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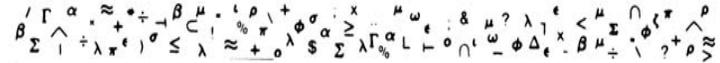
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Book Reviews

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The range of books reviewed is wide, covering theory and applications in operations research, statistics, econometrics, mathematics, computers, and information systems (no software is reviewed). In addition, we include books in other fields that emphasize technical applications. Publishers who wish to have their books and proceedings reviewed should send them to Professor Benjamin Lev. We list the books and proceedings received; not all books received can be reviewed because space and time are limited. Those who would like to review books are urged to send me their names, addresses, and specific areas of expertise. We commission all reviews and do not accept unsolicited book reviews. Readers are encouraged to suggest books that might be reviewed or to ask publishers to send me copies of such books.

Salton, Gary J. 1996

Organizational Engineering: A New Method of Creating High Performance Human Structures, Professional Communications, Inc., Ann Arbor, MI, 277 pp. \$34.95.

Organizational Engineering is a book for people whose business is to change organizations. It is a new paradigm that looks at the relationships among people as the primary data, not the people themselves. In effect, Salton combines a fundamental information-processing model with traditional sociological concepts to arrive at a new theory of organizational behavior.

Underlying the book is the notion that the information available to support almost any decision overwhelms the processing capabilities of the human mind.

Therefore, human beings must adopt "filters" to gather and sort information relevant to a particular decision environment.

The choice of filters then dictates the probable response. By collecting detailed information, a decision maker can enhance the possibility of producing responses involving thorough, well-considered behaviors based on the decision. By collecting only major aspects of the information stream, the decision maker precludes a detailed response but enhances the speed of response.

Salton links an individual's input and output through the concept of strategic style. Using this device, he dispenses with psychology as irrelevant to his purposes, replacing it with the notion of characteristic processing patterns. He posits four basic patterns, which every individual uses to one degree or another. For example, Salton's "reactive stimulator" style is characterized by minimal data collection. This style limits processing requirements and permits fast response but increases the probability of errors. The "logical processor" style, on the other hand, is detail sensitive and pays a price in speed of response to gain the benefit of certainty of outcome.

After defining his basic paradigm, Salton explains the interaction of the major styles. While he doesn't state it explicitly, Salton draws the mathematics underlying the theory's behavioral predictions from joint probability. He represents an individual's strategic profile with a quadrilateral developed from scores on the four basic styles. The probability that two or more people will find a particular joint decision acceptable is proportional to the area of intersection of these figures. Salton demonstrates this concept using easily understood graphical representations.

One can see the "engineering" portion of the book's title best in chapters devoted to methods for modifying group behavior. Here Salton sees the sociological concepts of role, rule, and process as structural elements one can use to guide group behavior in predictable directions. Salton maintains that these tools are not complete substitutes and that the usefulness of any particular adjustment depends on the strategic profile of the group as a whole. He devotes the longest chapter of the book to the specification and applicability of these tools. In the final chapters, he shows how to apply the concepts, methods, and techniques developed to reengineering and corporate culture initiatives.

This book is unusual in that the author frames a new theoretical framework in terms immediately useful to the practitioner. In effect, Salton has skipped over a full theoretical specification in favor of making the paradigm directly useful to those who labor in the fields. This should not disappoint those of us who translate our work into tangible products visible on the bottom line of income statements. Theorists will see the theory but want more specification on which to build. Managers will welcome the practical, direct applicability of the book.

Practitioners will also welcome the clarity of Salton's writing. His logic is well-articulated and concise. He includes many examples drawn from organizational experience. This book can be read with profit by any change agent who must redirect groups of people and gain their cooperation. It also sheds light on the practical aspects of others' proposals for effecting organizational change. For example, Salton provides the how-to for promoting teamwork in Deming's (1982) famous 14-point prescription.

I examined my own behavior in the light of the book's content. I saw how the strategies I employed affected my own satisfactions. The why of particular behaviors became obvious. That these effects result from strategic choices, not hard-wired responses is intriguing. The line of inquiry Salton opens up may be fruitful in many branches of knowledge.

Reference:

Deming, W.E. 1982, *Quality, Productivity, and Competitive Position*, MIT Center for Advanced Engineering Study, Cambridge, Massachusetts.

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