

The hard life of the unskilled workers in new technologies: Data-Entry Clerks in Brazil - A Case Study

A. Soares

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Abstract

Behind the image of the "Future Profession" we may find the high tech unskilled workers: data-entry clerks. This paper investigate the working life, the sexual division of labour and the occupational health of a data-entry sector in a public Data Processing Centre (DPC) in Brazil.

1. INTRODUCTION

The use of computers has become routine in many developed and developing countries. Amazingly, however, and in spite of all its technical evolution, the computers has revived the "cult of machines" which existed in the sixteenth and seventeenth centuries: computers, as machines, are overvalued and the human work they demand is kept hidden. Information work has been considered the "Profession of the Future". It is often presented as a modern job, highly skilled, profitable and intellectually stimulating. This study seeks to pierce beneath the "cult of machines" that surrounds computers and new technologies in order to investigate the sexual division of labour, the working and living conditions of data-entry clerks who made 36.2% of the information workforce in Brazil.

2. METHODS

The organization analyzed is the branch office in São Paulo of the second largest Data Processing Centre (DPC) in Brazil. For the purpose of this paper, we will refer to it as "ORG X".

We distributed self administered questionnaires to every data-entry clerk at ORG X. They were not obliged to answer the questionnaire which has questions on workers characteristics, psychosocial factors, health complaints, leisure time,

personal life, ergonomics of the workplace and VDU use. We had 70% of response rate (171 questionnaires answered).

We also conducted and recorded personal semi-structured interviews with 50 data-entry clerks, in a private room at the workplace during 1990. Each worker was informed of the nature of the research project, that the interview would remain confidential and anonymous. I also asked if s/he would rather not have the interview recorded and only after s/he agreed did I turn the tape-recorder on and began the interview, which was conducted during the working time. The duration of the interviews was, on the average, thirty minutes for each worker. During the interviews, we never put any kind of pressure on the workers to answer our questions because we believe that as pointed out by Dejours (1), the task is never neutral to workers' emotional life, s/he can talk about her/his job or s/he must silence about it.

Finally, we had access to medical statistics of ORG X, which provide us with useful information about the health problems presented by data-entry clerks in 1989 and 1990.

3.RESULTS

Work organization in ORG X was basically based on Taylorism when this research was conducted. Data-Entry work is fragmented and it was possible to find workers who did only the keypunching of one type of document. The distribution of workers in the sample, according to the shift, is 60.95% - morning shift; 26.63% - afternoon shift; and 12.43% - night shift. Each shift lasts 6 hours with paid pauses of 10 minutes at every 50 minutes. Workers were evaluated according to their production rates and pace of work. The control over task performance in the data-entry sector was extensive and the work was electronically monitored. The restrictions on workers' communication were generalized as they were forbidden to talk to each other during the working time.

3.1 The Workers Characteristics

The average age of the data-entry clerks in ORG X is 33 years old. They have been working as data-entry clerks for a long time (57.74% work more than 5 years as a data-entry clerk). They spend 65 minutes, on average, commuting everyday. Due to the low wages, 65.03% of data-entry clerks work on overtime which is necessary to complement their wages. One fundamental aspect, is that there is sex segregation in the data-entry sector (66.7% are female workers). Workers have a long experience with VDU use as 63.2% have worked for more than 5 years with VDU.

3.2 The Ergonomic Issues

The working setting is very noisy due to the large number of machines in the same room. Thus, 66.46% of workers complain that the workplace is too noisy. The posture at the workstation is considered uncomfortable (51.81% feel slightly uncomfortable and 26.51% feel very uncomfortable). Although it is possible to

adjust the height of their chair easily (73.81%), unfortunately, the same is not true for the adjustment of the chair back-rest as 76.05% could not adjust it easily.

The VDU ergonomics is poor. Most of the VDUs have no filter or anti-glare protection (86.49%). The only adjustment which is made possible is the intensity of the characters. Due to the specificity of the data-entry tasks, workers spent less than half of the time watching the screen (52.63%).

3.3 Psychosocial Factors

When they arrive at home, 48.73% of data-entry clerks need to talk to someone else, 17.09% have no reactions and 17.72% want to be alone. Arriving at home female, data-entry clerks have a "second shift" (see Table 1).

Table 1
What do you do when you arrive at home?

