
Technical Workers in a Newly Industrialising Economy: The Work Experience of Engineers in Singapore

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ABSTRACT

This study looks at the work experience and work related problems of engineers in the specific context of Singapore's political economy. Data was drawn from in-depth interviews and a survey of 250 engineers working in the country's top 20 electronic multinationals. Despite the optimism of visionaries regarding the future of work in high-tech societies it is argued that "knowledge workers" like engineers armed with years of professional training do not necessarily lead idyllic lives. On the contrary, for a large proportion of this elite corps, normal worklife is constituted by overwork, keeping to unrealistic deadlines and generally experiencing moderate to extreme levels of stress over a large number of situations in the workplace. This subjective aspect of working life is probably the result of the declining position of engineers in the class structure. Globalization, dependent wage work and organizational hierarchies have been identified as primary reasons for this trend of development.

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As advanced capitalist economies race to harness the power of the microprocessor chip to run their services and industries, there are those who question whether we are at the threshold of a new kind of society. An important point of divergence from the Anglo-Saxon economies is that, in the newly developing economies (NIEs) and Japan, far from pushing up unemployment, heavy investments in technology have been accompanied by a sustained period of accelerated growth which spurred renewed debate over the nature of the society of the future.

The view of futurologists (including Bell 1974; and Toffler, 1980) that when science plays an increasing part in the productive process, societies will enjoy unforetold affluence, abundant leisure time, active political participation and a flourishing state of human intellectual creativity now enjoys wide publicity (Economic Planning Agency, 1983). We argue here that these utopian predictions only serve to deflect investigations into whether capitalism can be transcended in a technologically advanced society. Those accounts that take into consideration changes in existing class structures would go so far only to postulate the possible emergence of new dominant classes labelled "the knowledge class" (Gouldner 1979) or the "professional, scientific and technical groups" (Touraine 1974). This accords with the position of neo-classical economists, that education and technology advances underpin much of the growth of industrial nations. (Schultz 1970). At the individual level, especially in the NIEs, education has been much touted as the route leading to self-improvement and social advancement. The ideology linking education with power has been amply sustained by mainstream thinking in the sociology of the professions (Dingwall and Lewis 1983).

In so far as mental labour does become more central to the production process, it is not surprising that those who live by it gain in social power. Having possession of cultural capital may at times entail wielding significant influence over the production process, but mental workers by no means control it. The means of mental production—laboratories, universities, TV stations—are rarely owned by their workers. As observed by historian of technology D. Noble,

"technology is a social process. And like any human enterprise, it does not simply proceed automatically, but rather contains a subjective element which drives it, and assumes the particular forms given it by the most powerful and forceful people in society..." (1979, xxii).

Since the production and use of knowledge and information take place within the framework of corporate capitalism, and while knowledge and information play significantly more central roles in hi-tech societies, they are still subject to processes of commodification, exchange, profitability and control by capital. They do not constitute causal agents in their own right. In particular, professional knowledge and other forms of new technologies should be seen as resources for an alternative strategy for restructuring capital to regain profit margins and the competitive edge.

When faced with declining opportunities for setting themselves up and surviving as independent operators, American engineers had ingenuously promulgated Taylorism to help reconstitute their autonomy after being shovelled increasingly into the ranks of large scale corporations (Meiksins 1984). Today, engineers in newly industrialising economies like Singapore are facing a similar process of proletarianisation as these countries shift swiftly into a more advanced stage of capitalism under the tutelage of foreign multinationals and large state-owned corporations. What are some of the conditions prevailing in the NIEs that contribute to the erosion of the position of "knowledge workers" such as engineers? How do this group of professionals react