

THE FLEXIBILITY IN PRODUCTION SYSTEMS

BÂRSAN Ioan, POPP Ilie Octavian

“Lucian Blaga” University of Sibiu
ioan.barsan@ulbsibiu.ro

Key words: measuring, risk, flexibility, operation systems

The flexibility is defined as the capability of one system to incorporate and adapt to changes from internal as well as external sources. The study of this ability is a quite new subject within the science of the operational systems but it is an old concept in the praxis.

The current status of the technology is considered to have two major disadvantages: the first, due to its dependency of the automatic technologies which are associated with high costs, is considered to be applicable only within big companies and the potential benefits of the FMS are too small. The second studied and researched case showed that FMS are simply used as automatic production lines in many cases.

Within different types of flexibility only five are treated in this article. These are: the machine, the itinerary, the process, production and flexibility volume.

The capability of measuring the flexibility of the volume is the number of possible phases meaning: $FV_{cap} = 1 - V_{min}$. If $V_{min} = 0$ then $FV_{cap} = 100\%$ where FV_{cap} is the flexibility of the maximum possible volume. To calculate the present flexibility during every subperiod the highest and the lowest rate of the exploiting capacity are registered.

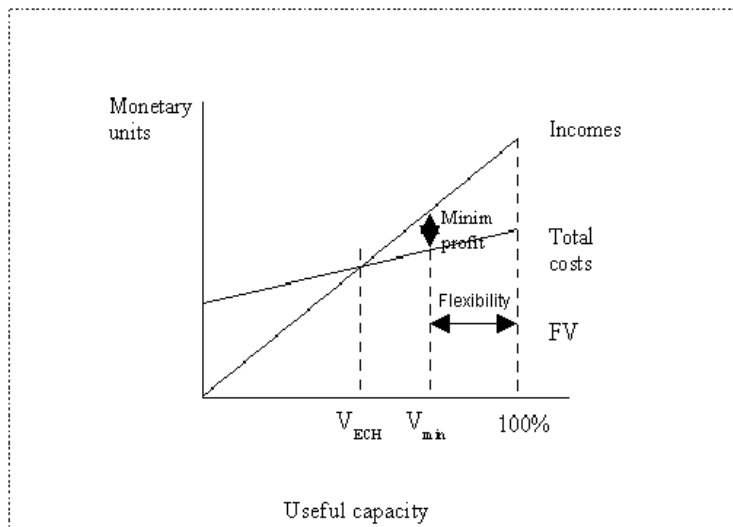


Fig. 1

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