

Patterns of Workplace Innovation in Canada

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Résumé de l'article

Le présent article expose les résultats d'une vaste enquête portant sur neuf modèles d'innovation en milieu de travail: participation aux bénéfices, partage des gains de productivité, rémunération du savoir ou des connaissances, partage des tâches, enrichissement des tâches, groupes de travail semi-autonomes, cercles de qualité, comités patronaux-ouvriers et autres groupes de règlement des difficultés.

Cette étude aborde cinq questions principales. Premièrement, quelle est l'importance de ces initiatives au Canada? Deuxièmement, varient-elles suivant les secteurs ou les industries? Troisièmement, quelles ont été les tendances qu'on a observées dans leur mise en œuvre au cours des vingt-cinq dernières années? Quatrièmement, ont-elles une durée de survie différente? Cinquièmement, peut-on dire qu'elles constituent des modèles d'implantation? À l'automne 1985, on a fait parvenir des questionnaires à un échantillon de 5 000 entreprises canadiennes en puisant dans les dossiers de Dun et Bradstreet. Après en avoir retiré celles qui employaient moins de 50 personnes ainsi que celles qui œuvraient dans l'agriculture, l'industrie de la construction et les secteurs de l'administration publique, on a procédé à un tri au hasard. Cette façon de faire a permis d'obtenir des réponses valables de 946 firmes représentant toutes les régions du pays et tous les secteurs industriels à l'exception de l'industrie du bâtiment et l'administration publique.

Le Conseil économique du Canada a préparé le sondage lui-même afin d'établir l'ampleur de l'utilisation et des effets des technologies assistées d'ordinateurs dans les entreprises canadiennes, mais il comprenait aussi une question qui portait sur la mise en œuvre des innovations énumérées ci-dessus dans le milieu de travail. On a demandé à chacune des firmes si elles avaient déjà utilisé l'une d'entre elles, en quelle année elle l'avait fait et si cette innovation existait encore. On a découvert que l'importance de telles initiatives variait en fonction de la fois des types d'innovations et des secteurs d'activité. D'une façon générale, les deux tiers des entreprises comprises dans l'échantillonnage soutenaient avoir tenté au moins une expérience et le nombre moyen des innovations par employeur s'établissait à 1,44. Les principaux utilisateurs comprenaient les services commerciaux, les institutions financières, les compagnies d'assurance, les agences d'immobiliers, les commerces de détail et les firmes du secteur manufacturier, tandis que les entreprises de communications et de services publics et autres organisations analogues cherchaient moins à les instaurer. Les comités patronaux-ouvriers, suivis de la participation aux bénéfices et de l'enrichissement des tâches, étaient les innovations les plus fréquentes, tandis que des mesures comme la rémunération du savoir-faire, le partage du travail et les groupes de travail semi-autonomes étaient moins courantes.

Pour chaque type d'innovation, la majorité des mises en place ont eu lieu au cours des six dernières années (1980-1985). À l'intérieur de cette période, on remarque, toutefois, une variation considérable. Par exemple, presque la moitié des régimes de participation aux bénéfices étaient antérieurs à 1980 comparativement à 8 pour cent seulement des cercles de qualité.

On a demandé aux répondants si les mesures qu'ils avaient prises existaient encore à la date de l'enquête. D'une façon générale, ces innovations se sont maintenues à l'exception du partage des emplois où seulement 52,1 pour cent de ces dispositions étaient toujours là. Par ailleurs, la rémunération des connaissances n'avait un taux de maintien que de 76,8% tandis que les groupes de solution des difficultés occupaient le premier rang, soit un taux de survie de 93,3 pour cent.

En ce qui a trait aux types d'innovation, l'analyse comparative a révélé que la présence de l'une d'entre elles dans une entreprise était presque toujours accompagnée d'une quelconque de diverses autres formes d'innovation, et cela à une exception près. Il n'y avait aucune relation, par exemple, entre l'existence d'un régime de participation aux bénéfices et la présence de comités patronaux-ouvriers.

En moyenne, on retrouvait plus souvent avec d'autres formes d'innovation, les groupes de travail semi-autonomes, tandis que la participation aux bénéfices s'y voyait plus rarement. L'étude permet de tirer plusieurs conclusions. Premièrement, il y a eu pas mal d'innovations au Canada, mais moins que dans certains autres pays. Deuxièmement, on a remarqué une augmentation considérable d'initiatives nouvelles au cours de la décennie 1980. Troisièmement, les données citées dans le présent article montrent qu'il y a évolution constante plutôt que changements cycliques dans le degré de participation des travailleurs.

Toutefois, il reste à voir si ces tendances nouvelles signifient un changement fondamental s'écartant des relations professionnelles traditionnelles. Plusieurs questions demeurent sans réponse, en particulier l'influence de ces innovations sur les organisations et leurs membres ainsi que les causes profondes de ces changements survenus dans le milieu de travail.

Patterns of Workplace Innovation in Canada

Richard J. Long

This paper reports the results of a large-scale Canadian survey of nine types of workplace innovation — profit sharing, gain sharing, pay for knowledge, job sharing, job enrichment, semi-autonomous work groups, quality circles, labour-management committees, and 'other' joint problem solving groups. The paper assesses the incidence of each type, patterns of implementation, survival rates, and trends over time.

