Internal obstacles restraining productivity improvement in small Finnish industrial enterprises

Hannu Rantanen

Lappeenranta University of Technology, Department of Industrial Engineering and Management, Saimaankatu 11, FIN-15140 Lahti, Finland

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Abstract

There was a deep depression in the early 1990s in Finland, during which the number of jobs in Finnish industry decreased. By improving productivity, we can increase the price competitiveness of Finnish products and create the necessary conditions for increasing our standard of living. Although productivity improvement is important, it does not always succeed. A firm may have a real intention to improve productivity, but there are many things which restrain their ability to achieve this aim. The factors which make the efforts to improve productivity ineffective, or even prevent improvement operations can be called obstacles to productivity improvement. These obstacles can be classified into three categories: internal, external and general obstacles. In this paper an attempt is made to analyze the internal obstacles. The main reason for this kind of treatment is the fact that internal obstacles form the only category of obstacles which is clearly under the control of the firm. Thus, by identifying and eliminating these obstacles we can improve the actions of the whole firm. In the present paper, the possible obstacles, especially internal obstacles are discussed and classified on the basis of the theory. A study is presented which aims to establish the most significant internal obstacles for productivity improvement in small industrial firms on the basis of two different sets of regional data. © 2001 Elsevier Science B.V. All rights reserved.

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1. Introduction

We all know that productivity improvement is one means for increasing the profitability of a firm. On the other hand, it is common knowledge that the productivity improvement is one of the most important ways to increase competitiveness and especially price competitiveness. It is possible to cut the unit costs of products and services\(^1\) by productivity improvement. When we know the level of different costs in Finland and the rigidity of the cost structure, we realize that productivity improvement is perhaps the only meaningful\(^2\) way to develop industry in Finland.

We had deep depression in Finland in the early 1990s, during which the number of jobs in Finnish industry decreased. The unemployment rate was

\(^1\) Later the general term “product” is used when both products and services are meant.

\(^2\) Until the 1980s Finnish industry developed mostly by increasing the use of resources. This is no longer possible, or even reasonable, for example from the environmental point of view.
rather high, for example in 1994 it was 18.4% while it was 11.1% in the European community. Thus, continuous productivity improvement is not vital for firms only, it is vital for the whole nation. By improving productivity we can increase the price competitiveness of Finnish products and create the necessary conditions for increasing our standard of living.

In spite of the importance of productivity improvement, it does not always succeed. A firm may have a real intention to improve productivity, but there are many things which restrain their ability to achieve this aim. For example, lack of time, money or knowledge can be obstacles restraining productivity improvement. These factors which make the efforts to improve productivity ineffective, or even prevent improvement operations can be called obstacles to productivity improvement.

In this paper an attempt is made to analyze the internal obstacles. The aim of this paper is to show the most meaningful internal obstacles and so the objective of this study is to find the answer to the following question:

Which are the most meaningful internal obstacles to productivity improvement in small firms and are there regional differences among these?

This study concentrates on the meaningfulness of the internal obstacles from the entrepreneur’s point of view. The target of the study are small and medium sized enterprises representing the industry sector. The results of the study are based on two surveys done in southern Finland. The first and the main survey from the point of view of this study was carried out in Päijät-Häme, which is a region of 200 000 inhabitants. The second survey made by Hannula and Suomala [1] was carried out in Pirkanmaa, which is a region of 440 000 inhabitants.

The topic of this study is rather relevant. When we have more information about the factors which restrain the ability of firms to improve their productivity, it is possible to plan and develop means to prevent the effects of these obstacles. By identifying and eliminating these obstacles we can improve the actions of the firm.

2. Obstacles restraining productivity improvement

Productivity has been recognized as one of the key factors affecting the competitiveness and profitability of a firm. As a concept productivity is rather common and confusing [2,3]. In general, it is a concept and measure which describes the performance and success of a firm. Productivity can be defined as the relationship between the outputs generated from a system and the inputs provided to create those outputs. Sink [4] has defined productivity as follows:

Productivity is simply the relationship between the outputs generated from a system and the inputs provided to create those outputs. Inputs in the general form of labor (human resources), capital (physical and financial capital assets), energy, materials, and data are brought into a system. These resources are transformed into outputs (goods and services). Productivity is the relationship of the amount produced by a given system during a given period of time, and the quantity of resources consumed to create or produce those outputs over the same period of time.

