

PREFACE

In the fall of 2000 the Engineering Information Foundation (EIF) Board of Directors asked Donald W. King to advise them on possible future research directions. In a presentation to the Board, Mr. King recommended a four-phase approach to a research agenda regarding the communication of engineers, starting with a review of recent literature to identify where benchmark data exist, where there are gaps in research, and where future research would be beneficial to the engineering communities. As a result of this recommendation, the Board awarded a research grant to Carol Tenopir and Donald W. King to conduct a literature review and to present recommendations for future research directions. The report to EIF was the genesis of this book. The report focused on the literature from 1994 to the present pertaining to how engineers communicate. This book expands that focus to include literature from the 1960s to the present. The emphasis, however, remains on how engineers communicate, whether communication patterns have changed, and what might be done to improve communication of engineers.

This book broadly defines communication as encompassing information inputs such as seeking, locating, obtaining, and using information on the one hand and information outputs such as

writing and oral communications. A particular emphasis is on how communication can be improved through education. We analyzed the literature that touches on these topics, particularly the research literature with engineers as the subject, either wholly or in part. We also extracted survey responses from engineers who were observed nearly every year from 1977 to 2003. These data provided useful insights into engineers' communication patterns and useful comparisons with science and other fields.

This project has been a group effort (not unlike the trend in engineering toward collaborative works). Project leaders Carol Tenopir and Donald King were ably assisted in all aspects by Rhyn Davies, Christine L. Ferguson, Edward Gray, and Scott Rice, graduate students at the University of Tennessee, School of Information Sciences. In addition, graduate students Katie Darraj, Keri-Lynn Paulson, Emily Urban, and Mercy Ebuon assisted with occasional specific tasks. At the University of Pittsburgh, School of Information Sciences, Sarah Aerni, Richard Daddieco, Matt Herbison, and Gina Cecchetti also made helpful contributions.

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