Although a variety of innovative ways of organizing, rewarding, and managing work have been advocated in recent years (Trist, 1978; Lawler, 1986), very little is known about either their extent or pattern of implementation in Canada. Such knowledge as is available comes primarily from relatively small scale studies that focus on only one type of innovation (eg Hewitt Associates, 1987; Schwind, Pendse, and Mukhopadhyay, 1987; Saleh, Guo, and Hull, 1988; McNally, 1988), or that are based on a very limited number of organizations (eg Nightingale, 1982). Other than brief summaries of the data on which this paper is based¹, there have been to date no published studies that have attempted to assess, with other than impressionistic data, a range of innovations across a broad spectrum of Canadian organizations.

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** The data on which this paper is based were collected by the Economic Council of Canada, as part of a major study of technological change in Canada (see BETCHERMAN and MCMULLEN, 1986). I would like to extend my appreciation to the Economic Council, and, in particular, to Keith Newton, Director of the Labour Market Impacts of Technological Change Project at the Council, and Kathryn McMullen and Gordon Betcherman, who were the project researchers, for sharing their data with me, and for their comments on this paper. I would also like to thank Professors Ali Dastmalchian and Ignace Ng for their helpful comments on this manuscript.

¹ See BETCHERMAN and MCMULLEN, 1986, p. 42, or The Economic Council of Canada, 1987, pp. 92-93.

This paper deals with this gap in our knowledge by presenting the results of a large-scale nation-wide survey conducted in 1985/86. The data from this survey provide evidence regarding recent trends in nine types of workplace innovation — profit sharing, gain sharing, pay for knowledge, job sharing, job enrichment, semi-autonomous work groups, quality circles, labour-management committees, and «other» joint problem solving groups.

Among the questions that this paper will address are the following. First, what is the relative incidence of these innovations in Canada? Second, does this vary across sectors or industries? Third, what are the trends in implementation over the past 25 years? Fourth, do these innovations show differential survival rates? Fifth, are there patterns of implementation? That is, do some types of innovation tend to be used in conjunction with other types? This is considered to be an important issue since many commentators (eg Lawler, 1986) believe that any one of these innovations, used in isolation, will have limited effect.

These questions are important for a number of reasons. Many commentators (eg Trist, 1978; Lawler, 1986) argue that traditional ways of organizing and rewarding work, and the adversarial approach to labour-management relations which has accompanied them, are no longer appropriate in the light of various changes in the social, technical, and economic environment that have emerged over the last 100 years. Similarly, in its final report, the Royal Commission on the Economic Union and Development Prospects for Canada (The MacDonald Commission) has urged the implementation of new forms of work organization and employee participation as a crucial strategy for enhancing organizational effectiveness (Government of Canada, 1985).

More recently, after a careful analysis of key environmental trends facing Canada, Kochan (1988) concluded that the ability of Canadian organizations to successfully compete is dependent on development of a new relationship between labour and management, and a higher level of employee involvement and participation within enterprises. In a similar vein, a number of observers (eg Economic Council of Canada, 1987; Long, 1987) have argued that the successful adoption and utilization of new technology is largely dependent on the ability of management to develop a more participative approach to employee-management relationships. Indeed, the Economic Council study cited above found that those organizations that had successfully adopted technological innovation tended also to be those that have adopted workplace innovations.

If these commentators are correct, it is crucial to understand the extent and shape that workplace innovation has been taking in Canada in recent years. Answers to the questions cited above should help us to do so.

METHODOLOGY

Questionnaires were sent to a sample of 5,000 Canadian organizations, selected from the Dun and Bradstreet files. After the exclusion of establishments listed as employing less than 50 persons, and those in the agriculture, construction, and public administration sectors, selections were made randomly. The questionnaires were addressed to the most senior executive at each establishment. Because of the diverse nature of the information sought, it is apparent in many cases that the questionnaire was actually completed by three or more individuals: the chief financial officer, the chief human resources officer, and the chief technical officer, or their designates.

The survey had two related major purposes: to assess the extent of use of computer-based technologies by Canadian business establishments, and to assess the impact of the introduction of those technologies on the employees of those establishments². However, it also included a question exploring the use of workplace innovations. Usable responses were received from 946 establishments. Characteristics of the sample are shown in Table 1.

As can be seen, the sample contains respondents from all parts of Canada, as well as all major industrial sectors, with the exception of construction and public administration. The median number of employees was 104, and the mean was 278. About half of the establishments had more than 100 employees, and the largest reported having 5815 employees. Median annual sales was \$9,237,000. Approximately half of the organizations had at least some unionized employees, and about 60% were independent Canadian-owned organizations. The remaining 40% were subsidiaries of larger Canadian (23%) or foreign owned (17%) organizations.

Use of the nine types of workplace innovation was assessed with the following question: 'Have any of the following arrangements ever been introduced into your establishment?' Respondents were provided with the following list:

- Profit Sharing
- Job Sharing
- Job enlargement/rotation/enrichment
- Semi-autonomous work groups
- Productivity gain sharing
- Pay for knowledge systems
- Quality circles
- Labour-management committees
- Other joint problem-solving groups.

² As noted earlier, the survey was designed and conducted by the Economic Council of Canada.