Productivity management is a process where the productivity of the subject under examination is evaluated, improved and controlled. According to Sink [4] this process includes the following parts: (1) measuring and evaluating productivity, (2) planning for control and improvement of productivity based on information provided by the measurement and evaluation process, (3) making control and improvement interventions, and (4) measuring and evaluating the impact of these interventions.

Improving and increasing productivity, which is an essential part of productivity management, is important for many reasons. It is possible to describe the advantages of productivity increase as Mammone [5] has done:

Improved productivity would result in higher wages to labor, more jobs and incremental gains in standards of living; greater profits for management through greater output at reduced costs; and lower prices to consumers.
At firm level the increase of productivity means inter alia slowing down the progress of cost level, improvement of price competitiveness, improvement in the ability to pay salaries, and money for the development of the firm and for environmental control. Although improving productivity is very important for firms, we must always keep in mind that productivity or an increase of productivity is not the final aim of operation, they are only a way of striving for profitable action in a firm [6].

According to the literature, there are several ways to improve productivity in firms [4,7–9]. Even the measurement of productivity is one way of increasing the level of productivity. Along with the methods of productivity improvement there are also several factors which make them ineffectif or even prevent improvement operations. These factors, as mentioned earlier, can be called obstacles to productivity improvement. For example, lack of time and resources or a passive attitude can be obstacles restraining productivity improvement.

These obstacles can be classified into three categories: internal, external and general obstacles. Classification in two categories has also been presented in the literature. For example, Lawlor [8] presents eight factors affecting productivity. He divides these into external variables, which are uncontrollable, and internal variables, which would be within the control of the organization. The analyzing and eliminating of the internal obstacles can be seen to be closely connected to the theory of constraints (TOC) [10].

The internal obstacles, which are the main subject of this study, are factors which are inside the firm. It is possible to affect these internal obstacles by actions performed inside the firm. Basically, the internal obstacles are thus factors which are under the control of the firm. The management and the workers can eliminate these internal obstacles or they can weaken their effects. For example lack of time is one typical internal obstacle. In many firms in Finland there are nowadays so few employees that nobody has time for planning or even thinking about productivity improvement. If there are some employees who can spend time for productivity, the situation is much better.

Lack of knowledge and poor production methods are also typical internal obstacles. There is not enough knowledge concerning productivity improvement, and neither the superiors nor the workers have enough knowledge to recognize the problems in productivity or to improve it. This situation has a clear connection to the level and suitability of the production methods and equipment. Also, for example, the attitudes of the personnel can be internal obstacles.

The external obstacles are factors which are outside the firm. The firm cannot affect these factors directly. The only way is to try to affect them via the unions and other similar interest groups. Usually, the firm must adapt to these external obstacles. The external obstacles set the limits within which the firm must operate. For example, legislation and the action of trade unions are typical external obstacles restraining productivity improvement. The high level of social security and other side costs of wages, as well as the business policy of the local authorities are also typical examples of external obstacles.

There are also some factors which are impossible to categorize clearly to the above groups of obstacles. They can belong to both of these groups or neither of them, and we can call these general obstacles for productivity improvement. For example theoretical problems, measurement problems and lack of public information can be general obstacles. The difficulty to use productivity as a basis for the payroll system can be either an internal or an external obstacle, and thus it is also an example of a general obstacle.

In Finland, these obstacles to productivity improvement are a very poorly examined question in the field of management accounting. There are only a few studies which touch on this subject. The main interest in these studies is either on productivity measurement in metal industry or the understanding of the concept of productivity. However, there are two fairly recent studies, which concentrate on this problem of obstacles to productivity improvement. Both these studies are written in Finnish [1,11]. In these studies all three categories of obstacles to productivity improvement are dealt with.

In this paper the data of the two above-mentioned regional studies are used. This study concentrates on the question of which are the most significant internal obstacles to productivity improvement in small
firms. It is important to realize that in this paper only one part or category of the relevant obstacles is analyzed. However, this is the most significant category because it is the only one which is clearly under the control of the firms. The management of the firms can eliminate these internal obstacles or they can at least weaken their effects.

