

## Guest-Editor's Preface

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# The New Organization?

The mystery of economic growth is, according to a recent article in *The Economist*, about to be solved. A new orthodoxy stemming from the work of Paul Romer (e.g., 1990) is discernible. To the neoclassical theory's capital and labour has been added another factor of production: knowledge. This, so it is said, is yielding more plausible conclusions.

Knowledge can raise the return on investment but like the acquisition of other productive assets, there are costs. Because knowledge is productive, success can fund further investment in knowledge creation which in turn can make other investment more productive.

This reported breakthrough might well take the pioneers of information economics by surprise. Were Fritz Machlup and Jacob Marschak alive, they would perhaps be disappointed that their profound work on the knowledge industry and the role of information in decision-making, respectively, had not had greater impact on economic thought.

For my own part, I share such feelings in a modest way. In my book *The Theory of Profit* (1965) information and organization were seen as capital, with the concept of organization extending to the firm's complex ties with its environment; and, more recently (1984), I have emphasized the need for economic analysis to treat organization as a variable.

Many others have contributed to the development of this theme. For Kenneth Arrow (1974) information channels and their use reflect the combination of the characteristics uncertainty, indivisibility and capital intensity. Milan Zeleny (1989a,b) has argued that knowledge has become the most productive force. Gunnar Eliasson and his colleagues (1990) at the IUI in Sweden have published their empirical findings showing that information

processing activities represent the main claim on resource use. Joseph Badaracco Jr. (1991) has extended this reasoning to the international domain in his study of strategic alliances.

Where does this leave the economic growth mystery? Is it sufficient to add a further factor knowledge or is there a need to try for even further disaggregation? The role of knowledge has been recognized since Adam Smith and earlier: it was in effect a factor of production but the interaction processes between knowledge and economic activity were not treated analytically. But knowledge must be operative; there must be a capability of using knowledge to achieve identified ends.

Large, complex systems have developed throughout history for organizing societies and economies and they have always represented a major drain on resources. What this *Information Age* with its information-intensive activity demands is that design of organization become a deliberate process, an analytical task barely begun according to Kenneth Arrow's judgement (1979).

The building blocks would seem to have been identified: organizational capital, incentive structures, and information flows. We have tended to give the 'market' a monopoly of organizational form – it has been awarded the design prize – despite the fact that probably more is done in organizations than in the market place. It is time to direct major analytical effort to the costly but potentially very productive design of organization, with a view to fitting together the ways of organizing, innovation, and new technology.

This task is an interdisciplinary one. There are, of course, several reasons as outlined by Paul Streeten (1974) for engaging in such work. First, there is cooperative effort drawing on several disciplines. Second, there is the transfer of what has proved useful (assumptions, concepts, methods) in one discipline to another. Third, and of special

relevance to this discussion, the conditions justifying separateness may not hold. There may be too many important interactions between the variables treated by two or more disciplines. As Streeten remarked, if there are few interactions and they are weak and damped, we may be justified 'in separating, say, business responses from family responses, or economics from anthropology'.

Research findings over many years in many disciplines would seem to suggest that the ways we organize interact with the performance of economic activities and that the interactions are sufficiently numerous and of such magnitude that we should direct interdisciplinary effort towards an amalgam of economic activity, technology, information flows and organizational design.

The papers in this special issue of HSM are by economists whose work has taken them into other fields or, in the case of Macdonald, a historian turned information economist. The justification for calling their writing interdisciplinary rests, finally, on Streeten's words: 'the fact that the only forum where interdisciplinary studies in depth can be conducted successfully is under one skull, and that such skulls are scarce'.

The contributors were asked to explore the information-theoretic aspects of the design of organizations. They were asked to adopt this approach because traditional economics has largely ignored the role of information. The most basic of all economic models is that built upon perfect competition which somehow rests upon the notion of perfect (zero cost?) information. While modelling has been portrayed as increasingly able to cope with imperfect competition, it is not at all clear that it is able to cope in all its aspects with imperfect and costly information. It is our hope that these papers will help to show that the interaction between the

underlying information conditions and design of organizations has a crucial role in economic performance and economic growth.

## References

- Arrow, K.J. (1974): *The Limits of Organization*, New York, Norton.
- Arrow, K.J. (1979): The Economics of Information, In M.L. Dertouzos and J. Moses (eds.), *The Computer Age: A Twenty-year View*, Cambridge, MIT Press.
- Badaracco Jr., J.L. (1991): *The Knowledge Link: How Firms Compete Through Strategic Alliances*, Boston, Harvard Business School.
- The Economist* (1992): Economic Growth: Explaining the Mystery, January 4, pp. 17–18, 20.
- Eliasson, G. et al. (1990): *The Knowledge Based Information Economy*, Stockholm, Industrial Institute for Economic and Social Research.
- Lambertson, D.M. (1965): *The Theory of Profit*, Oxford, Blackwell.
- Lambertson, D.M. (1984): The Economics of Information and Organization, In M.E. Williams (ed.), *Annual Review of Information Science and Technology*, 19, American Society for Information Science, pp. 3–30.
- Machlup, F. (1984): *Knowledge: Its Creation, Distribution, and Economic Significance, Vol. III, The Economics of Information and Human Capital*, Princeton, Princeton University Press.
- Marschak, J. (1974): *Economic Information, Decision and Prediction Selected Essays, Vol. II*, Boston, Reidel.
- Romer, P.M. (1990): Are Nonconvexities Important for Understanding Growth, *American Economic Review*, 80, 2, pp. 97–103.
- Streeten, P. (1974): The Limits of Development Research, *World Development*, 2, 10–12, pp. 11–34.
- Zeleny, M. (1989a): Knowledge as a New Form of Capital. Part 1. Division and Reintegration of Knowledge, *Human Systems Management*, 8, 1, pp. 45–58.
- Zeleny, M. (1989a): Knowledge as a New Form of Capital. Part 2. Knowledge-Based Management Systems, *Human Systems Management*, 8, 2, pp. 129–143.