TABLE 1
Characteristics of Sample

<i>A.</i>	<i>Industrial Sector</i>	<i>Number</i>	<i>%</i>
	- Primary (Agriculture/Resources)	38	4,0%
	- Manufacturing	426	45,3%
	- Transportation	40	4,3%
	- Communications/Utilities	24	2,6%
	- Wholesale Trade	45	4,8%
	- Retail Trade	82	8,7%
	- Finance/Insurance/Real Estate	48	5,1%
	- Business Services	71	7,6%
	- Health/Social Services	62	6,6%
	- Accommodation/Food	56	6,0%
	- Government/Education/Other	48	5,1%
<i>B.</i>	<i>Region</i>		
	- Atlantic	57	6,0%
	- Québec	258	27,3%
	- Ontario	407	43,0%
	- Prairies	121	12,8%
	- British Columbia	94	9,9%
<i>C.</i>	<i>Number of Employees</i>		
	- 100 or less	323	48,1%
	- 101 - 500	255	38,0%
	- 501 - 1000	56	8,4%
	- More than 1000	37	5,5%
<i>D.</i>	<i>Annual Sales</i>		
	- Under \$1,000,000	25	4,0%
	- \$1,000,000 - \$5,000,000	173	28,0%
	- \$5,000,001 - \$10,000,000	129	20,9%
	- \$10,000,001 - \$20,000,000	105	17,0%
	- \$20,000,001 - \$50,000,000	105	17,0%
	- Over \$50,000,000	81	13,1%
<i>E.</i>	<i>Unionized</i>		
	- Yes	451	49,0%
	- No	470	51,0%
<i>F.</i>	<i>Ownership</i>		
	- Local	549	59,8%
	- Remote - Canadian	211	23,0%
	- Remote - U.S.A.	118	12,9%
	- Remote - Other Foreign	40	4,4%

For each, they were first asked to check 'yes' or 'no'. If they checked 'yes', they were then asked to indicate the first year that the innovation had been established, and to indicate whether it was still in existence at the time of the survey.

One potential problem with this procedure is that no definitions were provided for each innovation. If a respondent was unaware of the generally accepted definition of each type, there are two possibilities for error. First, a respondent may claim to have one of these innovations, when in fact they do not. Alternatively, they may actually have one of these innovations but do not report it because they do not know the formal name for it.

Overall, it seems more likely that an overestimation, rather than an underestimation, would take place. It would appear that those innovations most likely to be ambiguous would be job sharing, semi-autonomous work groups, and pay for knowledge systems. This concern should be borne in mind while interpreting the study results.

RESULTS

Overall Incidence

Table 2 shows the overall incidence of workplace innovations, along with a breakdown by type and industrial sector. As can be seen, nearly two thirds of the sample (64,4%) claimed to have tried at least one innovation, although there was significant variation across sectors. While 71,8% of those in the business services sector claimed to have tried at least one innovation, only 39,6% of those in the 'other services' category (comprised mainly of establishments in the 'personal services' sector, such as recreational services and building and repair services) had done so. Other high adopters were the retail trade, manufacturing, and finance/insurance/real estate sectors, while other low adopters were accommodation/food, communication/utilities, transportation, and wholesale trade.

Overall, the average number of innovations per firm was 1,44. At the top of the list, four sectors — finance/real estate/insurance, retail trade, business services, and manufacturing — had a virtually identical average number of innovations (ranging from 1,56 to 1,60), while two sectors — communications/utilities and 'other' services — bottomed the list. Accommodation/food, wholesale trade, agriculture/resources, and transportation ranged in between.

TABLE 2
Pattern of Implementation by Industrial Sector

	All Firms <i>n</i> = 946	Agri-Resources <i>n</i> = 38	Manu-facturing <i>n</i> = 426	Trans-portion <i>n</i> = 40	Comm-Utilities <i>n</i> = 24	Wholesale Trade <i>n</i> = 45	Retail Trade <i>n</i> = 82	Finance Instr. Real Es. <i>n</i> = 48	Business Services <i>n</i> = 71	Health Social Services <i>n</i> = 62	Accom. Food <i>n</i> = 56	Other Services <i>n</i> = 48	<i>P</i> < (Chi-Square)
At least one innovation	64,4%	63,2	69,2	55,0	50,0	55,6	70,7	66,7	71,8	62,9	50,0	39,6	,001
Profit Sharing	25,0%	21,6	24,4	16,2	4,8	31,0	48,7	26,1	37,7	3,6	24,0	9,5	,001
Gain Sharing	9,7%	5,4	11,0	5,4	---	7,1	14,1	6,5	10,1	3,6	18,0	4,8	,147
Pay for Knowledge	7,4%	5,6	7,5	8,1	4,8	7,1	6,4	13,0	5,8	5,5	14,0	2,4	,636
Job Sharing	14,7%	5,4	16,3	8,1	4,8	14,3	19,2	8,5	18,8	14,3	18,0	7,1	,265
Job Enrichment	21,9%	25,0	21,1	24,3	9,5	21,4	23,1	41,3	23,2	16,4	24,5	9,5	,063
S.A. Work Groups	11,0%	5,6	10,3	13,5	---	16,7	7,7	17,4	23,2	1,8	14,0	7,1	,006
Quality Circles	14,2%	8,3	17,5	2,8	4,8	11,9	10,3	26,1	11,6	12,7	18,4	---	,006
Labour-Mgt. Committees	31,8%	33,3	40,2	37,8	47,6	21,4	23,4	17,4	13,0	42,6	16,0	16,7	,001
Other Problem-Solving Groups	19,4%	33,3	18,8	16,7	19,0	22,0	15,6	10,9	18,8	40,4	18,0	7,1	,003
Average Number of Innovations	1,44	1,37	1,56	1,23	0,83	1,42	1,59	1,60	1,58	1,23	1,46	0,56	,019 (F-Test)

Note: All tests of significance are two tailed.