Tasks	Men %	Women %
I rest	17.45	13.86
I keep on working (housework, childcare, odd works)	9.64	48.80
Another job	5.42	4.82

(Chi-Square Test $p < 0.001$)

Data-Entry work is perceived by workers as extremely uneventful, repetitive (82.6%), monotonous (54.5%), without any autonomy (59.0%). They also feel distress (32.94%) and anxiety (57.65%).

3.4 The Health Problems

Data-Entry clerks in ORG X perceived that their health have been worse since they began to work with VDUs (50.00%). The main health symptoms are related to stress and muscular pains and can be seen on Tables 2 and 3.

Finally, according to the medical statistics of ORG X, there were 17 workers who have got tenosynovitis. Among these 17 workers, five had been moved to the data-preparation sector and 1780 days were lost in health licenses in 1989.

Table 2:
Stress Problems in ORG X

Stress Problems	Never %	Rarely %	Sometimes %	Always %
General Tiredness	8.48	10.91	63.64	16.97
Irritability	17.37	17.37	52.69	12.57
Sleeplessness	48.12	18.07	26.50	7.23
Headaches	24.55	20.36	43.11	11.98

Table 3:
Muscular Aches and Pains in ORG X

Muscular Pains	Never %	Rarely %	Sometimes %	Always %
Shoulder and Neck	13.17	16.17	48.50	22.16
Arms	17.37	21.56	47.31	13.77
Upper Back	26.95	16.77	36.53	19.76
Legs	43.11	19.16	26.95	10.78

4. DISCUSSION AND CONCLUSION

Firstly, we must point out that the size of the DPC chosen was an important variable in this study because according to Billette (2) there is an indirect effect of the pool size on mental health problems. We could observe a high level of stress symptoms, a high level of muscular pains and a high number of workers with tenosynovitis, which is underestimated by the medical statistics of ORG X. We could find, at least, 30 workers, during the interviews that complained about this problem. One of the reasons for the underestimation is that workers that go to the medical centre and complain about muscular aches are forbidden to work on overtime, which is a severe restriction on workers' tight budget. In order to prevent this loss, workers lie and never go to the medical centre unless the pain is really unbearable. This behaviour can be understood, also, as an occupational self-defense ideology(3), as the loss or alteration of hand movements may constitute a crisis in their lives. Thus, data-entry clerks try to "hide" the disease that may interrupt his/her working life. In ORG X there are no return-to-work programs following the diagnosis of tenosynovitis and the change of workers from data-entry sector to data-preparation sector is useless because workers keep on doing repetitive movements.

On the contrary of other researches (4,5), visual problems were not reported with a great intensity by the data-entry clerks in ORG X. One reason for the

lower level of visual problems in our study may be correlated to the way that the task is performed. Data-Entry clerks in ORG X look more at the document, in this way, 68.42% of the workers spent less than half of the time watching the screen. We could find that the more people watch at the screen, the more they feel vision problems with a statistically significant difference ($p < 0.05$).

Statistically significant differences could, also, be observed when we compare health problems between men and women working as data-entry clerk in ORG X. Women feel more irritability ($p < 0.05$), headaches ($p < 0.001$), upper back pain ($p < 0.025$) and Legs pains ($p < 0.05$) than men. One reason for these differences is the "second shift" (6) that most women workers have to face when they arrive at home and that can be observed in table 1. Another reason is that women in ORG X work more on overtime than men ($p < 0.005$ for Chi-Square Test).

The restrictions on data-entry clerks communication are severe not only because of the prohibition to talk, but also due to the high level of noise which makes communication more difficult. These restrictions to data-entry clerks in the workplace can be seen as a reason for their need to talk to someone else when they arrive at home. The gender is also an aspect that hinders communication in data-entry sector because the extent of control over time and space as well as the tasks performed are different according to sex(7). Indeed, one of the reasons for the communication restrictions among data-entry clerks is that they were mostly women, and were presumed to be interested only in gossips.

In this way, working as a Data-Entry clerk is very far from being the "Profession of the Future". Data-Entry clerks are Taylor's "second class" workers in the computer era. They are an example of an unskilled job created by the new technologies with many occupational health problems, anxieties and distresses. Their working conditions are not ergonomically designed. Working life of data entry clerks is monotonous, repetitive, without any demands on creativity and has a very narrow one sided job content. It is a hard life where " whoever looks at us from outside can perceive that we are in the slavery age, working as a slave and being whipped, not in our bodies, but in our minds" (Data-Entry Clerk).

5. REFERENCES

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