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## ORGANIZATIONAL CHOICES AS DRIVERS OF WORK INTENSITY\*

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### *Abstract*

In this paper we offer some new insights into the interpretation of the relationship between the introduction of Information Technology devices and their effects on working time. Prevailing theories suggest a mechanistic link between technology adoption and its effects on work, both in terms of quantity and quality. In contrast, we claim that technology adoption is a means to implement organizational choices regarding both the technical and the social structure of tasks. Drawing our evidence from a case study describing the introduction of a new ERP system in a car rental company, we show how these organizational changes affect the pace of work activities, the balance between working and leisure time and the balance between production and learning time.

### *Keywords*

Work intensity, Technology, Organizational choice, Working time, Organizational action.

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# Organizational choices as drivers of work intensity

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## Introduction

The aim of this paper is to show the influence that organizational choices have on the intensification of work at different levels.

This research stems from the idea that most literature seems to define technology, especially Information and Communication technology, and work intensity and its intensification in deterministic terms. On the contrary, the main thesis of this paper is that choices about the adoption and use of a new technology are mainly organizational choices and they imply changes in both the social structure and the tasks in a work setting. In turn, these organizational changes affect the pace of work activities, the balance between working time and leisure time and the balance between production and learning time. In previous research (Maggi, 1984/1990; 2003), we defined this link between organizational choices and the possible consequences on the well-being of the worker as *organizational constraint*. Our second theoretical contribution to the current debate regards the very meaning of technology. While adopting the terms “technology” and “information technology” in their mainstream reified connotation, we will show how understanding technology as an instrumental component of organizational action carries a stronger analytical power (Masino, 2005).

We will draw our evidence from a case study describing the introduction of a new information technology tool in a large car rental company. This tool has been adopted to facilitate the learning process for newly hired employees, but it ends up having considerable effects on both learning and production activities.

In order to substantiate our explanation of the link between organizational choices and work intensity in the rest of the paper, we will proceed in the following manner. The first paragraph will briefly sketch the relationship between Information and Communication Technologies (ICTs henceforth) and work intensity, using the literature about technology and organization as a background. The following paragraph will describe the organizational setting from which we drew our evidence. Then, we will discuss the case and draw some general conclusions on the relationship between ICTs and work intensity.

### **Are ICTs a determinant of work intensity?**

Generally speaking, we believe that work intensification is a widespread phenomenon fostered to some extent by new information technology systems. A clear example of this trend is the ever growing amount of internally developed portals targeted at the employees of large corporations, emerged during research in the field we conducted at ENI<sup>1</sup>.

We observed how these devices typically generate an increasing amount of pressure during working hours and induce the employees to spend more time on work-related activities. Moreover, the implementation of a corporate portal, accessible to every employee, appeared to be one of the first necessary steps to allow for the possibility of working from home.

However, corporate portals are just a component of a more general tendency towards a use of technology to change working conditions. This trend has fostered a lively debate in the literature on job conditions. More specifically, many recent contributions have stressed the impact of ICTs on job quality (see Rubery, Grimshaw, 2001 for a useful survey). Regarding the work intensity problem, there are two main hypotheses on this relationship.

On the one hand we have authors that stress the importance of new technologies as tools which shift from a more direct intervention on the

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<sup>1</sup> ENI is one of the leading companies in the oil industry worldwide.

transformation process to a control role. Their evidence seems to go in the same direction of the well known findings of the French sociology of work that we can trace back to the seminal works by Touraine (1955), Naville (1963) and more recently Terssac (1992).

However, authors of this persuasion characterize this tendency as a positive step towards an improvement of work conditions and “upskilling” (see for instance Krueger, 1993). Therefore we can label them as “optimistic.”

On the other hand, more “pessimistic” views highlight the association of ICTs with the rise of methods such as “just-in-time” production that imply an increasing intensity of work. In particular ICTs are often identified as the cause of the new production methods and ultimately as the cause of a growing intensification of work (Burchell *et al.*, 1999; Elger, Smith, 1994).

We find that neither of these two views is satisfying. In particular the reasoning that directly links, by means of a causal relationship, a given technology to certain directions in the work intensification process, seems way too simplistic. First, we should notice that the distinctions between optimistic and pessimistic views of the effects of technology on work intensity mirror the more general tendency of attributing a pre-eminence to technology over other choices. Specifically, we can trace this tendency back to the organizational theories dealing with the relationship between technology and structure. These theories (see for instance the seminal works by Woodward, 1965 and Perrow, 1970) accept two main principles. The first principle concerns the adoption of an idea of organization where structure and technology are reified and predetermined with respect to the individual human actors. The second one is technological determinism, where technology has the role of a shaping force that models the other features of a firm, including work conditions.

Under these premises it seems natural to try to establish a direct relationship between technology and elements of the organizational structure, for instance work intensity. But then, this direct causal relationship should have

a common direction. Either the effect of technology improves work conditions or it worsens them, and this is not the case.