Of those organizations that reported adopting at least one innovation, just under 44% indicated that they had adopted only one innovation, while another 25% reported adopting two. Twelve firms (2,0%) claimed that they had adopted all nine innovations. Of the 1,134 workplace innovations reported, nearly half (526) were accounted for by one sixth (102) of those firms implementing workplace innovation.

The most common innovation overall was labour-management committees, followed by profit sharing and job enrichment. The least common were pay for knowledge, gain sharing, and semi-autonomous work groups. 'Other' joint problem solving groups, job sharing, and quality circles fell in between.

Five of these varied significantly ($p < ,05$) across industries — profit sharing, work groups, quality circles, labour-management committees, and other problem-solving groups. A sixth one, job enrichment, did not quite reach the ,05 level ($p < ,07$), while gain sharing, pay for knowledge, and job sharing showed no significant variation across sectors.

Size of the organization played a significant ($p < ,001$) role in the number of innovations implemented, with 'large' firms (those employing at least one hundred persons) averaging 1,74 innovations, compared to 1,21 for 'small' firms (less than one hundred employees)³. This reflected differences between large and small firms in four of the innovations — job enrichment, quality circles, labour management committees, and 'other' problem solving groups. There was no significant difference between large and small firms in terms of profit sharing, gain sharing, pay for knowledge, job sharing, or semi-autonomous work groups.

Once standardized for size, there was no significant difference between unionized and non-unionized establishments in the mean number of innovations introduced. However, this overall result masked a number of significant differences for several specific innovations. Non-unionized firms were significantly ($p < ,01$) more likely to have profit sharing than unionized firms. This was also true for semi-autonomous work groups in large organizations ($p < ,03$). In contrast, unionized firms were significantly more likely to have labour management committees ($p < ,001$), and, in small firms only, quality circles ($p < ,02$).

In general, the overall variation between regions in average number of innovations was quite small. The exception to this was the Atlantic region,

³ Interestingly, there was one region that diverged dramatically from this overall result. In British Columbia, small firms had significantly *more* ($p < ,01$) innovations than large firms — an average of 2,44 compared to 1,27.

which showed the lowest average number of innovations by a substantial margin. This region had a mean of 1,12, in comparison with 1,40 for Ontario, 1,45 for Québec, 1,52 for British Columbia, and 1,63 for the Prairies.

However, when size is considered, this pattern shifts somewhat. In small firms, there is substantial variation, ranging from ,33 innovations in the Atlantic region to 2,44 in British Columbia. In large firms, the range is between 1,27 (British Columbia) and 2,06 (Prairies).

Trends

Table 3 shows that, in every case, the majority of introductions has occurred within the last six years (1980-85). Within this, however, there is considerable variation. For example, nearly half (47,3%) of the profit sharing plans were established prior to 1980, compared to only 8% of the quality circles.

Respondents were asked to indicate whether their innovations were still in existence at the time of the survey. As Table 3 indicates, the survival rates varied from 52,1% for job sharing to 93,2% for 'other joint problem solving groups'.

We will now examine the specific trends over the past twenty five years for each type of innovation in turn. The three financial innovations will first be discussed, followed by the three dealing with job design and organization of work, and then the three dealing with decision making.

Profit Sharing

Profit sharing is clearly the oldest innovation, with a mean age of just over nine years. Implementation of these plans has shown a steady growth over the past twenty years, with 1982 being the peak year for implementations.

As Table 2 has indicated, profit sharing plans are heavily concentrated in certain sectors. For example, nearly half (48,7%) of all firms in the retail trade sector have plans. They are also very common in the business services (37,7% of firms have them), wholesale trade (31%), finance/insurance/real estate (26,1%), manufacturing (24,4%), accommodation/food (24%), and agriculture/resources (21,6%) sectors. They are rare in the health/social services (3,6%), communication/utilities (4,8%), and 'other services' (9,5%) sectors. A likely reason for this is that many of the organizations in these categories are not-for-profit enterprises.

These plans show a high survival rate, as 88,9% of firms that have ever introduced them still have them.

