How Capability Differences, Scale, Learning curves and Transaction Costs Interact to Shape Vertical Scope

036-March-2006
ISSN: 1744-0009

Michael G. Jacobides

Ghoshal Fellow, Advanced Institute for Management Research
London Business School
Regents Park, London
NW1 4SA
United Kingdom
Tel (+ 44 20) 7706 6725
fax (+ 44 20) 7724 7875
mjacobides@london.edu;

Abstract

This paper provides an integrative analysis of the drivers of vertical scope, using analytical and computational methods. I propose a model with two vertical segments (upstream and downstream), with firm populations that have heterogeneous capabilities, and an intermediate market subject to transaction costs, where firms can choose whether to be integrated or vertically specialized. By varying the level of transaction costs and changing the structure of the correlation between upstream-downstream capabilities in the industry, as well as economies of scale; learning curves; and the way in which profitability leads to capability improvement in the upstream and downstream segments, I generate numerical results to explain how vertical integration evolves over time. The results suggest that (a) without capability differences, even if transaction costs are nil, firms remain integrated; (b) differences in economies of scale in the two segments may create or dampen specialization, depending on the underlying capability heterogeneity structure; (c) transaction costs catalyze the underlying capability differences to drive scope; (d) dynamic factors, such as learning curves; returns to investment in capabilities; or limits to expansion exacerbate small, random capability differences and as such promote specialization; and finally, these dynamic factors can just by themselves lead to
substantial specialization when they differ between the upstream and downstream segments. The model also provides a new rationale for “mixed governance” (concurrent use of both the market and integration), as well as for the initial period of vertical integration, followed by specialization, both regularities that are often observed in practice.