increasingly hypercompetitive environments (Volberda, 1998). The reduction in scale is often reinforced by strategic downsizing and by the abandonment of conglomerate strategies, leaving firms focused on areas of advantage (Hoskisson and Hitt 1994, Bhagat et al. 1990). Outsourcing, a strategic decision for companies, is detailed in the abundant amount of literature, intended to assist decision makers. Desreumaux (1996) points out that outsourcing modifies the structure of the company: it constitutes one of the main incentives for the creation of a new organizational form. Even within particular product-market domains, firms appear to be increasingly outsourcing value-chain activities of low strategic significance, with a wide range of non-core activities from training to R&D subcontracting (Whittington 1991; Geroski and Gregg 1994). Where superior skills or resources exist outside the firm, companies are making increased use of strategic alliances to supplement and sometimes enhance their own competences (Faulkner 1995; Nohria 1996). Therefore, whether by alliances, outsourcing, or downscoping, firms appear to be drawing their boundaries around narrower spheres of activity. The trends in organizational change reveal a patchwork quilt of conjectures, with pieces of evidence to suggest some dimensions of change may be occurring faster than are others.

Unlike a typical survey instrument of this kind, respondents were asked to compare their organization in 1999 with that in 2003. This is, of course, a limited time-scale within a process of organizational change, which probably started prior to 1999 and is still continuing today. However, the issue of reliable respondent recall eliminated the possibility of greater retrospection and besides; the period 1999-2003 already includes considerable pressure for change in Canada.

The questionnaire used was the same one used by the INNFORM project (Pettigrew et. al., 1995). The survey was mailed between January and April 2004 to the chief executives of large medium-sized (i.e. with more than 300 employees) firms throughout Canada. For companies in Quebec, a French version of the questionnaire was sent along with the English version. In total, 1747 firms were sampled. Although targeting single respondents does not necessarily seem reliable, results obtained from the chief executives gives a comprehensive view that is attuned to widespread practice. Furthermore, the single respondent questionnaire design avoided the difficulties of obtaining multi-respondent returns from large-scale surveys. Two weeks after the survey was mailed, an email follow-up was sent to the managers who did not respond. Overall, the response rate was 9.5 per cent, which is comparable to other recent European and American surveys of organizational change. Tests for the sample indicated no response biases for size, industry or profitability of the company. Also, no indication of response bias was found in the language of the questionnaire.

The following section describes Canada's adoption of organizational innovations between 1999 and 2003. The objective of this delineation is to understand businesses' position at both the beginning and end of the survey investigation, and to test for statistical differences. A more detailed investigation on the extent of change in Canada will then be presented. The presentation of the results is followed by a discussion on the characteristics of Canadian organizations. Finally, the study ends with a brief summary and conclusion.

3 FORMS OF ORGANIZING IN CANADA

This section deals with the empirical analysis of the questionnaire results concerning organizational changes in Canada. The answers to the survey questions were structured on a 5 point Likert scale for both 1999 and 2003. For example, the question regarding the adoption of a project-based structure asked Chief Executives to indicate the extent to which the corporate structure was organized according to that form. The possible answers for both 1999 and 2003 were: 1 = None; = Little; 3 = Moderate; 4 = Much; 5 = Great. The percentages for years 1999 and 2003 represent the proportion of organizations answering 4 or 5 in the 5 point Likert scale. Table 1 shows the percentages of the adoption of organizational innovations in Canadian firms. In order to draw sharper conclusions on the extent of the differences between 1999 and 2003, some statistical tests on the adoption of organizational innovations are also provided.

Table 1: Adoption of Organizational Innovations in Canada

Variable	Canada 1999	Canada 2003
Structures		
Delayering (less than 4)	17.5%	41.2%
Project form	25.5%	46.1%
Operation Decentralization	35.3%	64.7%
Strategic Decentralization	7.3%	15.8%
Processes		
Information Technology	35.2%	76.2%
Horizontal linkages	17.6%	50.8%
Vertical linkages	40.3%	73.3%

HR innovations	33.5%	36.1%
Boundaries		
Strategic alliances	38.7%	70.2%
Outsourcing	26.1%	23.5%
Downscoping (reduced diversification)	10.1%	15.7%

The results in Table 1 indicate that the percentages of Canadian companies adopting organizational innovations have increased between 1999 and 2003. All variables indicated an increase of the implementation of these innovations, with the exception of outsourcing, probably because companies had already selected the core activities. It is also consistent with the tendency to reduce diversification by limiting the business only to the core competences.

