Chapter 6
Rethinking Innovation Comparisons Between Manufacturing and Services: The Experience of the CBR SME Surveys in the UK

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6.1 INTRODUCTION

There has in recent years been an increase in the use of large-scale surveys to measure the nature and extent of innovation activity. The most important development in a European context has been the development within the European Union of a harmonized Community Innovation Survey (CIS) (Archibugi et al., 1995). There have been two such surveys and a third is planned. They aim to cover the whole of the economy including both the manufacturing and service sectors. This commitment to an economy wide sectoral coverage has provided the occasion for a debate about the appropriate way to measure innovation activity in surveys covering both services and manufacturing (OECD, 1992; Evangelista and Sirilli, 1995, 1997; OECD-Eurostat, 1997; Kleinknecht, 1998). This debate is part of a wider literature on the extent to which service activity generally is misrepresented by measurement techniques and theoretical perspectives developed primarily with goods and specifically manufacturing activity in mind (Hill, 1977).

In the main, the literature on innovation measurement associated with the CIS survey, and the wider literature of which it is a part, has drawn a broad distinction between services and manufacturing as a whole. In the most recent, CIS separate survey instruments were in fact used for firms in these two broad sectors (see, for example, Foyn, 1998). We argue in this chapter that whilst a disaggregated sectoral approach to the conceptualization and measurement of innovation activity is desirable, it is not necessarily most useful to base it around a broad division between manufacturing and services as conventionally
defined. We argue, instead, that there is considerable variation in the content and nature of the innovation process within each of these sectors. Moreover, we argue that there are industrial groupings in manufacturing and in services respectively which have more in common with each other than they do with industrial groupings in their ‘home sector’. This important feature of the innovation process is obscured if the debate focuses on distinctions between manufacturing and services broadly defined using conventional official statistics criteria. We illustrate our argument using a well known innovation typology due to Freeman (1979), which we apply to a large sample of small and medium firms in manufacturing and a subset of service industries. These firms were respondents to the biennial national University of Cambridge CBR survey of the SME sector in the UK (Cosh and Hughes, 1996, 1998). Since these surveys cover manufacturing as a whole but only business services our analysis is restricted to that part of the service sector. It is however the fastest growing and most dynamic component of service activity in the UK and other industrial economics (Vickery, 1998).

In the next section of this chapter we provide a brief overview of the debate on measurement problems associated with innovation activity in the service sector. In Section 6.3 we develop a framework for comparing innovation activity across groups of industries in the manufacturing and service sectors. In Sections 6.4-6.7 we compare innovation characteristics across these groups of industries using a variety of survey-based indicators of innovation activity. The final section contains our principal conclusions.

6.2 PROBLEMS IN MEASURING INNOVATION IN MANUFACTURING AND SERVICES

A number of arguments have been advanced to support the view that measures of innovation traditionally developed for the manufacturing sector will distort the measurement of service sector innovation activity (Miles, 1995; Miles et al, 1995; Barras, 1986; Gallouj and Weinstein, 1997; Evangelista and Sirilli, 1995). On the input side it is argued, for instance, that there is a bias towards human capital in service production processes. This may be linked to a greater scope in the service sector for ‘process’ innovation associated with changes in business organisation and work practices, rather than with changed plant and equipment. If this is so, then service innovation inputs will be inadequately reflected in indicators based on R&D expenditures, or investment in new capital equipment. More generally, it has been argued that there is a much greater simultaneity in service production and consumption than is the case with manufacturing. This then blurs the traditional manufacturing distinction between process and product innovation. Moreover, it leads to a situation in which ‘product innovation’ is intimately linked to changes in methods of delivery or distribution, because the product may often be defined by a particular delivery or distribution mechanism. This may, in turn, it is argued, pose problems in trying to distinguish product innovation from product differentiation. Taken together these arguments are often associated with a