Book Reviews

Richard Florida and Martin Kenney, *The Breakthrough Illusion: Corporate America's Failure to Move from Innovation to Mass Production*, New York: Basic Books, 1990, ISBN 046-500-749X.

So much has been written on the declining industrial and technological competitiveness of the U.S. economy that the student of small business economics might find him or herself wondering what else could be said and whether it is worth taking the time to read another book on this topic. The short answer to this question is this book, by Florida and Kenney (FK) is worth reading. It provides important, valuable insights about America's competitive decline, attributing that decline to the physical and administrative separation of R&D facilities from production centers. This separation limits America's ability to solve the complex, multifaced problems which are integral to a high technology industry. FK achieve an intriguing synthesis of the evidence about small-firm and high-tech startups. This allows them to provocatively assert that it is the system of high-tech entrepreneurship that is the symptom of America's decline.

The major premise of the book is that American industry has become heavily biased towards radical new product breakthroughs at the expense of incremental product and process improvements. Radical new product breakthroughs carry the potential of Schumpeterian super-profits which provide a strong motivation for this over other types of innovation. The result is an industrial system, organized towards facilitating the next, big, technological breakthrough at the expense of *follow-through*. FK define *follow through* as the successful manufacturing and marketing of new products. As a result of prevailing management techniques, R&D, manufacturing and administrative activities are often relocated to the most advantageous place for such activity without regard to the negative effect geographical isolation may have had on their interrelatedness. To the best of my knowledge, FK are the first to relate the phenomena of the spatial division of labor to industrial competitiveness. (In the regional science literature, this is known as the new spatial division of labor, see D. Massey, *Spatial Divison of Labor: Social Structure and the Geography of Production*, New York: Methuen (1984).)

Manufacturing facilities are often moved to distant locations in search of lower production costs. This sacrifices the ability to achieve those incremental innovations that enhance product performance, product reliability and overall quality. The firm's ability to realize more efficient manufacturing techniques and/or process innovations suffers also. Moreover, the experience gained with one manufacturing technique facilitates the development of new products which incorporate similar or related processes. The loss of familiarity with manufacturing has diminished an important source of technical knowledge.

As a result, American firms suffer an inability to fully capitalize on breakthrough product innovations. And furthermore, once a breakthrough innovation has been realized, the ability to achieve sustained, technological advantage is missing. The elements of *follow-through* are essential to the realization of the promise of new, technological breakthroughs. Because of the lack of follow-through, the economic benefits of technological breakthroughs remain beyond America's reach, or simply an illusion.

America's industrial pre-eminence was achieved because it was once the world's premier *follow-through* economy. It effectively coupled the results of modern, industrial R&D with the mass production assembly line. FK discuss reasons for the breakdown of this system in Chapter 2 of their book. (See also, R. Nelson, 'U.S. Technological Leadership: Where Did It Come From and Where Did It Go?', *Research Policy* 19 (1989), 117—132.)

Chapter 2 documents the increased specialization and hierarchical division of R&D which resulted in the segregation of R&D from scaled-up production activities. R&D was seen at just another activity to be evaluated against standard, financial accounting criteria and not as integral to the long range goals of the organization. The authors also document the negative effect of American defense policy on crowding-out commercial R&D as well as reinforcing the emphasis on breakthroughs within the context of the "arms race" to beat the Russians on a variety of technological frontiers.

As existing corporations became unable to take advantage of highly profitable, new technologies, the dynamic American economy developed a new system of investment. This new system relied on new startups funded with speculative, venture capital that pushed the "think-worker" to the limit. Think-workers were presented with lucrative remuneration schemes that linked their personal rewards to the success of the new enterprises. FK are at their best when describing the evolution and function of that system.

Chapter 3 describes the support structure of breakthrough innovation which provides the capacity to dramatically shorten product development time. Chapter 4 focuses on the positive role of venture capital in supplementing and reinforcing the breakthrough system but also documents the negative aspects of this financing. Venture funding creates a pressure cooker environment that makes it difficult for new companies to become established. Furthermore, once a company goes public, it runs the risk of being abandoned because the major actors have already made a "killing" and have every incentive to leave the company and begin the process all over again.

Chapter 5 discusses the hyper-mobility of high-tech labor which accompanies this system. FK argue that this new system has externalized innovation and created a situation in which existing companies find it virtually impossible to develop next-generation products and create any meaningful follow-through.

Chapter 6 argues against the prevailing perception that the Silicon Valley and Route 128 provide viable models of high technology industry. In contrast to the optimism of George Gilder (see his 'The Revitalization of Everything: The Law of the Microcosm', *Harvard Business Review*, March (1988), 49—61), the authors argue that these areas have created industrial fragmentation that cripples international competitiveness. Silicon Valley and Route 128 rely on a startup mania that produces a rush of technological clones that detracts resources from one another and inhibits the development of sustained, technological advantage. Some authors argue that there is great synergy and cooperation in these regions (Saxanian, 1990); however, these enclaves are so removed from the rest of American industry that key, technological innovations such as HDTV, which integrate mechanical and computer systems, have been neglected. Silicon Valley excels in supporting niche producers, but this success does not provide a model that can guarantee economic growth and an increased standard of living for most Americans.