In 1999, the hierarchical structures of Canadian organizations varied from an average of 4.6 layers to 4.0 layers, encompassing the layers from the manager with the lowest level of profit responsibility to the CEO. In fact, 41.2% of the companies reduced at least one managerial level in the last five years.

The implementation of a project management structure increased from a quarter of the companies in 1999 to almost half of them in 2003. Such a dramatic increase is aligned with the operational decision-making that gave many more responsibilities to the managers remaining in the company following the delayering process. In contrast, less than 16% of the Canadian companies have given some strategic autonomy to business units. The survey results also reveal increases in the adoption of process innovations for Canadian firms between 1999 and 2003. These innovations include practices to enhance vertical linkages and horizontal communication, investments in IT, and the adoption of innovative HR practices.

Table 1 shows a greater investment of Canadian firms in IT and in vertical linkages during the period between 1999 and 2003. These remarkable changes indicate a clear focus on articulated knowledge that would allow more financial control by the companies' headquarters. Interestingly, by 2003, more than a third of the companies in Canada indicated they were introducing new human resources practices. These included the development of internal labor markets, corporate-wide mission building, team development and communities of practices. However, between 1999 and 2003, there are no significant changes in the HR practices applied, nor is there an increase in the percentage of companies that applied such practices. Interestingly, there was a dramatic increase in the percentage of organizations engaged in strategic alliances (from 38.7% to 70.2%). The evidence on the use of downscoping is mixed; in general, Canadian organizations show only a very modest change of their percentage of profiles between 1999 and 2003.

The rate of change in Canadian organizations between 1999 and 2003 will be explored in order to verify whether changes in organizational practices are adopted in an incremental or a more radical way. The literature on technological innovation characterizes radical innovations as fundamental and clear departures from existing practice. On the other hand, incremental innovations are defined as minor improvements or simple adjustments in current technology (Dewar and Dutton, 1986). This study will use these definitions of radical and incremental changes for the purposes of measuring Canadian organizational innovations.

During the period between 1999 and 2003, it is apparent that most companies were moving towards an increasing adoption of innovations. The changes between 1999 and 2003 were defined as following ways; first of all, a negative integer indicates that between 1999 and 2003, the firm reduced their emphasis on certain organizational innovations, as measured on the five-point Likert scale. This negative value was referred to as being “Against the Trend”. Secondly, a positive difference of 1 in the scale question is an “Incremental” change, and a difference greater than one is a “Radical” change. Finally, “No change” indicates the percentage of companies that did not change the emphasis of the organizational indicators during the four years.

Table 2 compares the Canadian data collected in the survey to the secondary data from Japan and Europe available from the INNFORM project (Pettigrew and Fenton, 2000). According to the table, all innovative profiles (structures, processes and boundaries) show statistical differences between Canada and Europe, and as well, the profiles also show statistically significant differences between Canada and Japan.

Table 2: Incremental and Radical Changes in Canada, 1999-2003

	Structures				**Processes**				**Boundaries**		
	De-layer	Project	Oper. Dec.	Strat Dec	Vertical Links	Horizontal Links	IT	New HR	Out-source	Strat. Alliances	Down-scope
Canada											
Against Trend	11.8	0.0	0.0	3.1	4.9	8.3	0.0	3.7	4.8	0.0	5.9
No change	53.1	57.3	63.3	67.5	62.7	46.4	25.4	15.4	75.9	4.6	76.5
Incremental	29.2	18.5	13.2	23.5	18.6	30.4	33.1	49.4	15.3	90.3	17.7
Radical	5.9	24.2	23.5	5.9	13.7	14.9	41.5	31.5	4.0	5.1	0.0
Radical + inc	35.1	42.7	36.7	29.4	32.4	45.3	74.6	80.9	19.3	95.4	17.7
Europe											
Against Trend	14.3	6.1	9.6	6.9	2.9	4.3	2.1	3.4	5.5	1.7	19.2
No change	54.0	46.2	46.5	55.5	18.3	22.9	8.8	4.1	31.4	68.1	69.4
Incremental	18.6	23.3	21.4	25.8	57.4	53.9	39.4	48.9	53.0	23.8	2.3
Radical	13.1	24.3	22.4	11.7	21.4	18.9	49.7	43.6	10.1	6.4	9.1
Radical + inc	31.7	47.6	43.8	37.5	78.8	72.8	89.1	92.5	63.1	30.2	11.4
Japan											
Against Trend	8.0	3.2	2.8	4.7	2.0	1.2	0.0	8.7	3.6	0.7	2.4
No change	77.5	63.6	81.5	80.6	40.6	40.6	8.2	20.1	34.0	89.6	87.7

