Innovation in Construction: An International Review of Public Policy
Andre Manseau and George Seaden (eds), Spon Press, London, 2001, 432 pp., ISBN 0415254787, $105

Most if not all recent technological innovations probably have their genesis in those innovations that are stimulating such remarkable developments in the leading-edge sectors of the modern economy. For that reason, any understanding of innovation relating to construction preferably should not be restricted to a consideration of those investments in research and development that are uniquely located within the narrowly defined construction sector.

However, the accumulated evidence does demonstrate that innovation in construction has certain ostensibly unique characteristics. An important example of this apparent uniqueness of construction is the role of public sector research organizations in generating and managing many of the most significant technological changes within construction during the twentieth century. As such this review makes an important contribution to our understanding of innovation in construction.

On the other hand, because the analysis is focused on the role and function of the public sector in managing and initiating technological changes within the construction sector, the reasons why there has been such a significant shift towards the private sector being the main driving force behind recent innovations in technologies, practices and procedures, within and related to the construction sector, is not adequately articulated.

Nonetheless, this is an interesting review. Particularly in that the editors introduce the concept of a ‘construction space’, which extends the boundaries of construction beyond the narrow statistical definition of the construction sector.

They argue that:

The economic space of construction is much larger than that defined by traditional construction statistics, limited to value added site activities of general contractors and specialty trades. There is a general agreement that it includes the design of buildings and infrastructure, the manufacture of building products and of machinery and equipment for construction, and the operation and maintenance of facilities.

Their ‘construction space’ in all probability comprises between 10% and 15% of all economic activity within a developed post-industrial economy.

However, where in a modern economy does construction activity begin and where does construction activity end? Contemporary examples of innovations and innovative procedures, such as facility management, PFI and the increasing use of sub-assemblies in construction make the delineation of the sector’s boundaries increasingly problematic.

Where this book has strength is in the analytical framework that it discusses and develops in its earlier chapters. Here the discussion of the problems of defining innovation and the ‘Innovation Processes and Systems’ and the ‘Influence of Political and Social Structures’ are especially interesting. In many ways the maximum value to be gained from this book is that the authors place innovation in construction within the broader context of the debate on the dynamics of technological innovation within the wider economy. In this way they avoid falling into that unproductive argument – construction is unique.

The use and maintenance of buildings and constructed infrastructure is a function of the more complex demands for goods and services in an economy. There is no other sector of the economy that has such an obviously derived demand for its outputs and services, as is the case with construction. Consequently, it is not sensible to measure the state of innovation in construction simply in the context of a public policy and then to ignore the symbiosis of construction activity with its interactions with the wider social and economic needs of economies, societies and communities.

It is argued that there are essentially four different innovation systems among the richer developed economies:

1. a market driven system that is most prevalent in the USA, UK, Canada and Australia;
2. a government led system that is dominant in France, Germany, Italy or the Netherlands;
3. a social democratic system that is predominant in the Scandinavian countries;
4. a meso-corporatist system such as exists in Japan.

These classifications seem to ignore the interactions and associations that determine the economic and technical realities of the business of construction, which is possibly the most market-driven sector in each of the chosen economies. Should we infer that the major presence in the US market of Skanska AB is a consequence of a
Swedish social democratic or corporatist compromise or is it a consequence of the (assumed) harsher competitive climate in the USA? Do we explain differences in the structures of the construction sector in the USA, Japan and the countries of Western Europe, merely as a consequence of the differences in market forces, given that similar market forces are present to a comparable degree in all of these national construction sectors?

The review of public policy is most informative, covering, as it does no fewer than 15 countries as diverse as South Africa, Chile, Argentina, France, Germany and the USA. The assortment of charts and tables that illustrate various patterns of expenditure on innovation in construction is less informative. It is difficult to relate investments in research and development to any measurable progress in developing technological innovations within and for the construction sector.

I have a serious problem with the introduction, which argues that: 'Following a period of post-war expansion, the demand for construction has decreased in the last decades.'

This flies in the face of a reality where in the developed countries there has been a consistent increase in GDP and GDP per capita, which has been accompanied by a comparable and parallel growth in construction output over the last 50 years. The only period where there was no significant correlation of construction output with that of GDP was between the mid-1970s and the early 1990s. This was the time when the oil price crises and the mystique of monetarism dominated economic policy formulation in many, if not all, of the developed economies.

I have also a serious problem with an argument that does not even attempt to identify the significant variations that exist in the morphology of those activities that are classified statistically as construction in the 'System of National Accounts'. For construction, even as defined for statistical convenience, is a heterogeneous collection of complex activities that cannot sensibly be assumed as a homogeneous whole.

The paradigm on which this review is founded is rooted in the period of post-war reconstruction that was probably over by the end of the 1970s. During this period construction activity was dominated by the public sector as both the industry's major client and as the main regulator of construction activity. Following the oil crises of the 1970s this public sector paradigm metamorphosed into one that is dominated increasingly by the needs and requirements of the private sector.

However, the editors have fashioned a tour de force in providing a compendium of information on public policy with respect to innovation in the construction sector. But they have provided an overview of a state of affairs that is rooted in a period when innovations in construction were developed to satisfy the perceived needs of economic, and more typically, social policy objectives.

What is urgently needed is a study of innovation in construction that addresses the problems and possibilities of and for the twenty-first century. There are many studies from which a more coherent understanding of the genesis and role of technological innovations in the construction sector. The recent work of Baumol (The Free Market Innovation Machine, Princeton University Press, Princeton, 2002) and the ongoing programme of research by the OECD (Innovative Clusters: Drivers of Innovation Systems, OECD, Paris, 2001) would provide a better basis for such a study. However, the editors of this review have provided, particularly in their earlier chapters, a possible framework from which tangible progress might be made.

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