Creating the competitive edge: A new relationship between operations management and industrial policy

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A B S T R A C T

Policy interventions by governments to alter the structure of economic activity have either been dismissed or ignored by operations management (OM) scholars. However, in recent years, such ‘industrial policy’ measures have gained increasing support in developed economies, particularly in relation to manufacturing. This paper argues that contemporary manufacturing in high-cost economies is rooted in technological innovation. As such, it can be enhanced by industrial policy interventions that prevent systems failures in the process of turning technological innovation into commercially viable products. In particular, we argue that this can be achieved by establishing non-firm, intermediate research organizations and by other measures to change the institutional architecture of an economy. We disagree with claims in earlier OM literature that industrial policy is all but irrelevant to manufacturing firms and to OM. Instead, we argue that OM must broaden its conceptual scope so as to encompass active engagement with non-firm network participants such as government-supported intermediate research organizations, and that, as well as learning to be effective users of industrial policy, OM practitioners and academics should engage actively in the development of industrial policy. In this way, high-value, high-productivity manufacturing can be viable in high-cost economic environments.

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1. Introduction

The offshoring of manufacturing has been a serious concern in developed economies in the past decade (Blinder, 2006; OECD, 2007; Harrison and McMillan, 2010) As a result, there has been growing support for policy interventions to reverse this trend, particularly since the 2007–8 global financial crisis. In the US, the Obama administration established the Advanced Manufacturing National Program Office (AMPSC, 2012). In the UK, the 2010–2015 Government developed an ‘industrial strategy’ to help rebalance the economy, away from financial services and back toward manufacturing: in the words of Peter Mandelson, the UK Secretary of State for Business from 2008 to 2010, “less financial engineering and a lot more real engineering”.1 In 2016, the US Presidential Election and the UK’s referendum on membership of the European Union have both made the global location of manufacturing and the idea of industrial strategy even more important in the political sphere.

Competitive threats from developing economies are, of course, nothing new. The rise of Japanese manufacturing during the 1970s was a particular cause for concern in the US and UK, and gave rise to a great deal of activity in operations management (OM) research on topics such as JIT, lean, quality management and supply management. Various forms of industrial policy responses were also developed. In this regard, senior operations managers and policymakers have been concerned with many of the same phenomena: the changing nature of manufacturing processes, organizations, markets and supply networks, and the evolution of our understanding of them. Whereas thirty or forty years ago the primary unit of analysis for both policy and OM would have been firms and domestic sectors, both communities are now faced with understanding how to capture value from product and process innovation in complex, globally-dispersed manufacturing value chains (Hughes, 2012). Despite these many common concerns,
2.1. Industrial policy

Industrial policy can be defined as follows:

“Industrial policy is any type of intervention or government policy that attempts to improve the business environment or to alter the structure of economic activity towards sectors, technologies or tasks that are expected to offer better prospects for economic growth or societal welfare than would occur in the absence of any such intervention ...”  
(Warwick, 2013: 16–17)

In a business and management context, notably at Harvard Business School, the term ‘policy’ has referred to business strategy (Bower, 1982; Bower et al., 1991). In operations management, Skinner (1969) is now known for developing the notion of manufacturing strategy, but typically referred to it as ‘manufacturing policy’, both in his 1969 HBR paper and in a series of industry casebooks (e.g. Skinner and Rogers, 1968). It is important to be clear that industrial policy is not business policy or manufacturing strategy: industrial policy is, as the definition states, an intervention by, or policy of, government.

A distinction is typically drawn between horizontal and sectoral (or vertical) industrial policy (Crafts and Hughes, 2013). Horizontal policy is intended to provide public goods that the market would otherwise under-provide, such as education, R&D and training (Chang et al., 2013) and not to target any firm, sector or locality more than any other. Sectoral industrial policy, in contrast, is deliberately targeted at some sectors and/or firms. A government might, for example, provide special support to firms in aerospace.2 Targeting has been criticized on the grounds that governments are incapable of ‘picking winners’, for example by providing financial support to firms selected as ‘national champions’ in strategic sectors, an approach largely discredited since the 1970s. Critics also argue that targeted policies may be captured by firms, sectors and lobbyists to further their own ends or the ends of those they represent, rather than the wider economic constituency originally intended to benefit - so-called ‘regulatory capture’ (Chang et al., 2013: 8). Targeting is, however, difficult to avoid, since all but the most general horizontal policies (e.g. primary education) have implicit targeting (Chang et al., 2013). For example, policies to improve rail and seaport transportation infrastructure will favor manufacturers of relatively bulky goods; the provision of tax-breaks for R&D will favor research-intensive industries. As Michael Porter puts it: ‘Every nation practices implicit targeting of some kind, whether it will admit to it or not. The issue, then, is less whether targeting is taking place than how a nation is going about it’ (Porter, 1990: 673). Part of the concern of this paper is to understand how, despite these difficulties, industrial policy can be actively targeted.

2.2. Industrial policy objectives and firm competitiveness

We are concerned to understand how industrial policy can help manufacturing firms to be competitively located in developed economies, where costs, especially labor costs, are high. This is seen as an attractive policy objective, especially post-2008, because manufacturing has higher levels of innovation, productivity growth and export intensity than other sectors, which improves the balance of trade and provides economic resilience in the face of macro-

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2 In practice, however, the idea of sectoral policies is under increasing strain, as the boundaries of traditional sectors become blurred, manufacturing and services are combined, and information technology becomes increasingly pervasive and disruptive.
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