

OFFICE AUTOMATION

Where Will Change Really Occur?

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L'auteure examine, dans cet article, les conclusions d'une étude intitulée "Les femmes, le travail, et le bureau automatisé." Elle s'accorde à reconnaître que les changements dans l'organisation du travail du bureau, provoqués par l'automatisation, créent des inquiétudes pour les employées. Mais la majorité des bureaux au Canada ne sont pas de grosses entreprises; en les étudiant, l'auteure a noté que l'impact de la nouvelle technologie du bureau sur eux est différent de celui qu'il a sur une entreprise plus importante. Elle en conclut que le travail de bureau continuera à exister, et que les femmes continueront à y être employées, mais d'une manière différente, selon la taille de l'entreprise.

The fate of women workers in industries and occupations subject to technological change has been documented for the Industrial Revolution. The complexities of that era of technological change have not diminished with time. Each new invention in the manner of production in the workplace has meant changes for workers. This has had an impact not only directly on how work is done and the conditions under which it is done but indirectly in terms of the demands for labour.

For example, it has been well established that when automated machinery entered the United States textile-manufacturing field, young men were recruited to train on the machines and young women were pushed out of the labour market (Elizabeth Baker, *Technology and Woman's Work*. New York, 1964).

But as Graham Lowe's thesis has documented, the first time office machinery seriously invaded Canadian offices, feminization of the office occurred. With the new machinery came sci-

entific management with its detailed division of labour, specialization, and centralization of authority. We can anticipate that a similar social system of office production is arriving with the small computers, electronic communication networks, and other inventions. What this new social system of production will be is not yet clear, and what it will mean for different types of firms and industries is also not clear.

With that type of history behind us, women are concerned about the impact which small computers, word processors, voice-print machines, and all the new inventions of the computer age will have upon their work. The majority of women in the Canadian work force now work in offices where the standard office machines of typewriters, dictaphones, and reproducers are the way in which work is produced. But word processors and small computers have already become very widespread.

A number of studies have attempted to estimate the impact on women's employment (for example, Heather Menzies, *Women and the Chip*). At the present time it is very difficult to judge whether those predictions will be borne out, as the statistics indicate that the number of women in office and clerical jobs has continued to rise. It is anyone's guess whether this is a temporary phase of expansion or whether it is to be a permanent feature of office life. The employment impacts, while important, are not well understood.

The other impacts of technological change, however, are equally important. These include such issues as occupational health and safety, the working conditions, and the distribution of work within an organization.

In the year 1982-1983, I undertook a study of typical Ontario work organizations. The average size of a work organization in Ontario is four people. De-

spite the existence of two large governments and many municipal ones and some vast industrial and service-sector organizations, most offices are small, including those of dentists, doctors, lawyers, insurance agents, real-estate agents, and so on. The new office machinery, unlike the previous generations of office machinery, is specifically geared to small units and individual work. My study was about the impact of the introduction of those machines on small-office settings. I looked at organizations in the manufacturing and services sectors which had fewer than fifteen people in the office side. In my study that was, typically, about five people.

While the results of this study will appear in a more formal manner shortly, here I would like to discuss three of the major questions in the field as they relate to my findings.¹

The first question is: Are women workers resisting the introduction of new machines into their office setting? Are they afraid for their skills and their jobs? Do they have long-range fears or short-term fears? The response to this question is based upon in-depth interviews in twelve organizations in which all employees were studied, and a survey of students in a school of secretarial studies.

The second question is: Are automated machines changing the nature of the work, the scope of responsibility, and the division of labour within the organization? There is controversy in the literature about this question. In some cases, it is alleged that "distributed" organizations will result, with a wider band of decision-making, while others argue that this approach to office work is more centralizing and reduces the skill and responsibility of workers. Comments on this question are based upon my observation and study of

The third question concerns the career patterns of office workers, principally women workers. Some studies indicate that with executives and management handling their own correspondence, appointments, and information search, the role of secretary will be eliminated from the labour force. Comments on this question are based on

It should be stressed that the machinery in office work is changing very rapidly. In the firms we studied, small computers, stand-alone word processors, electronic typewriters, telex, and terminals linked to large warehouse computers (for inventory) constituted the range of equipment. But the options

Are women office workers resisting the new machines?

