



Book Review

Strategic Organizational Diagnosis and Design:
Developing Theory for Application

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Amid increasing concerns of the fragmented state of organization science (Pfeffer, 1993), *Strategic Organizational Diagnosis and Design: Developing Theory for Application*, authored by Richard Burton and Børge Obel, has pointed us to a new direction through which the field can be better integrated and the various existing theories can be more applicable to today's real organizations. With a theoretically and empirically based expert system containing "research and experiential knowledge from organization theory and design" (p. 11) from a wide range of sources, this book has done a great service to the advancement of our field.

From an information processing perspective, the book views organizations as open systems that interact with the larger environmental settings and are also subject to various internal organizational contingencies. Based on the strong conviction of fit from the contingency theory tradition, it has laid out a comprehensive list of factors relating the contingency factors of size, climate, ownership, management preferences, technology, environment, and strategy, to the organizational design recommendations. The book has effectively integrated various findings from the field of organization theory and moved to a more normative science of organization design. This is a significant achievement in particular in the face of the fact that most of the knowledge in the field of organization studies has a positive science tradition and is diverse and even fragmented.

This book, following the first version, is divided into two main parts, with the first part (Chapters 1 to 9) on theory, where the multiple contingency theory model is developed. Each of the contingency factors is thoroughly discussed relating to the organization literature. It focuses on one particular case, Scandinavian Airline Systems (SAS), to help readers understand the importance of each factor and illustrate the insights from the organizational design approach. A significant portion has been devoted to the basic idea of fit

through the implementation of contingency fit, situation fit, design parameter fit, and total design fit. The authors have also done a nice job of explaining the various decisions they have made with regard to validation and other procedures in creating the expert system while stating the constraints in such approaches. In validating the expert system, the authors have provided some guidance using the criteria set forth by O'Leary (1988), though the book has relied mainly on whether the design recommendations from the expert system are "reasonable or helpful" (p. 32). They have also introduced the idea of certainty factors in integrating different knowledge bases in the literature and interpreting design recommendations.

The second part of the book mainly contains the manual and some cases (Chapters 10 to 13). It describes how the software Organizational Consultant (OrgCon) can be used to analyze cases and provide design suggestions. The CD-ROM that comes with the book has encompassed the essence of the book in a highly user-friendly expert system, OrgCon, more so than the earlier DOS version. OrgCon provides the reader a powerful tool for diagnosis and design. It aids the design process by asking the designer questions about the current organization, the contingency factors, and then offers recommendations on the design, the configuration and the properties. The Windows 95 version of OrgCon is more appealing and has overcome the perception by prior users as not up-to-date. It was also out of necessity due to some of the incompatibilities encountered by the older version with the Windows 98 operating system on a PC. It is a sophisticated multifunctional tool, even though some of the more casual users may feel a little overwhelmed at times.

Another advantage of this expert system that has not been sufficiently emphasized in the book is that it can also be used as a tool for future design suggestions. With the anticipated changes in the environment, the designers can get insight from the expert system and be prepared for the consequences of such changes. This could not be done in most conventional organization theory research.

It seems a natural fit for Richard Burton and Børge Obel to be authors of such a book about a high powered expert system. With their numerous research work in the field and their highly regarded expertise, the expert system instantly earns its deserved respect, not to mention the sound literature review conducted by the authors from various authoritative sources. Based on my teaching experience with the first edition of the book, students have generally given the book and the software a positive response. They are particularly impressed with the soundness of the recommendations and the scientific rigor associated with such recommendations. With the book's comprehensive literature review and a strong organizational design integration, it can serve both as a guide to professional management consultants and as an excellent textbook on organizational design and computational methodology.

This book has again shown the power of computational methods in advancing organization theories. With the expert system and the philosophies behind it, researchers in computational organization theory can now have one more direction to tackle the complex issues of organizations in a fast changing world. This book has also provided researchers of computational organization theory from different areas with a rich knowledge base that new studies can be drawn on and results can be compared with, which is very important to the systematic development of the field.

While this book is in many ways revolutionary, several issues may be worth further exploring. With the authors' firm belief that this is a normative tool for consulting, further testing of the newly derived propositions largely hinges on the reputation of the authors and the reasonableness of the propositions. The validity of the propositions has to depend on new information from additional "cases, consultations with executives, dialogue with experts, and executive MBA student assignments" (p. 36). While this may be the best available approach for validating these propositions, it may inevitably invoke different biases and so to further address such issues may be necessary. There is also no mentioned adaptability of the expert system to develop new rules when encountering changed empirical information. This may be a challenging but worthy endeavor for future research.

Although some general logic was presented as to how the propositions can be generated through the use of organizational literature, there is a lack of underlying reasoning for deriving a variety of more complex propositions, such as those that involve a complex variety of interacting factors. The book has so far only listed some combinations of propositions with about two contingency factors. There is also little mention with regard to the expert system's ability to derive new propositions based on existing information. One simple example would be to derive from the existing literature of $A \rightarrow B$ and $B \rightarrow C$ to a new proposition of $A \rightarrow C$, which has not been directly studied in the field of organizations. Whether and how the expert system can logically deduct such new propositions remain to be seen. One advantage of computational modeling, including expert system, should be the ability to explore underlying relationships and developing new propositions and theories that are not easily foreseeable to human beings. This is a challenge faced by the computer modeling approach of organization theory as well.

Another issue may be with the authors' use of the Mycin rule in resolving different conclusions from the literature of organization theory. While they have taken the approach of counting frequency as a criterion for deciding the weight, there is an implicit assumption that the studies they have considered all deal with the same issue under exactly the same set of contingencies, which may not be true. One possible improvement may be to reread the literature by coding the organizational context according to the factors listed in the book. Through that process, more contextual information may be revealed and so the contradictions may be reduced as a result of different contingency factors, instead of treating all research conclusions as applicable to general conditions.

The book centers on the criteria of fit. While there are a number of fit criteria, how each fit criterion should be given what priority has largely remained a subjective process and at times seems arbitrary to the reader. How each fit in one criterion may result in subsequent misfit in other criteria is also mysterious to the readers. There seems to be a need to systematically state in the book the complex relationships between all such fit criteria.

Finally, there is the issue of coding of cases before inputting into the expert systems. Such a coding process can be highly subjective and there is no guarantee that such coding will be transferable to the scheme in the expert system and that conclusions from the expert system will not be tainted by the coding of the cases. Thus the expert system becomes only as good as the coding allows it to be.

Despite these issues, I truly believe this book is the best of its kind for advancing organizational theory through a computational approach. It is not only an excellent textbook for

management teaching but also a sophisticated tool for management consulting. It has done the wonderful job of elevating organizational design from a discrete and incoherent process to a more systematic and coherent one.

References

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