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# **THE POST-FORDIST TRANSFORMATION: INFORMATION TECHNOLOGY AND ORGANIZATIONAL CHANGE**

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## **ABSTRACT**

A new family of organizational forms, collectively labeled "post-Fordist," is steadily emerging in response to a perceived decline in the dominance of mass production and a rapidly changing competitive environment (Boynton and Victor 1991, 1992). These new forms have been variously labeled flexible specialization, mass customization, Toyotism, dynamic stability, and lean manufacturing. Understanding the rise of post-Fordism and the fundamental changes it necessitates, particularly in the use of information technology, is essential to current IT theory and research (Allen and Boynton 1991; Pine 1992). This research combines qualitative field research with analysis of survey-based longitudinal data to better understand the role of IT in the post-Fordist transformation. This paper will discuss this research in process.

Understanding the post-Fordist revolution requires first recognizing the challenge to the mass-production model. Fordist mass production was based on sustaining productivity growth by means of economies of scale and an increasingly elaborate division of labor (Piore and Sabel 1984). This foundation is now challenged by both market change and technological innovation. The large undifferentiated markets of the past century are increasingly saturated and fragmenting (Pine 1992). In addition, technological innovations are fueling the search for more flexible production processes. The market and technological changes are, in turn creating new strategic principles requiring simultaneously efficiency and flexibility (Boynton and Victor 1991, 1992). Fordist mass production can neither capitalize on the new strategic options nor compete with forms that do so (Womack, Jones and Roos 1990).

Information technology is central to the recent rise of flexible technology, including modular and rapid-development software tools, numerically controlled machine tools, robots, flexible information and database storage and retrieval systems, EDI, and computer automated manufacturing (Pine 1992). Information technology is also a central factor in the emergence of the post-Fordist forms themselves, enabling globally networked organizations, powerful and flexible financial control systems, increasingly decentralized production and service delivery, and new kinds of organizational learning (Nonaka 1983; Boynton and Victor 1992).

We are employing two research approaches to study the role of information technology in the emergence of post-Fordist forms: first, a qualitative approach based on intense field-based research and, second, analysis of longitudinal data based on survey research. We are currently conducting field based research with a number of firms, including Citibank, Corning Inc., Asea Brown Bovari, Bally Engineering, Westpac, and Lutron Electronics. To date, our investigations indicate several key requirements in the transformation to post-Fordist form: (1) the decoupling of IT asset investments from short-term product needs in order to build general-purpose process capabilities to match changes in service requirements; (2) the combining of firm-wide knowledge into a general purpose IT architecture in order to increase the speed product introduction rates; and (3) the influence of market as a precursor of post-Fordist pressures for increased product flexibility.

We are also using a large scale survey methodology to explore the extent of the post-Fordist transition across industries and the level of IT investment employed to support this transition. Our large-scale survey data comes from the Profit Impact of

Marketing Strategy (PIMS) project. Fifteen consecutive years of data have been organized. The analysis will utilize MANCOVA on a year-by-year basis to assess the existence and relative performance of combination (post-Fordist) strategies compared to firms pursuing low-cost or differentiation (Fordist) strategies. Early findings indicate that trends toward combination low-cost, differentiated strategies are increasing by industry. The extent of IT investment that coincides with transformation to post-Fordist strategy is part of the next phase of data analysis within the PIMS database.

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