In entering the field, I anticipated considerable resistance on the part of women workers. The literature, which deals almost exclusively with large firms such as banks, retail stores, insurance



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firms, and public-sector bureaucracies, indicates the fears that women office workers have for their health and safety and their jobs.

The size of firms has always been considered one important factor in industrial sociology. It appears to be equally true for the office sector in relation to automation. In these small organizations, I encountered absolutely no one who did not like and welcome the word processors in particular but other automated machines in general. One woman had asked not to use a terminal during her pregnancy but for others there was no resistance. This does not imply that skills did not vary. Some took longer than others to learn how to use the machines but all were willing. Furthermore, I followed up on those who had voluntarily quit the firm to see if they had quit to avoid using machines. None gave that as their reason.

Why should there be such a difference in these findings? While methodology is always a consideration, size of workplace seems equally important.² In all the firms I studied, the office was so small that it seemed highly unlikely that anyone would lose her job. That would have left no one in the office during lunch hours or when the boss was away, or no one to do payroll and accounting or other specialized tasks. In other words, since this study was done in the worst year of the recession, economy recovery might be jobless growth, but unless the firm closed it was unlikely to mean layoffs. The division of labour in these offices is not clear-cut either. Almost everyone can do almost every job among the office staff, although there are different titles and duties assigned. Unless the organizations are very busy, when someone is off on holiday or sick, temporaries are not brought in. Therefore the elimination of a machine does not mean the elimination of a person. What the machines do mean is less overtime, less panic on getting out the payroll to the production units, or getting inventory up to date. Less overtime was highly acceptable to most of these workers who have family responsibilities or active social life; furthermore, it allowed correspondence, reports, and orders to look more professional. In all cases, the elimination of retyping and realigning

work was considered a major improvement in working conditions. In summary, the word processor in particular was strongly welcomed by office workers, but so was the small computer with memory for inventory and accounting records.

Are the new machines changing the nature of work and the division of labour?

It is clear from studies and from observations that this is occurring in large firms. In such firms, many former secretaries find themselves moved either into positions as administrative assistants or into the word-processing pools. The former layer of support to an executive is rapidly disappearing. The large firm's organization becomes increasingly industrialized, although of course this started with typing pools before word processors were in use. In small firms, however, this is not the case. For one thing, at the present time, electronic mail is not a feature of small organizations. There are competing networks for electronic messaging, which means that suppliers are not connected to their major customers in this way at present. New telephones with repeat-dial systems and other features are removing some of the drudgery of secretarial work in small firms, but still most proprietors need someone in the office who understands the nature of the business and the importance of the clients and can operate in the absence of the boss. Making appointments is crucial with a diverse service-sector clientele (such as patients in the offices of doctors and dentists), and giving out information as well as meeting salespeople all require good secretarial and office workers in small firms.

But even in small organizations, specialized programs become the exclusive prerogative of one clerk or secretary. Access to the information systems on inventory, payroll, and so on are more difficult when only one person knows how to pull that information from memory (as opposed to hard-copy filing, when anyone in the office could go to the file drawer and provide the answer). The division of labour does tighten up in instances where such specialized knowledge exists. The scope of responsibility begins to rest upon access to that information rather than to seniority or relationship to the boss.

Especially at the present time, when not all office staff are readily familiar with access to programs, a division of skill exists which allows a shift in power and responsibility even in a small staff. Whether this will disappear as everyone learns how to operate all the programs and machines, and programs become as standardized as typewriters and filing systems, it is too soon to tell.

In another area, small offices are particularly affected at this stage of the move toward office automation. Usually a small firm invests in only one or two terminals attached to a small computer and time on the machines must be shared. It is in the nature of these machines that one needs continuous access. Either there is information stored in the memory which can be needed even when one is neither inputting nor working with the data, or an extra copy of a report or piece of correspondence is needed. To wait while someone else works on the machine is frustrating. Unlike hard copy, one cannot have easy access. This leads to a very common inefficiency where parallel records are kept by the secretary or clerk who finds that interrupting the person working on the machine leads to a deterioration in human relations. A typical instance is where the receptionist/secretary does correspondence and takes orders on her terminal, but finds that when a client or the production shop calls for some information, another clerk is doing inventory or accounting. The receptionist prides herself on being able to answer questions at once but now finds that she cannot just go to a file and check; she has to wait until the machine is free. The pecking order in offices is the key to understanding what happens next, but almost certainly inefficiency and resentments result.

