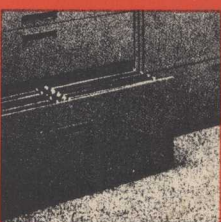
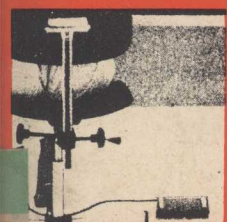
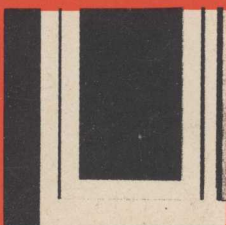
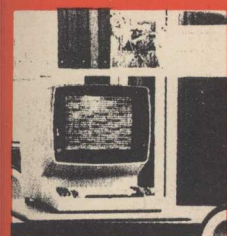


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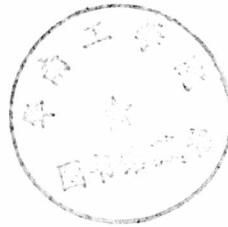
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Don Tapscott



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Foreword

Every pioneer takes large risks, hoping that the new frontier he seeks will provide the benefits of independence and good fortune. Don Tapscott is such a pioneer in the area of office automation. He has been a true pioneer, having entered the field in its early days and taken the risk of working not in technology, which was fashionable, but in the field of the problems of organizations, which was less fashionable, but in many ways more important.

The utilization of computers for data processing, accounting, inventory, and other “bread and butter” applications is now well entrenched in our society and culture. The process of designing such systems tends to focus on the needs of the company and the constraints of the equipment, leading to efficient systems with little tolerance for the variety of people who must use or interface with them. Within the office automation area, these methods do not work nearly as well. The frequency and amount of human interaction in the office environment, and the wide variety of situations and reactions therein, demands a different design methodology.

Don Tapscott has shown the way for this new method, through the user-driven design techniques described in *Office Automation*. It is, after all, the user who must be happy with a system in order for it to function well in an organizational setting. Some of the success of the word processing and early

office automation systems came about because they freed users from the grasp of the data processing department. The ability to use a word processor with records processing as a simple data processing system was a godsend to many user departments for jobs that were otherwise too small for DP. As these users learned, they often came into conflict with data processing, which created organizational stress. For many similar reasons, office automation has more serious organizational and systems problems than technical ones.

The methods presented in this book for studying one's own organization should prove invaluable to those starting on the road to office automation. I have often been called upon to consult for companies which have never been very introspective. All seem to want the same thing—a priori proof that office automation will save them money. None wants to trust in the words of experts or the often overblown claims of vendors, and rightly so. Yet performing the detailed activity analysis, communications analysis, and systems design in a large organization is very costly when done by outsiders. The user-driven methodology discussed in this book, if properly applied, will permit your organization to generate its own analyses, and determine for itself where or whether the new technologies can be best utilized.

Don Tapscott has not only learned through his consulting and research activities over the years. He has also been an early and constant user of the technologies. By working with the most advanced systems of the day, and living with terminals at home and office, he has seen some of the more subtle benefits of office automation. These are reflected in several of the chapters in this book.

Office automation has the potential truly to reshape the world in which we work and live. Transportation/telecommunication tradeoffs, more flexible organizational structures, far better user interfaces through voice and graphics, and focus on easing the communications and information retrieval bottlenecks are all reasons these techniques will inevitably touch those of us who work over the next few decades. The ever decreasing costs of hardware also contribute to the wide coverage which the technology will have. Yet change of this magnitude will not come without many social and organizational difficulties. New power structures, shifting control of technology from an elite to the masses, and the young generation of managers, trained in and expecting computers on their desks, will create problems.

I am pleased that this book may help those of you who read it and who apply its methods to attenuate the problems. Its message is that users can control their own destiny in office automation, and that exercising such control is better not only for them, but for their organizations as well. Heed the message!