TABLE 3
Temporal Pattern of Implementation

	#	% of Orgs.	% Established Before			Year of Introduction			Age			% Still in Existence
			1960	1970	1980	Median	Mode	Range	Mean (years)	Median (years)	Range (years)	
Profit Sharing	219	25,0%	6,0	13,0	47,3	1980	1982	1931-85	9,2	6	1-55	88,9%
Gain Sharing	85	9,7%	1,9	7,5	30,2	1982	1983	1955-85	6,5	4	1-31	82,4%
Pay for Knowledge	65	7,4%	2,9	11,4	40,0	1980	1980	1957-85	8,0	6	1-29	76,8%
Job Sharing	129	14,7%	—	1,1	13,0	1983	1983	1967-85	4,3	3	1-19	52,1%
Job Enrichment	191	21,9%	2,4	6,3	29,9	1981	1984	1950-85	6,6	5	1-36	92,8%
S.A. Work Groups	96	11,0%	4,8	11,1	41,3	1981	1983	1950-85	7,9	5	1-36	86,5%
Quality Circles	124	14,2%	—	—	8,0	1983	1983	1970-85	3,4	3	1-16	81,0%
Labour-Mgt. Committees	276	31,8%	1,6	7,3	42,2	1980	1980	1952-85	7,5	6	1-34	92,8%
Other Problem-Solving Groups	168	19,4%	5,0	8,4	24,4	1983	1985	1929-85	6,4	3	1-57	93,3%

Gain Sharing

Although gain sharing plans have existed in this sample since 1955, about 70% have been introduced in the past six years, with 1983 and 1985 being the peak years for implementation. They have experienced gradually increasing popularity since 1973.

Much less common than profit sharing, gain sharing plans are most often found in the accommodation/food (18% of firms have them), retail trade (14,1%), manufacturing (11%), and business services (10,1%) sectors.

They show a somewhat lower survival rate than profit sharing, with 82,4% still in existence.

Pay for Knowledge

Pay for knowledge systems were the least common of any of the innovations, with just 7,4% of firms claiming to possess them. Although 60% of these systems have been introduced in the last six years, they have not shown any dramatic upswing in popularity. The peak year for introduction was 1980. They appear to be most popular in the accommodation/food (14% of firms have them) and the finance/insurance/real estate (13%) sectors. Their survival rate is the lowest of the financial innovations, at 76,8%.

Their low reported incidence is somewhat surprising, given the potential ambiguity of the question. For example, it might have been expected that many employers would claim that their pay systems reflect the knowledge of their workers, which would be a broader definition than would technically be applied to this concept⁴. That so few have done so may be an indication that full fledged knowledge based pay systems remain rare indeed.

Job Sharing

Job sharing appears to be the most transitory of all the innovations. It showed great popularity in 1982 and 1983, but relatively little interest before, and declining interest since. (Indeed, about half of all implementations (48,9%) took place in these two years.) It was most commonly found

⁴ Pay for knowledge systems, sometimes known as skill-based pay, are systems that compensate employees for what they know, or how many jobs they are able to perform, rather than for the particular job that an employee is performing at the moment.

in the retail trade (19,2% of firms had them), business services (18,8%), accommodation/ food (18%), wholesale trade and health/ social services (both at 14,3%) sectors.

The survival rate of job sharing plans was low, with just over half (52,1%) still in existence. However, it should be noted that job sharing arrangements are frequently established in response to short term circumstances, such as a desire among parents of infants and young children to temporarily reduce their commitment to the organization. Once the children are in school, job sharers will frequently wish to revert to full time employment. This 'natural' termination of job sharing may not at all imply lack of success of the concept. Indeed, it may well be utilized again, if circumstances again warrant.

As with pay for knowledge, there may be some concern about whether respondents are defining job sharing in the strict sense: 'whereby two persons take responsibility for one job and divide the time they spend on it according to arrangements made with the employer' (Cohen and Gadon, 1978, p. 127). Because of high unemployment in the early eighties, the federal government introduced a plan they called 'work sharing', which involved a decrease in the paid work week from five days to four, with employees eligible for unemployment benefits on the fifth day. Although discontinued after a couple of years, this may be what many respondents were referring to, and may have accounted for both the apparent surge and ebb of interest described earlier.

Job Enrichment

Although job enlargement, rotation, and enrichment schemes have been around for many years, they experienced a dramatic surge in popularity, starting in 1980, and peaking in 1984. Overall, these innovations were the third most commonly found. These plans were by far and away the most popular in the finance/insurance/real estate sector, where 41,3% of firms had introduced them. They were also quite common in all other sectors, with the exception of communications/utilities and 'other services' (both at 9,5%). Their survival rate was among the three highest, at 92,8%.

It should be noted that this category contains two distinct types of innovations. While job enlargement and enrichment are often used synonymously to refer to the redesign of jobs to add more elements to them, job rotation leaves jobs unchanged but rotates the job holders. Unfortunately, there is no way of knowing the relative proportion of each in the sample.

Semi-autonomous Work Groups

Semi-autonomous work groups (sometimes known as work teams) have shown a significant increase in popularity, starting in 1979, and peaking in 1983. They tend to be concentrated in the business services (where 23,2% of firms have them), finance/insurance/real estate (17,4%), and wholesale trade (16,7%) sectors. Their survival rate is quite good, with about 86,5% still in existence.

Quality Circles

Clearly, the innovation enjoying the most dramatic surge in popularity has been quality circles. Virtually unknown in North America prior to 1970, they were implemented at an astonishing rate during 1982-85. Virtually all (92%) were introduced during the last six years, making them the newest innovation. They find the most popularity in the finance/insurance/real estate sector, where 26,1% of firms have them. They are also common in accommodation/food (18,4%) and manufacturing (17,5%), but very rare in the communications/utilities (one firm), transportation (one firm), and 'other services' sectors (where there are none at all).