Incremental	12.1	23.2	13.0	11.9	53.9	56.3	52.9	64.6	57.3	9.6	9.9
Radical	2.4	10.0	2.8	2.8	3.5	2.0	38.8	6.7	5.1	0.0	0.0
Radical + inc	14.5	33.2	15.8	14.7	57.4	58.3	91.7	71.3	62.4	9.6	9.9
CHI-2	10.3	12	23.9	8.1	54.3	28.7	28.2	22.9	55.4	60.2	55.8
(Prob)CAN-EU	(0.006)	(0.002)	(0.000)	(0.017)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CHI-2	64.5	38.4	84.3	51.2	28.9	67.4	30.1	32.8	56.5	66.3	60.4
(Prob)CAN-JP	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CHI-2	42.4	28.4	89.8	46.7	64.6	46.5	11.9	88.8	6.8	20.7	60.6
(Prob)EU-JP	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.079)	(0.000)	(0.000)

Notes:

1. When using the word ‘change’ we always mean a tendency towards a larger adoption, or increasing importance or emphasis, in that indicator of organizational change.
2. Probabilities are indicated within parentheses.

The relatively low percentages in the “Against the Trend” category indicate similar changes between 1999 and 2003 for all businesses. Canadian companies show much higher percentages of radical change as compared with their Japanese competitors. In contrast however, European companies display much higher percentages of radical change compared when with their Canadian competitors over these periods. When considering the sum of radical changes and incremental changes, the same analysis is applied to all variables. The only notable exception to this is in the de-layering category, where 31.7 percent of Europeans firms claim radical and incremental changes between the two periods, although this is less than the equivalent Japanese (15.5 percent) and Canadian companies’ (35.1 percent) percentages. Also, it is interesting to note that delayering contains the highest Against the Trend percentage. This is due to the fact that companies have exceeded the limits of reducing the chain of command, and that some medium flat companies have grown.

The most impressive finding in this study comes from the significant stability of the Canadian companies in the period of 1999-2003. In variables related to structure, Canadian firms were strongly consistent in maintaining the status quo. More than 63 percent of the companies did not implement any change in the scope of operational or strategic decision-making processes. In fact, 3.1 percent of Canadian companies reduced the involvement of middle managers in strategic decisions. Innovations in information technology and in human resources practices comprised the majority of radical changes in Canadian organizations; implementations of IT continued to drive innovation in the organizational processes. In contrast, vertical and horizontal linkages did not undergo important changes during the period. Also, organizational boundaries were characterized by stability in outsourcing and downscoping, since more than 75 percent of companies did not implement changes in such activities. Interestingly, more than 95 percent of the companies initiated activities to increase strategic alliances.

4 EXPLORING KEY CONTINGENCIES

Thus far, we have assessed the trends in the emergence of innovative organizational forms across Canada. Subsequently, we examined whether there are specific characteristics that can statistically explain the trends. To that end, we explored the extent to which our organizational form variables could be linked with a number of factors, namely (a) Knowledge intensity; (b) Internationalization; (c) R&D intensity and (d) Competition. Table 3 summarizes the results, linking these four variables. Knowledge intensity is calculated by a proxy of R&D expenditure as a percentage of assets and the percentage of employees holding a Masters or a Ph.D. degree. Internationalization is measured by the percentage of sales outside the company's domestic market). R&D intensity is measured as the R&D expenditure as a percentage of sales and, finally, competition is measured by the extent to which competition has changed in the firm's domestic market. Although there is an overlap between knowledge intensity and R&D intensity, they are not equivalent. R&D is a more specific form of knowledge, a subset of scientific and technological knowledge, whereas knowledge intensity normally refers to a wider set of attributes including information and skills (for instance, see Tidd et al., 1997; see also the May-June special issue of Organization Science on Knowledge, Knowing and Organizations, 13(3)).