Villanova, PA
Howard Morgan

Preface

The three technologies of computers, communications, and the office are converging to bring about integrated office systems. These systems address pressing needs of today's organizations for better information management, improved communications, and more effective office administration. These cornerstones of productivity and growth are centering on "electronic workstations." Typical tools include electronic mail, decision support systems, interactive information retrieval, text processing, enhanced telephony, and personal support tools. When combined to directly support professionals, managers, and other office workers, these systems are making profound improvements in productivity, effectiveness, and quality of work life.

However, while there are far-reaching opportunities, there are many obstacles. The technology, while cost-beneficial today, is still embryonic and evolving. Determining system requirements has proven to be more complex than ever before. It has been difficult to measure the impact of these systems on productivity and to develop a solid cost justification. Implementing systems for nontechnical users and managing change have posed unanticipated challenges. New planning methodologies are required along with new organizational structures to oversee system design, implementation, and evolution.

The overall problem is one of a “gap” between the users and providers of the new technologies. Office system vendors are having to modify traditional approaches in order to close the gap between themselves and the users. New methods of product planning, evaluation, marketing, and implementation are required to correspond to the new complexities of user requirements.

This book is aimed at closing that gap. It outlines a method for “user-driven design” of integrated office systems. This method can be used by both the users and the providers of technology to design systems that better meet the needs of people and organizations.

Chapter 1 overviews the technology; it explains the origins of these new systems and discusses their potential to improve the effectiveness of organizations and quality of work life in the office.

Chapter 2 discusses the problem of “technology-driven” systems and explains the need for a user science, a new method for determining user requirements and for designing office systems.

Chapter 3 explains the different ways of looking at office systems. Five conceptual approaches are reviewed: Organizational Communication, Functional, Information Resource Management, Decision Support, and Quality of Work Life.

Chapter 4 develops a conceptual model of the office and, using it, critiques the five conceptual approaches outlined in Chapter 3. By understanding the office we can better understand how to improve its function.

Chapter 5 explains the concepts of efficiency, effectiveness, and productivity as they pertain to the office. The problem of measuring productivity and organizational performance is presented and the “office model” is used to illustrate an approach to solving the problem.

Chapter 6 outlines the process of “user-driven design” in some detail. Assessment of user needs is seen as: participative, multidisciplinary, ethically acceptable, evolutionary, and a process of change. Contrasts with previous approaches to design (as with data processing or Management Information Systems) and one contemporary approach called “Applications Development Without Programmers” are explained. The specific phases in the design process are described with the recommended output from each.

Chapter 7 discusses the importance of having a controlled evaluation of the office system and its impacts. Different research designs and the use in evaluating office systems are discussed along with the utility and limitations of Action Research.

Chapter 8 talks about measurement. The key categories of measurement instruments are reviewed: survey questionnaire, diary or log, activity sampling, network analysis, content analysis, observation, critical incidents, secondary sources, tests, and system monitoring. Criteria for evaluating instruments are presented.

Chapter 9 describes how information from the requirements analyses can be translated into a pilot systems design. Twelve areas of assessment are discussed: communication opportunities, information requirements, decision support, document production, administrative support, data processing, new procedures, job design, environmental design, implementation needs, categorization of current in-house technologies, and vendor evaluation.

Chapter 10 presents a method for conducting a cost–benefit analysis for various system alternatives.

Chapter 11 outlines some practical guidelines on planning and implementation of pilot systems.

Chapter 12 is a case study, showing one experience evaluating an integrated office system pilot. Some of the key issues in the transition from pilots to fully operational systems are explained.

Chapter 13 stands back from the process and reviews some of the broader issues that increasingly face designers of these new systems. These issues include the impact of the new technologies on work, employment, the nature of organizations, and on the future of our society.

This book was written for a wide group of people with diverse interests, needs, and objectives. With this in mind, a detailed table of contents is provided to enable the reader to skip from one topic to another. Rather than going from cover to cover, you may benefit from designing your own “user-driven” manuscript.

Toronto, Canada

DT

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