Despite their relative newness, nearly a fifth were no longer in existence at the time of the study, for a survival rate of 81%.

Labour-Management Committees

The most numerous innovation is labour-management committees. Although the majority (57,8%) have been implemented during the past six years, there has been steadily increasing implementation since the sixties, with an interesting pattern of peaks on the decades and half decades. They are concentrated heavily in certain sectors, most notably communications/utilities, where nearly half (47,6%) of all firms have them. They are also very common in health/social services (42,6%), manufacturing (40,2%), and transportation (37,8%). Labour-management committees have an excellent survival rate, with 92,8% still in existence.

This is another case where there may be some ambiguity in the responses. For example, a number of the firms reporting the existence of labour-management committees also reported that they were not unionized. (In some cases it appears that management problem solving groups have also been included here.) Since labour-management committees usually are defined as joint union-management groups, many commentators would not accept reports of labour-management committees in non-unionized firms.

In addition, it is quite likely that a good number of these committees are simply health and safety committees, which are required by statute in some jurisdictions⁵. To qualify as a true workplace innovation, labour-management committees would be expected to have a broader mandate than that.

Other Joint Problem Solving Groups

After a very gradual increasing trend until 1982, «other» joint problem solving groups showed a dramatic increase during 1983-85, peaking in 1985. Indeed, their current popularity exceeds that of quality circles.

They are by far the most prominent in the health/social services sector, where 40,4% of organizations have them, and in the agriculture/resources sector (33,3%). They are comparatively rare in the finance/insurance/real estate (10,9%) and 'other services' (7,1%) sectors.

Their survival rate, at 93,3%, is the highest of any of the innovations.

Patterns of Implementation

Table 4 provides the product moment correlations between all types of innovation. As can be seen, presence of one type of innovation was almost always statistically related to presence of the other types, with just one exception. There was no relationship between the existence of profit sharing and labour-management committees.

On average, the type with the strongest overall relationship to the others was semi-autonomous work groups, while the weakest was profit sharing. Overall, the strongest individual association was between semi-autonomous work groups and pay for knowledge systems. That these two are strongly related makes sense, since most advocates of work groups argue that traditional payment systems are not appropriate when using these groups. As would also be expected, presence of work groups also relates strongly to job enrichment/rotation, since the very creation of semi-autonomous work groups can be expected to provide opportunities for job enrichment and rotation.

The finding that existence of profit sharing was the least likely to signal the presence of other forms of innovation is interesting, since most

⁵ See BRYCE and MANGA, 1983, for a discussion of the impact of joint health and safety committees.

It is interesting to note the total absence of negative relationships, thus indicating that innovations do not substitute for one another, but complement one another. This may also indicate existence of an underlying management style that is conducive to these innovations.

DISCUSSION AND CONCLUSIONS

There are several conclusions that can be drawn from these data. The first is that there is a considerable amount of innovation currently going on, particularly when contrasted to the situation just a few years ago. The extent of this may come as a surprise to some commentators, who have until quite recently argued that, except for several well publicized but isolated cases, or what they consider to be transitory «fads» (quality circles are frequently cited in this regard), there is not much happening in Canada.

However, whether this signifies a fundamental shift away from the traditional management approach is open to question. Some commentators (eg. Fricke, 1988) have argued that many of the innovations discussed here provide little opportunity for significant employee influence over decision making within the enterprise. Furthermore, it can be recalled that of those organizations adopting workplace innovations, the great majority adopted only one or two. Lawler (1986) has argued that simple adoption of one or two innovations, in the absence of a much broader shift in management attitudes, beliefs, policies, and practices are unlikely to have much impact.

How does Canada stand relative to other countries? Although there are no precisely comparable data, a study conducted in the United States in 1985 for the American Management Association (Goodmeasure, 1985) provides a basis for comparison for five of the innovations examined in this paper. That study showed higher levels in the U.S. of semi-autonomous work groups (17% of organizations had them in use at the time of the survey, compared to 9,5% in this study)⁶, gain sharing (13% compared to 8,0%), job sharing (11%; 7,7%), and pay for knowledge (10%; 5,7%). Interestingly, despite the differences in magnitude, the relative ordering of these four, in terms of frequency, was the same in both countries.

In contrast to these four innovations, Canada had about twice as many labour-management committees as the United States (29,5% compared to 15%). A possible explanation for this is the higher unionization rate in Canada (about twice that of the U.S.), since existence of these committees is

⁶ The U.S. study asked whether the innovation was currently in use, not whether it had ever existed. The figures from this study have been adjusted to be comparable.

strongly related to existence of a union. In addition, Mansell (1987) notes that there has been considerable government support in Canada for the establishment of these bodies. Spurred on by the high level of industrial conflict in the seventies, by the latter part of that decade the federal government and the provincial governments of Ontario, Alberta, and New Brunswick had established formal programs to help support the establishment of various levels of joint committees in their jurisdictions. As noted earlier, a number of the Canadian committees may be joint health and safety committees, which are generally not mandatory in the United States.

