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Article abstract

This paper investigates the successful implementation of information technology in a provincial teachers federation. The basic question explored is whether a labour organisation will make special efforts to implement information technology in a responsible and consultative fashion in order to harmonize the needs of two important stakeholders, its employees and its members, and if so, how those needs will be harmonized.

Factors Determining the Successful Implementation of New Information Technology in a Professional Union

**Norman Solomon
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This paper investigates the successful implementation of information technology in a provincial teachers federation. The basic question explored is whether a labour organization will make special efforts to implement information technology in a responsible and consultative fashion in order to harmonize the needs of two important stakeholders, its employees and its members, and if so, how those needs will be harmonized.

The impact of information technology on the workplace is clearly a current concern of Canadian trade unions and is likely to continue to be so in the future. The reasons for this are twofold. Firstly, new technology is important for the future viability of unions. The Federal Task Force on Micro-electronics and Technology stressed the value of genuine labour-management cooperation and the need for technologically sophisticated unions in order to meet the challenges of new technology (Jain 1983).

Secondly, unions can make a critical difference to the effective adoption of new technology. Studies done at the Economic Council of Canada found that the presence or absence of a union, while not influencing the extent of new technology, had a very definite impact on how new technology was introduced (Betcherman 1987; Newton 1987). The union had an important role to play in ensuring that true "socio-technical systems design" was employed in planning for new technology.

Most of the research into the introduction of new technology in Canada has been from a managerial perspective (see Betcherman and McMullen 1986). There is not as much research from a trade union point of view and what does exist has focused on three areas: union attitudes towards new technology; the impact of new technology on unions; and the union's effect on the introduction of new technology. After reviewing this research, Templer and Solomon (1988) conclude that in general the union response is reactive, rather than proactive. The research revealed that unions are reasonably accepting of new technology providing it does not upset the work situation too much or threaten job security. Other than voicing concerns over job security, unions appear to leave most of

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the new technology planning to the employer, though it is not clear whether this is by choice.

Most of the conclusions discussed in the preceding paragraph are based on research into new technology introduced by the employer. It may be that we can get a more accurate picture of union attitudes to new technology and the support they are likely to give to technological innovation in the future by examining their own use of new technology. In their study of 127 Canadian based unions and the use of new information technology, Templer and Solomon (1988) found that the use of such technology is at an early stage. They also found, however, that there was much enthusiasm for new technology and a realization that its implementation was inevitable.

According to Templer and Solomon, a key reason for the receptiveness of Canadian unions to the use of information technology is the requirement that they match management's technological expertise and have similar data base facilities. Many commentators, however, accept that for employers the motivation for technological change is fundamentally driven by the economic benefits that might accrue. These benefits are frequently defined in terms of increasing efficiency by doing the same task only with fewer resources. The concern for the union here is that new technology may deskill jobs, subject workers to increasing control and lead to high levels of unemployment. One might argue that unions, which act both as employers and as non-profit service organizations, are therefore in a peculiar position. As service organizations members expect unions to be efficient and effective in the use of dues money, while as employers union staff might expect unions to be 'model' employers and absorb possible negative impacts on productivity that might result. Of course the goals of productivity and efficiency are not necessarily contradictory to the goal of being a 'model' employer. However, because of the ideals a union stands for, the reconciliation of these goals assumes an importance perhaps not present among other employers. That is, it could be hypothesized that unions will make a special effort to implement information technology in a responsible and consultative fashion in order to harmonize the needs of two important stakeholders, its employees and its members.

The present authors were fortunate to have access to an organization which enabled them to explore this hypothesis in greater depth. During the course of conducting the 1988 study, Templer and Solomon found several organizations that enthusiastically embraced new information technology. Perhaps the most impressive efforts were made by one of the larger provincial teachers federations (hereafter referred to as the Federation). The Federation had clearly devoted time and money (in the form of consultants reports, hardware and software training) to the information technology issue. The researchers concluded that the Federation's introduction of new technology was very much a "success story" in the union context and therefore warranted further study.

METHODOLOGY

The authors conducted their inquiry into the organization over approximately a two year period. There were a series of four interviews, each

lasting several hours. Two of the interviews were with the staff officer in charge of implementing information technology. The first of these interviews was conducted using a structured format during which notes were taken. The second interview, although notes were taken, was more free flowing and particular items of interest were explored in greater depth. The other two interviews were with the General Secretary of the organization; he is the highest ranking appointed officer and has responsibility for the day-to-day management of the entire organization. The researchers were also given confidential access to consulting reports prepared for the Federation and were given access to Federation publications that had been archived, on the condition that the researchers agree to keep the name of the Federation confidential. One limitation of the study is that there was no opportunity to interview the non-professional staff concerning the implementation of information technology; such interviews may have enhanced the richness of the information collected. Interestingly, however, the interviews that were conducted with the upper echelon officials revealed differences of opinion at that level; those differences were probed and revealed that the Federation's path to implementation was sometimes accompanied by controversy.