In Chapter 7, the authors argue that the neglect of manufacturing limits the ability to innovate. R&D, and manufacturing are so inextricably linked that a company which holds manufacturing at arm's length loses expertise with the technology. In this regard, the current practice of foreign subcontracting and out-sourcing is detrimental to American industry. (See A. W. Brian, 'Positive Feedbacks in the Economy', *Scientific American*, February (1990), 92—99, provides additional insights into the ways that self-reinforcing activities can style competitive advantage.) The authors devote the final section of the book toward moving beyond the limitations of the current system.

Chapter 8 discusses the Japanese example of follow-through. (See Kenney and Florida, 'How Japanese Industry Is Rebuilding the Rust Belt', *Technology Review*, February (1991), 25—33, for more recent relevant work on Japanese industry's success in translating their system to this country.) Chapter 9 characterizes the limitations of America's current patchwork solutions. Chapter 10 concludes and summarizes.

It is frequently said that intellectual capital is becoming American's most important resource and provides international competitive advantage. To this point, I am sure that FK would argue that the realization of the potential of U.S. intellectual capital is being stunted by the current practices which do not accommodate the potential learning that comes from integrating *follow-through* with technological expertise.

I strongly recommend this book to all students of small business economics.

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Robert J. Larner and James W. Meehan, Jr. (eds.), *Economics and Antitrust Policy*, New York: Quorum Books, 1989, ISBN 0899-30-386-2.

This book focuses on the dramatic changes in antitrust policy in the United States that came about during the Reagan administrations. According to the introduction, the text is intended to explain and also evaluate the changes in U.S. antitrust policy that have occurred during the past two decades (1970—1989). The book also assesses the areas of disagreement that still remain among economists and among legal scholars. The papers collected in the book, written by several authors, pursue this aim in diverse ways.

Antitrust policy is directed towards monopoly, and its first step must be, therefore, the *detection* of monopolies. This topic is addressed in the first paper by Kenneth G. Elzinga. He compares structure, performance and conduct measures, showing that each one of them has shortcomings and concludes that there is no single indicator that can be deemed *the* "true," monopoly index.

In the second paper, Charles Holt and David Scheffman present the modern analysis of strategic business behavior. They remind us that different outcomes can arise from a given situation, emphasizing that, in a number of circumstances, strategic behavior can be procompetitive even if firms have some degree of market power. However, they claim that, although recent economic theory has substantially increased our understanding of certain business practices, it is not very helpful in discerning the circumstances in which these procompetitive outcomes take place. Therefore, recent theory has not made a very useful contribution to antitrust policy.

The next paper is directed to the analysis of U.S. merger policy during the 70s and the 80s. F. M. Scherer stresses that the new learning in economics counsels a reformulation of policy initiatives towards mergers. However, he claims that the policy shift that occurred during the 80s largely failed to solve the real problem of merger policy. Ideology has had an excessive influence on policy formulation rather than a careful, scientific analysis of actual merger problems.

Two papers address the problem of vertical relationships between firms. Lawrence J. White puts the concepts associated with vertical relationships into perspective by noting that, in all market transactions, there are restraints and exclusions. Furthermore, the practices usually identified with vertical restraints and subject to the antitrust authorities' attention, are only a small part of a larger continuum. He then presents the case for the efficiency explanation of vertical relationships, but notes that in a number of cases, vertical relationships can, indeed, be used to raise a rival's costs and thus produce anticompetitive effects.

The paper by Robert J. Larner compares the vertical price restraints with vertical non-price and horizontal restraints and advocates that price and non-price vertical restraints should receive the same treatment.

Two papers written by the lawyers are concerned with the general problem of the influence of economics on antitrust law. In the first of these papers, Donald Bakers recalls that, in spite of the prescriptions offered by economic theory, antitrust law is largely influenced by other factors, namely, political factors. This often leads to manipulation against those competitors who are politically weaker (foreign competitors are an obvious example), and Baker argues that, if political changes are foreseeable, they should explicitly be taken into account by antitrust authorities.

The other paper, by lawyer Timothy J. Waters, discusses the need for a significant revision in the U.S. antitrust law as advocated by the Reagan Administration. Waters argues that existing antitrust law has been able to accommodate successive developments in economic theory and therefore, against the Reagan Administration's proposals, no revision is required.

The last paper written by the editors, reviews the development of economic thought regarding antitrust since the establishment of the "structure-conduct-performance" paradigm up to the present. They review the positions of the structuralist school, resting on the presumption that high concentration leads to abnormal profits because