With the exception of labour-management committees, there appears to be a higher amount of workplace innovation in the United States. While this accords with the impressions of some knowledgeable commentators (eg. Kochan, 1988), it would be premature to conclude this from the data discussed here, due to some differences in the two samples. For example, the Canadian study was a much more broadly based sample of Canadian private sector organizations, while the U.S. included only members of the American Management Association, who may be somewhat larger and/or more progressive than the norm. Another difference is that the Canadian survey asked whether an innovation existed at a given establishment, rather than within a given organization, as was done in the U.S. study. The Canadian criterion was thus somewhat more stringent.

A second conclusion is that there has been a massive increase in implementation of workplace innovations during the 1980's. To what this should be attributed is debatable. However, it can be noted that it is consistent with the views of several commentators that the onset of recession in the late seventies and early eighties served as a catalyst for organizations to examine new ways of doing things.

For example, Long and Warner (1987, pp. 65-66) put it this way:

Our main argument is that the major impact of the recession (with regard to worker participation) has been to make both managers and workers increasingly aware of the inadequacy of traditional organizational structures and relationships between managers and employees, and the need to develop new structures and relationships. Underlying this argument is our belief that a variety of fundamental changes have occurred in the socio-economic structure of Western Europe and North America over the last one hundred years that make traditional bureaucratic organizations and management-worker relationships no longer viable. However, until recently, generally favourable economic circumstances have largely masked this problem [...]

In Canada, it may have been this type of thinking that resulted in the creation in 1978 of the Quality of Working Life unit within the federal Department of Labour and the Ontario Centre for the Quality of Working

Life⁷. This interest also resulted in the hosting by Canada in 1981 of an international conference on the quality of working life, which turned out to be the largest-ever gathering of its kind. This conference also spawned the formation of the Canadian Council on Working Life, an independent organization with membership drawn from management, unions, government, and academia.

There is no way of measuring the precise extent to which these groups contributed to the dramatic expansion of workplace innovation that took place in the early to mid eighties. However, it seems reasonable to assume that they must have had at least some impact.

Third, the data presented here provide no evidence of the 'cycles' of participation that some commentators (eg. Ramsay, 1977, 1983) have predicted. Their basic argument is that interest by companies in worker participation will ebb and flow in a pattern tied closely to the economic cycle and the power of trade unions. When circumstances permit trade unions to become more powerful, management will attempt to co-opt them by offering various 'participation' schemes. However, once management regains the upper hand, these schemes will disappear.

Instead, the pattern seems much more consistent with the «favourable conjunctures» approach postulated by Poole (1982), or the «evolutionary ratchet» theory suggested by Brannen (1983), where employee participation advances much more rapidly at some times than others, but never falls back to the original levels. Referring specifically to Canada, Kumar (1987) also predicts a gradual evolution towards a more collaborative labour-management relationship.

This is supported by the surprisingly high survival rate of most innovations. Once implemented, they tend to carry on, although some types are much more durable than others. Of course, this finding must be considered in the perspective that many of these plans are very recent in origin, and that the long term survival rate remains to be seen.

⁷ According to Adams (cited in MANSELL, 1987, p. 6) there were three major policy reasons for the high level of government interest at that time: «1) concern with reducing the high level of industrial conflict that had won Canada the unwelcome distinction of having one of the worst industrial relations records among Western industrialized countries; 2) concern with increasing the productivity and, hence, competitive position of Canadian enterprises; and 3) concern with improving the overall quality of life by reducing alienation and promoting personal fulfillment and increased job satisfaction.» Subsequent to a change in government, the federal Quality of Working Life Unit was disbanded in 1986. The Ontario Quality of Working Life Centre was wound down in 1988, although a small consulting service in QWL will remain in the provincial labour department. However, the Manitoba Workplace Innovation Centre, created in the early eighties, continues to exist, although with a low profile.

Indeed, what does the future hold? Are these innovations simply the thin edge of the wedge, a relatively painless and non-threatening way for organizations to get started on the process of transforming themselves to meet the challenges of the present and future? Or are they, as many labour leaders contend, simply a way of providing the illusion of change, while maintaining the underlying status quo (Mansell, 1987)? Can the upsurge during the early eighties be attributed to the difficult economic circumstances of the time, and will it peter out now that economic circumstances have improved?

These are questions that remain to be answered. This study was conducted as Canada was recovering from a severe recession. Now that most parts of Canada have completed this recovery, it would be interesting to discover what has happened to the extent, pace, and character of workplace innovation.

An important question that this study did not address is the qualitative dimension of workplace innovation. To what extent has employee involvement in the workplace really been increased by these innovations? For example, labour-management committees may indeed exist in a given situation, but to what extent and how effectively do they deal with important issues? Furthermore, many would argue (eg. Lawler, 1986) that the presence or absence of any specific innovation is far less important than the overall approach to management adopted within a given organization. Overall, more research is necessary on impact of these innovations on organizations and their members.

Another issue that warrants further attention is the identification of factors that determine whether workplace innovation will or will not be introduced in a given situation. For example, managerial attitudes and beliefs about employee participation are likely to play a key role, but very little empirical attention has been directed towards uncovering the determinants of managerial desires for employee participation (Long, 1988). Many other factors are also likely to be relevant⁸.