Prior to discussing the implementation of the new technology, and prior to discussing whether or not the implementation was successful, it is important to understand the structure of the Federation and the context within which it operates. This discussion is necessary because the introduction of new information technology must be analyzed in the economic and political context within which changes are taking place. Such understanding will enhance the ability of other unions to learn from this study.

THE STRUCTURE OF THE FEDERATION AND ITS CONTEXT

This study focused on the implementation of information technology in the central office (headquarters) location. The Federation has approximately 36,000 classroom teacher members in 36 districts. Members are primarily high school teachers, 60% male, with an average age in the mid to late 40's. Collective bargaining takes place at the district level. Headquarters provides research services and has an extensive education collection in a professionally staffed library. It also coordinates a wide range of insurance plans and has a primary role in provincial political lobbying, communications with members throughout the province, and professional development activities.

The central office has 25 professional staff members (previously teachers) and 55 secretarial and clerical staff. The non-professional staff are organized by a provincial employees union. All staff members are exposed to and are expected to use some form of information technology. The organization has invested heavily in the following hardware: word processors; personal computers; IBM 34 mainframe computer; DEC VAX 2500 mini-computer; and Bell Envoy 100 Mail (to which each district is linked). Headquarters also helped to finance the purchase of a personal computer by each district. This was done to assist the districts with word processing tasks; however, the Federation hopes eventually to connect each district to headquarters by modem.

The day-to-day administration of the central office is the responsibility of the General Secretary, who is hired by the Federation. The General Secretary, in turn, is responsible to an elected President (who serves a three year term) and a Provincial Executive elected annually by the Provincial Assembly. The structure of the central office Secretariat is relatively flat. That is, while formal lines of authority and budgetary responsibility do exist, headquarters operates on a collegial basis giving the professional and non-professional staff a fair measure of autonomy in daily affairs.

The Federation, like most trade unions, is essentially reactive in its style of functioning. This emphasis on reacting to members needs reflects the democratic ethos of the organization. Perhaps, as importantly, the Federation views itself as being at the forefront of whatever issues it tackles. Thus the union's enthusiastic embrace of information technology was seen by elected officers as a way of providing effective and efficient service to members. Furthermore, since the teachers as a group have not seen their jobs eroded or eliminated by information technology, for the most part they do not have a negative reaction to such technology.

Because the Federation is financially secure and has an emphasis on service to members, the leadership has not viewed technological change as a mechanism to reduce the staff of the Secretariat. In fact, the 1990 General Assembly endorsed, by a large majority, a motion to add five professional staff members and five non-professional staff members to the central office. The Federation has had a stable membership base over the last several years and there is no net increase in teachers expected in the province. Thus the key reason for the additions was to provide more services to existing members.

Also, the senior administrative officers of the Federation have enthusiastically endorsed language in the Federation's Collective Agreement with its non-professional employees regarding the implementation of new technology. The Collective Agreement specifically prohibits redundancies as a consequence of introducing new technology and requires retraining for workers whose jobs may be altered by technology. The senior administrators pointed out that as a labour organization itself the Federation had to set a positive example in labour-management relations.

ROLE OF INFORMATION TECHNOLOGY IN THE FEDERATION

A Brief History of Use

Until 1988, the Federation had focused its use of information technology on traditional secretarial work and on the management of a specific database. This database was a survey of working conditions completed each September by all 36,000 members. The results of the survey were made available to the districts and were intended to serve as a source of data for collective bargaining purposes. Unfortunately, the data were often not ready for distribution until the following Spring, after many collective agreements had already been negotiated. This gave rise to membership dissatisfaction and the eventual decentralization of the survey (discussed below).

Given the large data base focus it is not surprising that, until 1982, the Federation used mainframe computer hardware. Beginning in 1982, however, the Federation also began to use dedicated word processing equipment and during the period 1982-1984 used a central word processing pool. This centralized pool was abandoned, in part, because the professional staff felt that such centralization led to loss of autonomy on their part.

The Need for Change

Several pressures coincided during the years 1985-86 to force the Federation to completely rethink its use of information technology. The pressures revolved around three factors: the need to update aging equipment and to confront the cost implications of such updating; the need to respond to the districts desire for a revamping of the working conditions survey; and finally the need to respond to the desires of professional staff wanting to join the 'PC revolution'.

Action Taken

During the 1985-86 period, three different consulting firms visited the Federation and prepared four different reports. The main thrust of these reports was that the Federation had to update its hardware and software and develop an overall information management strategy. Top elected officials in the Federation were very concerned that the information management function be first rate and be able to provide excellent and cost efficient service. The officials were encouraged to find that the consultants' reports supported their own day to day observations.

On the initiative and recommendation of top elected officials, in September 1986, a professional staff member with a keen interest in information technology and management information systems was appointed to the position of 'Executive Assistant-Special Assignment (Information)'. This individual was to report directly to the General Secretary.

The Executive Assistant's task was to manage and integrate all of the Federation's information systems. He translated this task into four parts:

1. To continue the introduction of computers to headquarters;
2. To find a way for the computers to communicate with each other;
3. To find a way for headquarters to communicate data to the locals for information and for end use computing; and
4. To develop plans and strategies for the above.