This is why we suggest an alternative explanation. In our view organizational choices are the main drivers of work intensity. In a previous work we differentiated choices about technology into three classes that we call design, adoption and use choices (Masino, Zamarian, Maggi, 2000). Choices about the adoption and use of a new technology are organizational choices because they can contribute to the structure of the work process and the configuration of work activities in different ways, including their time dimension. Moreover, they are just one element of a broader set of organizational design tools aimed at this goal. We should observe that within this framework decisions and actions are the main determinants of the outcome of the organizational process.

We will test the explanatory power of this hypothesis in the following two paragraphs, using as evidence a case study drawn from a very complex organizational setting.

### **World Wide Rentals<sup>2</sup> and the problem of continuous learning<sup>3</sup>**

Our case study regards the introduction of a new learning tool for front-office employees in the Italian branch of a large service firm. World Wide Rentals (henceforth WWR) is one of the leading companies in the car-rental market. It operates through many rental offices, geographically distributed within each country.

One of the main competitive advantages for a car rental company is its ability to make itself recognizable to the customers by both its brand and its services. Repeat customers are the main source of revenue. Therefore, front-office activities in a car-rental firm represent a particularly important factor for

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<sup>2</sup> For privacy reasons the name of the company is fictitious.

<sup>3</sup> The case presented in this paper specifically deals with problems encountered in the Italian branch of the company. For a more detailed account of the front office activities at WWR see Zamarian, 2002 or Masino, Zamarian, Maggi, 2000.

their competitive advantage, as they are performed in front of the customers, hence easily recognizable. Specifically, drawing up a contract is a very complicated and labour-intensive procedure that requires a focused attention on the customer and, at the same time, a quick sequence of actions and decisions in order to choose between the different technical (credit card *vs.* check or cash payment, insurance, management of the incoming car) and legal options.

In order to guarantee the same level of service to each customer in each shop, the front office activities at WWR are structured around Standard Operating Procedures. Also, the use of Standard Procedures assures the compliance of the rental contract with the legal prescriptions.

Furthermore, the activity of drawing up the contract has been considerably simplified by the introduction of a software system that guides the operator through all the necessary steps, presenting all the possible options in a clear and sequential way. This way, the operator can devote a maximum amount of attention to the needs of the customer. Moreover, he or she can check the customer's background on the electronic database, dramatically reducing the probability of theft or fraud.

The software currently used is the result of many concurrent factors. The tool was originally developed to put in place the many necessary legal prescriptions required to draw up a rental contract correctly and in order to avoid the legal problems generated by formal mistakes made by operators. Over a long period of time, new rules emerged from the past experiences of many individuals who worked for the company and were added to the initial core rules.

The adoption of a computer based information system 20 years ago has allowed the desk operators to work more efficiently, however, the procedures themselves change so quickly that it becomes difficult for the operators to keep up with the pace of change in the system. In particular, for the newly hired operators the task of learning is daunting as they have to memorize hundreds

of procedures in a small amount of time. Typically, a newly hired employee needs several (3-4) weeks of classes before attaining a level of expertise with the software that is good enough to send them to local offices to begin the on-the-job training. In turn, this second phase could be as much as two months of apprenticeship before the employee is able to face customers without external help (typically the shop manager or mentor). On the other hand, people with a longer tenure on the job are constantly required to “forget” the old rules in order to learn the new ones.

These difficulties in the learning process have an obvious effect on performance, as measured by the number of mistakes committed using the system improperly and the additional amount of time it takes to perform relatively simple tasks in cases where there is poor knowledge of the system.

To address these problems, WWR recently introduced a CD-ROM containing a replica of the software actually used in the work context which can be easily installed on common PCs (the “working” software runs on larger workstations). This software is not a stand-alone product. The operator is guided through all the procedures by a programmed instructions method that allows for the incremental learning of the procedures in order of complexity and frequency of occurrence (easier and more common procedures are taught first). Professional trainers teach the newly hired employees how to use the CD package with a few hours of class work. Then the same employees are encouraged to use the device to teach themselves the procedures. This happens both during a few working hours devoted to training and, in the case of old employees trying to learn new procedures, at home. At the same time the firm reduced the amount of formal classes traditionally held to train the employees. The end result for the company has been a sharper learning curve for the average employee, which is defined as the number of days necessary to reach an operating level of expertise from the hiring date. Most people are assigned to a regional office after less than a week of training. Similarly, older employees



achieve better performance results learning new procedures using this tool with respect to the traditional training sessions in a classroom.

Thus, the whole process has been spurred by an unsatisfactory level of performance, both on the productive and on the learning tasks. Pressure to improve the performance level of production took up part of the time ordinarily used to learn, thus worsening the performance in terms of learning the new procedures. The new tool allowed for a solution to this problem through an improvement in the performance of learning tasks. This definition of learning performance, however, hides a couple of relevant facts. On the one hand, employees are subjected to an increasing pressure to learn and, at the same time, they are required to improve performance. On the other hand, they are essentially forced to use a part of their free time to learn how to perform professionally in related activities.