Table 3: Parameter Estimate Based on Probit (profit?) Results: Individual Variables with Key Contingencies

Variable	Knowledge Intensity	Internationalization	R&D Intensity	Competition	Chi-square (p-value)
Structures					
Delayering	0.024	0.023	0.003	0.072**	5.45
	(0.016)	(0.027)	(0.017)	(0.027)	(0.42)
Project form	0.068*	-0.021	0.051*	0.021	46.89
	(0.017)	(0.020)	(0.024)	(0.032)	(0.00)
Operation	-0.002	0.055**	-0.005	-0.065***	29.25
Decentralization	(0.027)	(0.014)	(0.019	(0.044)	(0.00)
Strategic	0.051*	0.001	0.041*	-0.069**	26.91
Decentralization	(0.011)	(0.013)	(0.018)	(0.013)	(0.00)
Processes					
Information	-0.007	0.027	-0.009	-0.030	15.33
Technology	(0026)	(0.020)	(0.019	(0029)	(0.01)
Horizontal linkages	0.033	-0.021	0.030	0.025	18.13
	(0.020)	(0.019)	(0.036	(0.018)	(0.21)
Vertical linkages	0.021	0.013	-0.001	0.022	3.45
	(0.013)	(0.016)	(0.013)	(0.012)	(0.64)
HR innovations	0.012	0.019	0.024	0.011	9.89

	(0.019)	(0.012)	(0.018)	(0.017)	(0.38)
Boundaries					
Strategic alliances	-0.029	0.052**	0.025	0.026	19.78
	(0.021)	(0.014)	(0.023)	(0.014)	(0.00)
Outsourcing	-0.005	-0.013	-0.002	-0.033	19.72
	(0.023)	(0.016)	(0.025)	(0.024)	(0.00)
Downscoping	0.049**	0.007	0.039*	0.026	24.49
	(0.010)	(0.0011	(0.013)	(0.017)	(0.00)

Notes:

1 * p<0.05; **p<0.001; ***p<0.1

2 Number of Observations is 166

3 Standard errors reported in Parentheses

Maximum likelihood prohibit models were estimated with our organizational form variables as the dependent variable.

In Canada, knowledge intensity increases the probability of organizing by projects, indicating a high degree of strategic decentralization and downscoping. This finding may be surprising, because it is commonly accepted that the success of knowledge-intense firms also requires greater attention to organizational structures and processes that enhance their absorptive capacity (Cohen and Levinthal, 1990), such as, for example, sharing R&D knowledge, increasing decentralization and introducing information systems. In our sample, we did not find statistical evidence that such processes influence knowledge intensity.

The degree of internalization affects only the decentralization of operations and the engagement in strategic alliances. These results suggest that although companies go international, they do not decentralize the strategic decision-making process. In contrast, specific attention to project structures, strategic decentralization, and downscoping are all positively and significantly related to R&D intensity.

Increases in competition only explain the incidence of delayering the corporate hierarchy. Increased competition appears to be negatively associated with decisions to decentralize operating decision-making and with strategic decentralization, suggesting that increased competitive pressures lead companies to centralize control in both strategic and operational decisions at the corporate level. Overall, there is a movement in Canadian business toward new organizational practices. However, several nuances can be added to our previous analysis. First, by comparing items over all of the broad dimensions, we are able to get a comparative picture of relative change across organizations, each as a whole. As a result, the dimensions of process and boundaries have had the greatest activity. In terms of process, information technology and human resources practices have seen major changes; in terms of boundaries, strategic alliances have been important, but there has been only limited progress in downscoping. Many firms are claiming changes in structure, but generally, the proportions of structural changes are lower than the proportions of boundary and process variables. Secondly, our analysis should clarify that the changes are not always simple and are not just in one direction. In particular, some companies are increasing their layers, while others are moving towards greater diversification. Finally, in terms of business contingencies, there is evidence of a common direction of change, but from different starting points.

