

A DYNAMIC MODEL OF CREATIVE ORGANIZATION

What Matters Most for the Technological Prestige?

Vipin Gupta

1998

TABLE OF CONTENTS

	<u>Page</u>
Table of Contents	ii
Introduction	iii
Chapter 1 A Dynamic Model of Organizational Planning	1
Chapter 2 A Dynamic Model of Organizational Programming	26
Chapter 3 A Dynamic Model of Organizational Learning	51
Chapter 4 A Dynamic Model of Organizational Profitability	76
Chapter 5 A Dynamic Model of Organizational Development	101

Introduction

A Dynamic Model of Creative Organization

What Matters Most for the Technological Prestige?

During the late 1980s and early 1990s, several Western firms moved fast to downsize their traditional manufacturing operations, focus on newly defined core competencies, and develop transnational links with the emergent vendors for upgrading the value-adding potential of these competencies. By the late 1990s, they enjoyed super-normal growth in their productivity, using creative technological modules. These modules, founded on healthy ecological principles, were fundamentally more ergonomic than the traditional chemical- and labor-based techniques. To appreciate the revolutionary nature of these developments, one need only contrast the experiences over the 1960s and the 1970s, when the unusual rise in the social security costs had generated a sharp drop in the value of human capital throughout the Western landscape. In an analysis of the US national income, James Poterba (1998) found that “The share of wages and salaries has shown a steady decline from 62.8 percent in 1959 to 58.9 percent in 1996, with a high of 65.6 percent (1970) and a low of 58.6 percent (1984). But this merely reflects the increasing importance of non-wage benefits like health insurance and retirement plans in employee compensation. Overall, the share of employee compensation rose from 67.9 percent in 1959 to 72.2 percent in 1996 with a high of 74.1 percent in 1982 and a low of 67.5 percent in 1965... Moreover, with the exception of Japan, since 1990 the rate of return on capital has risen in all of the G-7 nations and rates of return in the United Kingdom, Canada, and Italy have risen faster than those in the United States.”

The orthodox models emphasize that the increasing returns are contingent on the barriers to entry (supported with the super-normal commitments into manufacturing capacity and market reputation), perfect competition in the strategic factor markets (feasibility of purchasing requisite intermediate inputs at constant costs), and substitutability of the human capital (flexibility of embodying human capital expertise into machinery for realizing decreasing unit costs, without the need for compensating the human capital for the super-normal value-added by the machinery). The human capital is considered to have two aspects: (1) quasi-fixed power: even as the human capital skills are used for improving the machinery base of the firm, it may not be possible to lay-off the human capital already contracted by the firm without the risks of substantial legal liabilities. (2) quasi-tradable power: the human capital services contracted on an arms-length basis from the outside vendors may be flexibly severed, as soon as the firm develops substitutable machinery using the vendor assistance. Typically, a firm is expected to compensate the vendors at a cost that fully accounts for the present value of the future stream of cash earnings from the machinery. In reality, the valuation process is characterized by asymmetry in information about the true value of vendor services, super-normal uncertainty in the ability of firm-specific human capital to productively use the machinery power developed using external expertise, and the need to insure the risks that the vendors might diffuse their know-how to competing assemblers also. The management of valuation process is as such quite complex, and the firms seek a safety margin ensuring that the vendors lack requisite financial power to aggressively market their creative services openly on the global landscape. The resulting barriers to entry into the product market ensure that the vendor market remains perfectly competitive, even as the firms seek to retain their human capital using super-normal compensation incentives for avoiding information spillovers about the true value of vendor services.

There are thus substantial benefits from a corporate strategy actively involved in mergers and acquisitions of firms carrying super-normal human capital bases. Mergers allow the firms to re-appraise the value of the competing vendor services, consolidate the purchasing to a core group of more efficient vendors that offer dedicated firm-specific services, and flexibly lay-off all human capital specialized to the residual vendor groups. The management of vendors who have a strong market reputation for technical excellence usually entails substantial transaction costs, and requires

the firm to commit substantial human capital for negotiating and bargaining preferential deals. The elimination of these vendors, along with the co-specialized quasi-fixed human capital, is thus gainful.

The above considerations may be summarized in form of the following model:

Vertically integrated human capital → Organizational Planning → Organizational Programming → Organizational Learning → Organizational Profitability → Organizational Development → Technological Prestige

Specifically, human capital vertically integrated with the reputed vendors substantially enhances the value of strategic organizational planning. The firms can program mergers and acquisitions of the non-reputed vendors, and generate learning about the potentially substitutable costlier services of the reputed vendors. The more advantageous network assembly helps the firm become leaner, and also facilitates reduction of the vendor workforce specialized to the worldwide customers. On the whole, a super-normal technological prestige for distinctly unique know-how can thus be realized, and increasing rents generated on the residual human capital. Since the skills of the residual human capital are squarely specialized with the firm-specific networks, it is also possible to negotiate substantially lower overall compensation costs. Even if the firm needs to pay higher levels of social security benefits commensurate with its super-normal market reputation, it is still possible to recruit the residual human capital at decreasing wage costs. As a partial compensation, the human capital might be offered free option contracts on any future appreciation in the stock of the firm. Such contracts offer flexible insurance against the potentially opportunistic moves of the human capital to the competing firms. Without any competition in the product market, the human capital can be assured of a super-normal appreciation in the stock market wealth. The lack of any risks generates super-normal incentives for each individual human capital, which are duly supported by the group-level efforts to aggressively protect the firm-specific intellectual properties.

This study presents a comparative analysis of the Japanese and American approaches to the development of technological prestige. Over the 1980s, Japanese firms moved rapidly to transform their manufacturing ventures in the emerging markets from minority joint ventures with the local firms, to majority or fully owned operations. Where the local vendors refused to let go of their share in ownership, Japanese firms showed visible dissatisfaction with the lack of trust and relational capital. As an alternative, they withheld their future commitments to technology development, and prospected for new 100% acquisition or greenfield investment options in the same or competing landscapes. American firms, in contrast, substantially reduced their emphasis on new foreign direct investments, and instead focused on outsourcing their complex operations. The simplification of the manufacturing processes generated substantial improvements in the quality levels, and facilitated new products based on the creative modular inputs designed by the emergent vendors for worldwide marketing. During the early 1990s, Japanese firms were visibly concerned with the growing evidence of the hollowing-out of their core competencies. Their historical network of trustworthy vendors was actively engaged in the worldwide marketing of their products, often supported with the joint ventures in the overseas nations where the lead Japanese firms were involved in the development of wholly owned operations. American firms, meanwhile, realized super-normal growth in their cash flows, and are beginning to contest the resources networked by the Japanese firms through more competitive compensation packages. Thus an overall strategic survey of the forces accounting for the flexibility of the US market in creating worldwide technological prestige, would help prudent spinning-off of the proprietary assets acquired by the firms internationally, and ensure increasing returns par excellence for all in the age of information revolution.

Reference

Poterba James; "The Rate of Return to Corporate Capital and Factor Shares: New Estimates Using Revised National Income Account and Capital Stock Data," NBER Working Paper No. 6263, The NBER Digest, June (1998).