Are office careers changing?

Moving from blue-collar into white-collar work has been a constant pattern of social mobility for women in Canadian society. Mastering the basic skills of typing and dictation, young women could move steadily through a firm or firms to become a powerful private secretary or executive. Many large firms counted on turnover to keep wages low and mobility at a minimum, but in a small firm, a long-time assistant often became the mainstay of the firm. In

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large firms, the division between administrative assistant and pool word processor marks a real change in career lines. No systematic data exist but one observes that university-educated women become administrative assistants and those with high-school education or less move into the more industrial type of office jobs. Those lines will harden. In small firms, such divisions have not existed and probably will not, but office workers may need to specialize in the communications systems of small organizations, in public-relations aspects of the jobs, and in learning a wide variety of programs and office skills to maintain their jobs in small organizations. That is, the range of demands upon them may increase as it becomes easier for each office worker to use the small computer to do correspondence, filing, accounting, payroll, and inventory. Proprietors and executives may take up more of the routine work as their skills increase.

We are not knowledgeable yet about the type of career line of the "average" Canadian office worker. But while the new machines which can correct spelling and grammar, eliminate repetitive errors, and therefore speed up production and provide better opportunities for office workers with marginal skills, for those with excellent skills the advantages diminish. When everyone can use the machine to spell properly, produce good-looking letters and reports, and find information quickly, what advantage is there for the bright, skilled, and educated worker? The advantage will probably lie with public relations, sensitivity to clients and the public, and the information-systems work which will enhance the marginal advantage of the firm.

Conclusions

These observations in small organizations lead to the following conclusions:

1. If it is true that office workers in small organizations feel less threatened than those in large organizations, then the pattern of social and technological change may be quite different in the important small-business sector in Canada. Overall, Canadians are more pessimistic about technological change than Americans (Ontario Task Force, 1981), but office workers in these set-

tings are not. A great reliance is being placed on small organizations to create jobs and pull Canadian production and competitiveness forward. Barriers to this may lie with capital for investment in technology as well as a lack of communications network linkages with the big-business sector, but they do not appear to lie with the attitudes or enthusiasm of office workers in this sector.

2. The internal organization of the office is very much affected by who has access to communications technology. The question of input into technological change is not only an issue for union negotiation but also a matter for each individual in the office, whether or not people believe they will be affected by this.

3. The inter-office organization is a sensitive issue, especially in a small unit where people know each other extremely well and have to work on a daily basis. Machines can intensify rivalry and inter-office competition. The question of the rational use of the machines is abandoned in the face of making peace in the office. This is a problem for office managers and for consideration by office workers.

4. That career lines for women and office workers are diverging rapidly in large organizations and changing their nature in small organizations. Office work will continue and many women will continue to be employed in those positions but not in the same way as before. Specialization and generalization both are important, depending on firm size. Therefore this is a matter of consideration for career counsellors and for people dealing with the future of office work.

Baker's finding was that in the face of new technology and machinery, women would be pushed out of jobs and young men brought in. Whether this will be the case in the office remains to be seen. Certainly in the last wave of office mechanization, the opposite was the case (Lowe, 1979). The key to understanding this change is to keep one's eyes open.

¹For a full discussion of sample, methods, and conclusions see the forth-

coming monograph "Women, Work and the Automated Office." The sample of firms in which interviews and observation occurred is necessarily small. However, the firms included in the sample were part of a larger group of firms in the same industrial classification which returned mailed survey instruments. The results indicate that our in-depth interviews were in firms which are not atypical. The office workers interviewed (almost entirely but not exclusively women) ranged in age from high-school leavers to women close to retirement age. Women of childbearing age were included.

²The sample of firms used was not randomly selected, there being no listing of firms from which a random sample could be gathered which met the conditions of the study, including the process of office automation. Therefore it is possible that firms willing to admit a sociologist into the office may also be those with the most positive attitude on the part of workers, etc. However, other studies confirm the differences between small and large work groups; the importance of small firms is so great in the Canadian economy that it is an important group to study.

Further Reading:

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