### **Analyzing the case: how do organizational choices push work intensity?**

The case of WWR allows us to point out the different ways in which organizational choices generate time constraints on the work activities of employees.

The idea of changing the training method at WWR stemmed from a deep dissatisfaction with the current performances of employees. People could not operate the software effectively. In this case, effectively meant both in terms of the *number of transactions* per working day that each agent could manage and in terms of the *quality of each transaction* (i.e. spending more time in the interaction with the customer and less time dealing with the most cumbersome and menial tasks like compiling the contract and sorting out technical and legal options).

As we have seen, from an operational standpoint, newly hired people could be employed in front office activities only after a considerable amount of time. Experts faced the problem of a drop in productivity whenever significant changes were introduced in the system. This is why the *first set of time constraints* involved a pressure to push the employees to manage *a larger set of*

*interactions with the customers in a given time frame, and to improve the quality of the interaction.*

This pressure towards an increased productivity pushed people to *neglect the time necessary for the learning process*, thus unbalancing the learning/working equilibrium during working hours and generating the counterproductive effect of worsening the performance level in terms of the number of mistakes committed by the operators.

Indeed, we should not forget that part of the learning problem arose from the choice of generating and maintaining a huge amount of Operating Procedures that the employees were supposed to know and use. This situation was especially hard on the older employees, as they often had to “forget” old procedures before starting to learn the new ones. Thus, *the second set of time constraints regards the balance between working and learning time.*

So these two kinds of constraint were operating at the same time on the employees’ ability to keep up to date with the system. Clearly the system was dysfunctional, as these two forces are partially in conflict with each other, and required a solution.

The management identified the solution in a new teaching tool that allowed the training phase(s) to be conducted outside of the working hours. *The task of learning was completely redesigned* and rethought in order to strike a new balance between learning and working. Thus, both the pressure on the operational capabilities and on the learning capabilities of the employees were solved by *expanding the amount of time they had to devote to work-related activities*, but this generated *a third kind of constraint.*

We should note that *technology plays a very small part in this process.* From a technical standpoint, the newly adopted learning tool had been available during the whole time frame in which the process took place (late 1990s). However, the organizational choice to set high performance levels, along with the choice to stick with the policy of generating an ever growing amount of procedures, were the decisive reasons for its adoption. In fact, these choices

pushed towards a redefinition of the learning task. The terms of this redefinition include the method (i.e. self-teaching in place of formal classes), the space (i.e. from the work place to home) and the time (i.e. moving learning from working hours to free time). The choice of a technological device that can help modify the learning task has been driven by these considerations, not the other way around. In other words, technology *per se* did not determine the shift in the allocation of time for the employees, rather it was a consequence of broader organizational choices. Again, we should not jump to the conclusion that technological choices and organizational choices are linked in a deterministic way.

## **Conclusions**

As we have seen in the two preceding paragraphs, organizational choices are the main drivers of work intensification at different levels. Specifically, we can outline the main choices in our case as follows:

a) *The adoption of a new technology of training is mainly an organizational choice.* As we have already stressed, the choice of a new technological tool was driven by the setting of a new organizational goal, namely that of reconsidering the impact of training activities on work activities. The problem emerged clearly when the conflict between production time and learning time within the frame of the working day exploded. The solution to the problem involved a complete overhaul of the learning process. Management adopted a technology that allowed for a broadening of the working day with this goal in mind. The actual use of the technology by the employees has been essential for an effective solution to the initial problem.

b) *It implies a fundamental change in the structure of the learning process.* The critical change that occurs in the case that we described is the complete redefinition of a learning task. We focused on the time constraints that the adoption and the use of the new learning tool allowed, while presenting this case. But of course, that was not the only relevant dimension that changed. For instance, the support

provided by the classroom (both teacher and colleagues) has disappeared altogether. The role of a “mentor” assisting the learning process during the working day has acquired a new emphasis. The attitude of the individual employee has to be far more active under the current learning environment. The employee needs to acquire most of the “meta-knowledge” associated with the use of the new technology. Thus, the entire learning task has changed considerably.

c) *There is a change in the structure of the tasks at the work activities level.* The adoption of the new learning tool has meant a considerable transformation for work activities as well. We already outlined the new distribution between time devoted to learning the tasks and time devoted to actually performing these tasks. In the previous point we highlighted how a new professional figure (the mentor) acquired a new centrality in the learning process. The mentor deals with this process both as an active advisor and as a model to be observed during work activities.

It seems clear from these considerations that the new technology was just a small part of a more comprehensive strategy aimed at changing, on different levels, the working conditions of the employees. A fundamental component of this strategy has been the introduction of *organizational constraint* within work activities, mainly by means of a strict regulation of activities in time (Maggi, 2003). Therefore, organizational choices were the main drivers behind the work intensification process.

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