5 SUMMARY AND CONCLUSION

This paper presents some empirical results from the survey on organizational innovations by assessing trends in corporate restructuring and analyzing the emergence of new organizational patterns across Canada over the 1999-2003 period. Previous research suggests the development of new organizational forms in order to cope with a more competitive environment. These changes include, for example, the contracting of hierarchies or delayering, the decentralization of strategic and operational functions, the developing of horizontal and vertical networks, the tendency to invest in IT and the redefinition of organizational boundaries. This research also shows that organizational structures are in fact changing as little as possible while adopting new technologies.

There appear to be multiple, accumulating and independent reasons for these new forms of organizing; among these are economic, technological, informational and political factors. Increased global competition, the speed of technical and market change, and the rise of information and communication technologies are all driving the knowledge economy and related firms. However, the pressures for organizational changes seem easier to identify than the actual responses firms are making to those pressures.

The main question we addressed is whether Canadian companies are restructuring towards new patterns of organizing as suggested in the literature. The empirical evidence required for understanding the direction and the extent of change has been rather limited. The literature describes the rise of the "N-form", the cellular form, the boundaryless form and individualized corporations, but these studies rely too heavily on cases of exceptional organizations or of atypical sectors and regions. Thus, there is a need for mapping studies that offer time series data on a relatively comprehensive scale, comparing the emergence of new forms of organizing across Canada.

The most striking finding of this study is that the literature on the rate or organizational change is not supported by the gradual changes found in the field. Over the 1999-2003 period, certain internal network characteristics across Canada have emerged, yet our results hardly warrant the use of far-fetched claims regarding the rise of "the new organization", that is, a dominant organizational form beyond the multidivisional organization. There is not evidence of a new form supplanting the old one, but there is proof of new arrangements supplementing the old. Thus, hierarchies still matter, since growing companies tend to add layers. There has not been much decentralization of strategic decisions; in fact, some companies have centralized strategic decisions while growing. However, there is still change at the same time, as there has been a certain degree of delayering; companies do report decentralization of operational decision-making; and they also report increasing networking. Likewise, functions continue to matter, since companies report little outsourcing in R&D. Finally, divisions still matter, as Canadian firms report moving away from the single business firm, but they are abandoning the unrelated diversified conglomerate at the same time. Since companies face a certain degree of inertia and cannot always re-invent their internal structures, processes and external boundaries, as well as restructuring and organizational innovation, appear as a combination of continuity and change. The second, and perhaps the most striking finding of this paper, is that while the organizational change literature continues to report an increase in the rate of change, our sample indicates a reasonable continuity in structures and process. This means that Canadian companies have implemented radical changes in technological systems, but they have also kept the same scope of business and have put their activities under their responsibility. In fact, Canadian companies have allocated a lot of resources in exploring strategic alliances while keeping their focus on the original business.

Based on this research, some other research questions would be explored that could lead to some novel findings about structural change. For instance, do some characteristics of local cultures or environments lead to a proliferation of certain types of changes in specific countries and in absence of others? What antecedent factors might explain these differences?

Finally, there are some obvious limitations to the findings presented in this paper. First of all, we have looked only at nine variables in this paper. Further research needs to show whether a selection of other variables will produce similar results. Secondly, we have only taken two snapshots: our survey compared change between 1999 and 2003. While these specific years have been chosen somewhat arbitrarily, a four-year period is a large enough span in which to study business changes. Thirdly, the managerial implications are not clear from the results of the survey. In addition, we should consider the limitation of the comparisons between Canadian, Japanese and European companies, because the data was gathered in two different periods of time. The social realities behind the trends presented in this paper may still vary considerably across companies and industries. The results from this paper therefore need be supplemented by further case study research investing the speed, direction and cross-national comparability of corporate restructuring and organizational change in Canada. Such case study research should help to identify best-practice modes and the associated time horizons of introducing and managing new forms of organizing.

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