

# [Why adapted. consequently, firms could not make](https://assignbuster.com/why-adapted-consequently-firms-could-not-make/)

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Why the networked firm model became increasingly importantThe 1980s had been turbulent for Stuttgart’s machine tool firms. They had begunwith a severe crisis and ended with a period of unprecedented economic success, ahigh estimation of their flexibility and a still growing demand for their high-price, high- quality engineering products. A major challenge occurred with theintroduction of microprocessor electronics in machine tools, because this technologyhad to be integrated into the product as well as the production process. If firmswanted to stay on the path of customized production, the new technology had to beindividually adapted.

Consequently, firms could not make use of a standardizedinnovation scheme. To what extent and in which ways a firm implemented CNCtechnology had serious implications for investment in sophisticated R, the costand design of the product, their potential usage and rationalization effect in theproduction process of the user firms. Entrepreneurs had to take into account thereorganization of the work process induced by the new machines being bought in ordeveloped.

While automation was always one of the major intentions behind thedevelopment and application of microelectronics, the firms in Stuttgart refused to’benefit’ from such innovations. Their highly qualified workforce was acting in anenvironment of changing and multidimensional tasks. Cooperation betweenengineers and machinists was a frequent and integral part of the day-to-day workprocess. However, inventions in microelectronics made possible a furtherelimination of such forms of cooperation, as well as a more executive function for themachinist once these programmes were operating (Hirsch-Kreinsen 1993). Their implementation shifted the production process towards a more integratedsystem of toolmaking, while individual machines could be designed for flexible use.

Until the 1970s relatively inflexible manufacturing lines had been established inbigger firms of related sectors according to Taylorist needs. In the USA machineryfirms with a strong orientation towards the military and aerospace sector hadpromoted a further use of numerically controlled machines as part of a centrallysteered manufacturing process. This created rationalization effects through a highlevel of automation. While the machine tool firms in Stuttgart had also tried to applyinnovations from microelectronics to their machinery design, it took longer until thisknowledge was diffused in firms and until they implemented shop floor solutions. Finally they chose a totally different path of innovation compared to other countries(ibid).