Although broad in scope, this survey did not cover all of the possible innovations in employee participation. Although the omission of employee representation on company boards of directors is probably not a serious one, given its scarcity in Canada (Jain and Giles, 1985), a more important omission was the failure to include employee share ownership plans. This innovation that has been growing dramatically in interest both in Canada

⁸ LONG, 1989, provides a preliminary analysis of the factors relevant to the data set used in this study.

and worldwide (Long and Warner, 1987), and various studies (eg. Toronto Stock Exchange, 1987) have shown that firms with employee ownership perform better than those without it.

Issues such as these will provide a substantial research agenda for the next few years.

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Les modèles d'innovation en milieu de travail au Canada

Le présent article expose les résultats d'une vaste enquête portant sur neuf modèles d'innovation en milieu de travail: participation aux bénéfices, partage des gains de productivité, rémunération du savoir ou des connaissances, partage des tâches, enrichissement des tâches, groupes de travail semi-autonomes, cercles de qualité, comités patronaux-ouvriers et autres groupes de règlement des difficultés. Cette étude aborde cinq questions principales. Premièrement, quelle est l'importance de ces initiatives au Canada? Deuxièmement, varient-elles suivant les secteurs ou les industries? Troisièmement, quelles ont été les tendances qu'on a observées dans leur mise en oeuvre au cours des vingt-cinq dernières années? Quatrièmement, ont-elles une durée de survie différente? Cinquièmement, peut-on dire qu'elles constituent des modèles d'implantation?

À l'automne 1985, on a fait parvenir des questionnaires à un échantillon de 5 000 entreprises canadiennes en puisant dans les dossiers de Dun et Bradstreet. Après en avoir retiré celles qui employaient moins de 50 personnes ainsi que celles qui oeuvraient dans l'agriculture, l'industrie de la construction et les secteurs de l'administration publique, on a procédé à un tri au hasard. Cette façon de faire a permis d'obtenir des réponses valables de 946 firmes représentant toutes les régions du pays et tous les secteurs industriels à l'exception de l'industrie du bâtiment et l'administration publique.

Le Conseil économique du Canada a préparé le sondage lui-même afin d'établir l'ampleur de l'utilisation et des effets des technologies assistées d'ordinateurs dans les entreprises canadiennes, mais il comprenait aussi une question qui portait sur la mise en oeuvre des innovations énumérées ci-dessus dans le milieu de travail. On a demandé à chacune des firmes si elles avaient déjà utilisé l'une d'entre elles, en quelle année elle l'avait fait et si cette innovation existait encore.

On a découvert que l'importance de telles initiatives variait en fonction à la fois des types d'innovations et des secteurs d'activité. D'une façon générale, les deux tiers des entreprises comprises dans l'échantillonnage soutenaient avoir tenté au moins une expérience et le nombre moyen des innovations par employeur s'établissait à 1,44. Les principaux utilisateurs comprenaient les services commerciaux, les institutions financières, les compagnies d'assurance, les agences d'immeubles, les commerces de détail et les firmes du secteur manufacturier, tandis que les entreprises de communications et de services publics et autres organisations analogues cherchaient moins à les instaurer. Les comités patronaux-ouvriers, suivis de la participation aux bénéfices et de l'enrichissement des tâches, étaient les innovations les plus fréquentes, tandis que des mesures comme la rémunération du savoir-faire, le partage du travail et les groupes de travail semi-autonomes étaient moins courantes.

Pour chaque type d'innovation, la majorité des mises en place ont eu lieu au cours des six dernières années (1980-1985). À l'intérieur de cette période, on remarque, toutefois, une variation considérable. Par exemple, presque la moitié des régimes de participation aux bénéfices étaient antérieurs à 1980 comparativement à 8 pour cent seulement des cercles de qualité.

On a demandé aux répondants si les mesures qu'ils avaient prises existaient encore à la date de l'enquête. D'une façon générale, ces innovations se sont maintenues à l'exception du partage des emplois où seulement 52,1 pour cent de ces dispositions étaient toujours là. Par ailleurs, la rémunération des connaissances n'avait un taux de maintien que de 76,8% tandis que les groupes de solution des difficultés occupaient le premier rang, soit un taux de survie de 93,3 pour cent.

En ce qui a trait aux types d'innovation, l'analyse comparative a révélé que la présence de l'une d'entre elles dans une entreprise était presque toujours accompagnée d'une quelconque de diverses autres formes d'innovation, et cela à une exception près. Il n'y avait aucune relation, par exemple, entre l'existence d'un régime de participation aux bénéfices et la présence de comités patronaux-ouvriers.

En moyenne, on retrouvait plus souvent avec d'autres formes d'innovation, les groupes de travail semi-autonomes, tandis que la participation aux bénéfices s'y voyait plus rarement.

L'étude permet de tirer plusieurs conclusions. Premièrement, il y a eu pas mal d'innovations au Canada, mais moins que dans certains autres pays. Deuxièmement, on a remarqué une augmentation considérable d'initiatives nouvelles au cours de la décennie 1980. Troisièmement, les données citées dans le présent article montrent qu'il y a évolution constante plutôt que changements cycliques dans le degré de participation des travailleurs.

Toutefois, il reste à voir si ces tendances nouvelles signifient un changement fondamental s'écartant des relations professionnelles traditionnelles. Plusieurs questions demeurent sans réponse, en particulier l'influence de ces innovations sur les organisations et leurs membres ainsi que les causes profondes de ces changements survenus dans le milieu de travail.