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INFORMATION TECHNOLOGY PRODUCTIVITY IN THE HEALTH CARE INDUSTRY

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A substantial portion of capital expenses borne by organizations is expense related to information technology (IT). Faced with skepticism that IT adds business value to the industry, researchers are attempting to find ways to measure and gauge the impact of these investments on business (e.g., Brynjolfsson and Hitt 1996). However, research to date has not yielded unequivocal results. While some researchers have shown that there is a positive contribution of IT to business (Barua and Lee 1996), still others have shown a negative contribution of IT (Loveman 1994). Given the tremendous economic and political interest in healthcare costs (Fuchs 1996), the increasing rate of IT expenditure by hospitals (Henderson and Thomas 1992) and the continuing debate on the conflicting results from IT productivity studies, there is a need for developing a way to measure and analyze the productivity contribution of IT and to apply it to the healthcare industry.

A hospital, the unit of analysis, differs from organizations in other industries in its 1) organizational and decision-making structure which is “split” between physicians and administrators (Harris 1977), 2) highly regulated environment which determines the economic behavior of hospitals (Broom 1988), and 3) use of IT for strategic advantage including establishment of vertically-integrated healthcare organizations (Conrad et al. 1988). The productivity study must be interpreted with these issues in mind.

In this research, we use state-of-the-art econometric techniques to analyze the impact of IT in the production of services in healthcare organizations using a longitudinal (consisting of 50+ units of analysis in each year) sample of data from 1976 to 1994. The research, which uses a wide spectrum of parametric techniques (Lovell 1993), demonstrates 1) the method of calculating the prices of input factors in the healthcare industry (Christensen and Jorgenson 1969), 2) the importance of quality in capital stock calculations for productivity studies (Brynjolfsson 1993), and 3) the effect of organizational variables on productivity results (Burgess and Wilson 1996).

Our results show that IT has, on an average, had a positive contribution on the production of services in the healthcare industry over the past sixteen years. We do find that omitting key organizational variables and poor data quality (in terms of capital stock calculation) can lead to conflicting results.

REFERENCES