3. Internal obstacles in small industrial firms in Finland

The analysis of the internal obstacles is based on two different surveys done in Finland. The first of the surveys was carried out in Päijät-Häme in spring 1997 [11,12]. This survey forms the main data for this study. The second survey was carried out in Pirkanmaa in summer 1997 [1]. This second survey contains largely the same question as the first one. There are just a few more focused additional question. Both these surveys consider all the possible obstacles restraining productivity improvement, whereas the main interest in the present study is on the internal obstacles. The results of this study are presented so that first the results of the Päijät-Häme survey are given, and these are then compared with the results of the Pirkanmaa survey.

3.1. Research method

A questionnaire was made to study the obstacles to productivity improvement in small industrial firms in Päijät-Häme. This questionnaire contained three groups of questions which dealt with the obstacles restraining productivity improvement. In addition, some detailed information was asked on productivity measurement, the efficiency of operations, the attitudes and knowledge of personnel, and the financing of the firm. Also the line of business and the size of the firm based on sales were asked.

As mentioned earlier, the possible obstacles restraining productivity improvement were arranged in three groups in this questionnaire. It was also possible to express some non-predetermined factors in the questions considering the internal and external obstacles. The obstacles were presented in the questions and the firms were asked to mark how meaningful each of these obstacles was from their point of view. A scale of five possibilities was used: number 1 meant that this factor was not meaningful as an obstacle to productivity improvement, and number 5 that the factor was a very meaningful obstacle. The detailed and additional information were mainly presented in the form of statements. The firms were asked to mark how they agree with the statements. A scale of five possibilities was also used here. Number 1 meant that the firm’s representative fully agreed with the presented statement, while number 5 meant that the firm’s representative fully disagreed with the presented statement.

The questionnaire was sent to 228 firms in Päijät-Häme. All these firms were rather small. The addresses of the firms were received from the union of entrepreneurs in this region (Päijät-Hämeen Yrittäjät ry). This means that the management’s and owner’s point of view is highlighted in the answers. About 23% of firms (51) returned the questionnaire.

After the first survey, only a few marginal modifications were made to the questionnaire. Some questions were presented in a more focused form and some questions were added. After these operations, the survey was repeated in a different region, Pirkanmaa. The questionnaire was sent to 824 firms in Pirkanmaa [1]. The unemployment rate is rather high in both regions. As in the first survey, the addresses of the firms were received from the local entrepreneur organization (Pirkanmaan Yrittäjät ry). About 11% of the firms (90) returned the questionnaire. Perhaps the main reason for the low percentage was the point of time. The survey was made in the middle of the holiday season.

3.2. The results of the surveys

The results of these questionnaires were processed with simple methods. The mean and deviation for every possible obstacle were calculated.

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3 In Päijät-Häme there are 200 000 inhabitants whereas in Pirkanmaa there are more than 400 000 inhabitants. There are also some differences in the unemployment rate and the average size of the firms located in the region.

4 The median and mode could be a better type of average measure for this kind of statistical data. However, they do not give enough information for the entrepreneurs. The mean is much more familiar to them and so it is used.
The most meaningful internal obstacles were found on the basis of the mean of the questions. If the mean of the answers was high, the obstacle was meaningful. If the mean of the answers was low, that obstacle did not have much importance. As mentioned earlier, both these surveys consider all the possible obstacles restraining productivity improvement whereas the main interest of this study concentrates only on the internal obstacles. In the questionnaire which was used in Päijät-Häme there were 9 and in Pirkanmaa 16 suggestions for internal obstacles. In Fig. 1, the internal obstacles in Päijät-Häme are presented in the order of meaningfulness according to the mean of the answers. The mean values which these obstacles gained in the Pirkanmaa survey are also presented.

The two most meaningful internal obstacles in both regions were the lack of time and general lack
of resources in the firm. Hurry and lack of resources seem to be as meaningful in all size classes and all lines of business. Especially situation was problematic in the furniture production. In Pirkanmaa survey, these two main problems were focused with additional questions involving lack of human resources and lack of assets to hire human resources. These two additional obstacles were just behind the lack of time and general lack of resources in the firm. This highlights the fact that lack of resources (time, money and people) is the main obstacle restraining productivity improvement in small industrial firms in Finland.

