

EXECUTIVE BOOK REPORT

Paul A. Strassmann
Information PayOff:

The Transformation of Work in the Electronic Age
(Free Press, 1985, ISBN 0-02-931720-7 HC)

This book, the first of three by the man who is now Director of Defense Information, provides a good window into the depth of his understanding, the nature of the homework he has done in past lives, and his conclusions with respect to the management of information technology investment.

- ◆ **He was ten if not fifteen years ahead of his time.**

Footnotes and other indications suggest he did his homework, including detailed case studies, in the 1960's, and began articulating his vision in the early 1970's.¹

- ◆ **His book answers the question from managers, "Why and how should I invest in information technology?"**

He draws an important distinction between efficiency and effectiveness. Automation to achieve internal efficiency is not necessarily cost-effective, particularly if the automation merely increases the speed of "cut and paste" operations. Automation to increase effectiveness, on the other hand, not only increases service to the customer while reducing overhead costs, but it also offers means of radically changing the way we do business.

- ◆ **He places information technology decision-making in the context of over-all strategic planning while also discussing superior cost accounting practices.**

He points out that many businesses do not fully understand the magnitude of their existing investments in information technology (e.g. telephone costs); he also notes that "strategic aspects of information technology are best explained in terms of their influence on business results, such as changes in the market share, improved product quality, increased market penetration, higher profit margins, and enhanced customer service".² Information technology impacts on the bottom line.

- ◆ **He makes a clear-cut case for why paper and electronic screens (and the electronic databases behind them) have two different roles to play in the information world, roles that are complementary vice competitive.**

He discusses the importance of paper as the best medium for conveying complex lengthy compilations of information--his detailed discussion of human factors, including hand-eye coordination and rapid intuitive browsing, is a strong counter-argument for those claiming a paperless environment is both inevitable and required. "VDU text will be used in addition to, not as a substitute for, existing habits and practices."³

He makes the point that it is not paper that is expensive, but rather the labor associated with the creation, dissemination, and management of paper. Information technology can reduce the labor costs associated with paper.

- ◆ **He may or may not be a revolutionary, but he clearly understands that questions regarding the ownership and control of knowledge will make or break our country.**

He provides a concise and clear discussion of how nature, land, capital, and knowledge--respectively--have been the foundations for tribal, feudal, national, and (potentially) global forms of social organization.

"Education, research, patents, copyright, software, access to media, law, government, economic power, social class, and politics in such a society are understandable only in terms of access to the new knowledge requisite for entry into competitive markets for services."⁴

"Productivity gains in a successful service society are realized by people engaged in lifelong learning. The transition from an industrial economy to one based on services is, then, primarily a transformation in the way society uses its human capital."⁵

- ◆ **He is mission-oriented--information technology investments should be made in relation to their contribution to the mission, not as isolated costs.**

He focuses on information technology as a means not as an end, and integrates the central value-adding role of people who accomplish the mission, with the critical importance of communications between people, and the supporting role of information technology as a basis for empowering people to achieve the "PayOff" from organizational investments over-all.

- ◆ **He helps managers to understand that information technology--to be fully exploited--requires a change in the way we do business and in the way we use people.**

Specialists can become generalists without losing their expertise. Only humans can provide the judgement and insight necessary to deal with the unpredictable and unprogrammable. Successful exploitation of information technology requires agents of change--high performance individuals--who lead an organization in accepting and developing a transformed workplace: empower those people, or lose them and lose your market share.

Endnotes

1. This puts him well ahead of Richard Saul Wurman (who is in any case more of a graphics artist) and two decades ahead of mass media publicist Alvin Toffler. He shares views with Robert Carkhuff (author of The Exemplar: The Exemplary Performer in the Age of Productivity, Human Resource Development Press, 1984), but is distinguished from these other authors by the fact that his focus has always been return on investment--he approaches the challenge from the business case side rather than the artistic (customer) or ergonomics (producer) sides of the triangle. His practical focus also distinguishes him from the technocrats popularized by Howard Rheingold in Tools for Thought and Virtual Reality.
2. PayOff, page 140.
3. VDU is the acronym for Visual Display Unit, a broader term avoiding technical limitations. PayOff, page 173, see also pages 166-177.
4. PayOff, page 206.
5. PayOff, page 209. The crux of all political, socio-economic, techno-demographic, and ideo-cultural conflicts as we transition from one type of organization to another in different parts of the world, and particularly as our own "First World" reluctantly transitions from an industrial base to a services/knowledge base, will be this issue of the ownership of knowledge. How the law treats knowledge will determine whether or not we have a revolution and/or anarchy in the ether. Hackers are the first revolutionaries. Industrialists who have salted away patents and cut deals with law-makers and regulators to protect inefficient production processes are the reactionaries. For an encouraging sign that the Supreme Court is conscious of the role it must play in the transition, see Pamela Samuelson, "Copyright Law and Electronic Compilations of Data", Communications of the ACM (February 1992), pages 27-32. Ms. Samuelson examines the recent decision of the Court in Feist Publications vs. Rural Telephone Service. Justice Sandra Day O'Connor's opinion will, one hopes, have a major influence on legislation, regulation, and practice. Two excerpts from the article about this decision:

"The ultimate purpose of copyright law, said the Court, was not to maximize the financial return to individual authors, but to promote the dissemination of knowledge."

"In Feist the Court revives the traditional legal approach toward published information, namely that no one owns it."

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[Previous](#) [OSS '92 Robert David Steele, Information Concepts & Doctrine for the Future \(1 December 1992\),](#)

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