What made this assignment difficult, however, was that the Executive Assistant was instructed to carry out his tasks expeditiously, yet at the same time to avoid large costs!

THE IDEAL PROPOSAL

A Comprehensive Information Management Strategy

At the heart of the Executive Assistant's proposal was the recommendation that an Assistant General Secretary-Business Services be appointed as well a Manager of Management Information Systems. The case for an MIS Manager was based on the belief that although the Federation had good hardware and software, there was no one to direct personnel in the integrated use of this material.

The ideal proposal faced critical financial and organizational barriers. The structural changes proposed – creation of the positions of Assistant General Secretary-Business Services and MIS Manager – were regarded as too costly by the elected Provincial Executive. Similarly, Federation officers questioned where the expertise would come from to staff an information technology training centre proposed by the Executive Assistant. Finally, some members of the Provincial Executive were frustrated by the Executive Assistant's insistence that only the plan he proposed would work and by an apparent reluctance to consider what may have been viable alternatives.

ACTUAL IMPLEMENTATION

What Was Done

The Executive Assistant's ideas regarding hardware and software –based on the consultants reports – were accepted but not the more fundamental and expensive structural changes. The additional control and management functions were assigned to special teams of employees. Thus, neither an Assistant General Secretary-Business Services nor an MIS Manager were appointed. Instead an Information Management Group was set up to handle membership data bases and accounting systems information, while a Technical Services Group was established to deal with hardware related matters. These two units operate independently, although they both nominally report to the Office Manager who plays a coordinating role should conflicts develop. Although major conflicts have yet to occur, the senior administration recognizes that the structure is not satisfactory. However, rather than recruit externally for an information technology specialist and risk upsetting the balance between the two groups, the senior administrators have chosen to wait and to see if a current professional member can be groomed for the position.

The use of personal computers has been continued but a headquarters-wide local area network was not introduced. In response to continuing pressure from the districts, the working conditions surveys are now produced under district and regional direction. The workload of the head office has not decreased with the demise of the centralized survey because of other Federation initiatives to provide additional member services.

WAS THE IMPLEMENTATION SUCCESSFUL?

Overall Results

On initial consideration, the overall results of the Federation's implementation of information technology may not appear to be spectacular. However, as Templer and Solomon (1988) point out, many trade unions are still far from the accomplishment level of the Federation.

Success Factors

At least three key factors seem to account for the successful implementation of new technology at the Federation: the presence of an influential and energetic technology advocate; the involvement of users in the implementation; and, linked to the second point, the general ethos of the organization which encouraged excellence in services provided by staff but within a collegial framework. It is clear that the Federation was successful in harmonizing the interests of employees and members.

The appointment of an Executive Assistant was crucial in focusing attention on the technology issue. Building on the mission given to him by the elected officials, this individual played a key role in gaining organizational commitment to new technology. He enthusiastically endorsed the reports of the information technology consultants recommending more training and better coordination, and lobbied for more resources to achieve this. The Executive Assistant pursued this path even though his perseverance sometimes brought him into conflict with other officials, both elected and appointed. This individual retired in late 1988 and has not been replaced. For the moment the role of information technology advocate has been taken over by the General Secretary – himself an individual well aware of the service enhancements possible from new technology.

Also important to success was the particular attention the Federation paid to obtaining the input of professional and non-professional staff into decisions made concerning information technology. This attention reflects the collegial atmosphere at the central office. It also reflects the fact that, although the non-professional staff is unionized, senior Federation administrators do not view their relationship with the union or with its members as adversarial.

The involvement of users is especially evident in the four committees set up to provide advice to the Provincial Executive and to the General Secretary. The four committees – Building Management; Users; Computer Policy; and Computer Users – while overlapping in practice each had its own mandate.

TECHNOLOGY AND THE FUTURE

Information management is likely to be a continued key to the success of this Federation as a function of the growing professional needs of their members,

rising expectations of levels of service from their districts and the continued need for efficiency. The Federation may not be able to respond to these increased expectations if it relies only on past successes. Its status as a labour organization puts additional pressure on the Federation to serve as a model employer.

Other unions are no doubt watching the Federation's efforts with interest while they are in their own early efforts to implement information technology. It is possible for other labour organizations to duplicate the three factors that led to success for the Federation. Whether or not other unions will want to pursue the same path will depend on: the managerial style of their leaders; interest and support of key personnel; and the perceived importance of enhanced information technology to achieving the unions' goals. That is, not every provincially based and not every locally, nationally or internationally based union provides the level of information services offered by the Federation. It may well be that such unions choose to devote their resources to other activities. Thus although the information provided by the present study may provide 'success factors' for other labour organizations to emulate, given the very diverse characteristics of unions it is not possible at this stage to predict what factors will lead to successful implementation of information technology throughout the labour movement. An interesting study would, in fact, be to test the external validity of the present findings by using qualitative research methods to investigate other unions. Perhaps this can be the fruit of future research endeavors!

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