Almost as meaningful as the two above mentioned obstacles was the one of the workers' shortcomings with knowledge and education on productivity. On a little lower level was the superiors' shortcoming with knowledge. These factors also highlight the past recession. Some kind of core employees who have been in the firm for a very long period are probably still there, and perhaps their skills are not up to date. Many years have passed since their basic education and during the recession the firm has minimized the education of personnel. The need for knowledge and education on productivity is recognized in the firms but nothing has been done yet to increase education. In Pirkanmaa, the problem with the superiors' shortcoming with knowledge was not as high as in Päijät-Häme.

The most meaningful obstacles restraining productivity improvement were rather clear and the differences between the values of the mean of the answers were small. Also, the least meaningful obstacles were clear. The superiors' aspiration to suboptimization and the limitations in production capacity do not seem to be meaningful obstacles to productivity improvement at all. The question concerning production capacity might be characteristic in regions where the effects of depression have been intensive. During the depression the number of personnel was minimized but the technical production capacity remained the same.

In the answers, it was possible to present some additional obstacles which were not predetermined. However, almost all of these were basically the same as the 9 suggested but presented in other words. There were only a few which were special for the individual firms. In the questionnaire sent to the firms in Pirkanmaa there were some additional suggestions for internal obstacles. They were working atmosphere, factors involving product development, work safety, internal communication and turnover of employees. All these got values which were much lower than the values of the nine obstacles presented in Fig. 1.

4. Conclusions

The main result of this study is the information about the internal factors which restrain the ability of the firms to improve productivity, and the meaningfulness of each of these obstacles. The most meaningful internal obstacles were the factors involving the lack of time and other resources. A second problem area were the shortcomings in knowledge and education on productivity. This outlook was rather uniform in all size classes and all industries.

We can compare these results dealing with the internal obstacles to the broader view of the obstacles restraining productivity improvement. According to the results of the Päijät-Häme survey [12], the most meaningful obstacle of all was the size of social security and the other side costs of wages, which is an external obstacle. The labor input is too expensive in Finland and the indirect costs involved in wages have been a very popular topic in public discussion in recent years. These have perhaps caused the present situation where the firms do not dare hire additional workers. When the firms do not hire workers in a consistent way as production increases, it is clear that they have lack of time and lack of resources.

Another reason for the lack of time and resources is huge recession we have just experienced. During this recession the firms cut off all loose resources. Those who did not do this are now bankrupt. The boom after the recession has forced the firms to utilize all the resources totally. At the same time the fear and memory of the recession restrains the expanding of the operations. The firms do not dare to hire more people or borrow money for capital budgeting. The firms operate with full capacity and they survey today's situation, but tomorrow's competitiveness is not given a thought to.
The results can also be compared with the results of other studies. The passive attitude of personnel was the worst obstacle in productivity improvement according to some earlier studies. In the present study this factor did not seem to be a meaningful obstacle. One result of this survey was that there does not seem to be any factor which is clearly a characteristic obstacle for a region of high unemployment. Perhaps the obvious free capacity reflects the effect of depression and high unemployment. Some obstacles and answers were characteristic for this region because of the type of industries located in the area.

In general, we can say that the obstacles restraining productivity constitute one complex structure, where the internal, external and general obstacles affect each other. In this paper only the internal obstacles were analyzed. The main reason for this kind of treatment is the fact that it is possible to affect these by actions performed inside the firm. The internal obstacles is the only category of obstacles which is under the control of the firm, and by identifying and eliminating these obstacles we can improve the actions of the whole firm.

It is plausible to say that the present study gives a rather reliable view about the most meaningful obstacles on productivity improvement in the regions considered. The questionnaire was sent to the majority of the small industrial firms in these two regions. About 23% and 11% of the firms in the regions returned the questionnaire. This is enough for preliminary conclusions about the importance of each obstacle and makes it possible to plan and develop means to prevent the effects of these factors.

References


