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Measuring human capital

The use of human capital

Note by Statistics Sweden

Summary

The paper gives an overview of a Swedish study “Learning organisation matters” that analyses enterprises’ ability to adapt and transform in response to changes in the environment. The learning capability is considered from two aspects: individual learning by staff and structural or organisational learning.

I. The Community Innovation Survey and Information and Communication Technologies surveys

1. During the last decades two very important microdata surveys have been established as standard Eurostat surveys: the Community Innovation Survey (CIS) and a survey on the use of Information and Communication Technologies (ICT) in enterprises.

II. Sampling frame and questionnaire

2. The sampling frames for the CIS and ICT surveys in Sweden were for the first time positively coordinated in 2009. A European research consortium, the Meadow Group, has scanned the literature, studied the practice and produced two tested model surveys based on this research: one for organizations and one for individuals. We decided to use the Meadow questionnaire for organizations in a telephone survey. Using the Meadow questionnaire, we got as good a guarantee as possible for having valid questions.

3. The Swedish questionnaire could be reduced not only because we had access to the other two surveys but also because we could link most of the firms to register data. These register data not only contained economic data of the firms but also important data on the staff. The reduction of the Meadow questionnaire was important to raise the response rate to almost two thirds, which is quite a high figure for a voluntary survey. Together with the non-response analyses that indicate that the non-response did not distort our result, we are confident that our data are relatively reliable.

III. Numerical and other forms of flexibility

4. The choice of indicators in the Swedish study¹ is based on the fact that firms are acting in an environment that changes increasingly every year. This means that firms' ability to adapt has become a necessity for their survival in the long run and for their economic performance in the short run.

5. One very important aspect of this is the firm's ability to handle shocks in its demand, even if these are not as profound as the one in 2008. That means that firms have to be able to reduce costs very fast. Thus we have called this concept Numeric Flexibility.

6. However, the firms can also have other types of flexibility in the sense of ability to adapt and transform. These other types of flexibility are more of an organic flexibility which means that they can change all the time and pick up signals early, take advantage of new opportunities and react to different threats. This flexibility has been split into two parts in our work: Decentralisation and Learning.

7. These concepts of decentralisation and learning also have a high degree of human behaviour background. In the literature about human behaviour and preferences, two important aspects have been highlighted: one is the human need to be able to control and be in charge of one's life. This is also true for one's working life. The decentralisation of power to those on the shop-floor, whether it's a law firm or an assembly plant, is essential to the well-being of the people working there. This in turn affects their productivity.

¹ For more details see the Statistics Sweden book: "Learning Organisation Matters"
http://www.scb.se/statistik/_publikationer/NR9999_2011A01_BR_NRFT1101.pdf

8. In addition, people want to advance and not be stuck in one place with no possibility to change. An organisation that lets people develop and learn as individuals in a context that encourages learning and development also satisfies a number of basic human needs.

9. The rich dataset provided by the Meadow questionnaire has also made it possible for us to extend our learning concept. So this time it has been split into two parts: individual learning and structural or organisational learning.

IV. The differences in flexibility

10. It seems that there are flexible firms in all the industries we have studied and industry means are not that different. The difference in firm size is more marked. The small firms are less flexible with one exception and that is decentralisation. The firms which are more involved in structural learning have significantly more highly educated employees with a university degree and also have relatively more women employed. The women are also clearly overrepresented in firms that are more numerically flexible and more decentralised, and almost in those with more individual learning. The decentralised firms also have a concentration of middle-aged employees.

11. However, a comparison between domestically owned firms and foreign owned firms does not show a distinctive pattern, and this is true for small as well as for larger firms. The conclusion is that a foreign owner does not impose its organisational pattern on the Swedish firm it has acquired. Apparently the Swedish model rules.

V. Firms' environment and competence portfolio

12. In this chapter, we have studied the firms' environment and boundaries to the outside world. Here it is done by exploring a competence model defining strategies of work practices and activities to maximize value creating competence boundaries and increase economic performance. An important result is that such models can be measured, and an equally important result implies relationships with higher economic performance.

13. The result implies that the relationship does not depend on the firm's size, industry and work force characteristics such as education level and gender, etc. However, a very important result is that we cannot find any proof that the external environment has a distinctive impact on how the learning process is organised in the firm.

VI. The innovation process, or how does it all fit together?

14. In this final chapter an attempt is made to integrate many parts of the analyses that have been described in the book. This attempt to make many different parts of the analyses fit together has used the innovation process as its frame of reference. The basic structure is taken from the innovation process as modelled in the so-called CDM-model which got its name from its innovators (the model is developed by Crépon, B., Duguet, E., Mairesse, J. It is a statistical method used to estimate the effects of innovation on productivity).

15. There seem to be many factors that could have an influence on the innovation process and firm productivity. Not only does an advanced ICT use have a positive influence on the productivity in both innovative and non-innovative firms, but it also seems that the working conditions which influence the sickness leave do affect productivity in both firm groups. Different practices in the firm's organisation influence the economic performance; these practices are individual and structural learning as well as decentralisation. Finally, the

difference between the sexes seems to have an impact on different parts of the innovation process and thus on productivity.

VII. Main conclusion

16. Our conclusions:

(a) Our small but rich dataset seems to have a rather high quality and our flexibility indicator seems to be robust;

(b) The difference in flexibility was small between industries and somewhat larger between firm sizes. However, more knowledge-intensive and larger firms were generally more flexible. And it seems that foreign owners of Swedish firms do not impose other work practices on those used in Swedish-owned firms;

(c) The flexible firms seem to be more innovative, more intensive ICT users and this tends to lead to higher productivity levels. The productivity differences also seem to be persistent over a long time period. The flexible firms, with the exception of the more decentralised ones, tend also to have a somewhat smaller difference between the two sexes than it comes to parenthood and career;

(d) Our indicator on impact of working conditions singles out the numeric flexible firms as not so positive. Decentralisation seems to be a more positive regime while it depends on the employee category how the learning firms are judged;

(e) All these factors including learning, decentralization, ICT, working conditions and the difference between sexes seem to influence the firm's performance.

17. This underscores our general conclusion from all our analyses:

Learning Organisation Matters
