

1. Record Nr.	UNINA9910830652503321
Titolo	Information overload : an international challenge to professional engineers and technical communicators / / [edited by] Judith B. Strother, Jan M. Ulijn, Zohra Fazal
Pubbl/distr/stampa	Hoboken, New Jersey : , : John Wiley & Sons, Inc., , [2012] [Piscataqay, New Jersey] : , : IEEE Xplore, , [2012]
ISBN	1-118-36050-8 1-283-66487-9 1-118-36051-6
Descrizione fisica	1 online resource (321 p.)
Collana	IEEE PCS professional engineering communication series ; ; 2
Classificazione	TEC044000
Altri autori (Persone)	StrotherJudith B UlijnJ. M FazalZohra
Disciplina	004.6 658.4/038 658.4038
Soggetti	Information resources management Time management
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references. Includes bibliographical references and indexes.
Nota di contenuto	List of Practical Insights from Corporations xv -- List of Figures xvii -- List of Tables xix -- Foreword xxi -- Preface xxvii -- Acknowledgments xxix -- A Note from the Series Editor xxxi -- Contributors xxxiii -- About the Editors xxxvii -- 1 INFORMATION OVERLOAD: AN INTERNATIONAL CHALLENGE TO PROFESSIONAL ENGINEERS AND TECHNICAL COMMUNICATORS 1 -- Judith B. Strother, Jan M. Ulijn, and Zohra Fazal -- 1.1 Definitions, Causes, and Consequences of Information Overload 1 -- 1.1.1 Definitions of Information Overload 1 -- 1.1.2 Causes of Information Overload 2 -- 1.1.3 Consequences of Information Overload 3 -- 1.2 Perspectives on the Concept of Information Overload 4 -- 1.2.1 An Information and Time-Management Perspective 5 -- 1.2.2 A Supplier/Producer/Writer

and Client/User/Reader Perspective 5 -- 1.2.3 An International/Intercultural Perspective 7 -- 1.2.4 An Innovation Perspective 7 -- 1.3 Readers of this Book 7 -- 1.4 Structure of this Book 8 -- 1.4.1 Section I: Causes and Costs of Information Overload 8 -- 1.4.2 Section II: Control and Reduction of Information Overload 10 -- References 11 -- SECTION I. CAUSES AND COSTS OF INFORMATION OVERLOAD -- 2 OF TIME MAGAZINE, 24/7 MEDIA, AND DATA DELUGE: THE EVOLUTION OF INFORMATION OVERLOAD THEORIES AND CONCEPTS 15 -- Debasish "Deb" Aikat and David Remund -- 2.1 Introduction 16 -- 2.2 Theory and Concept of Information Overload 16 -- 2.3 Information Overload as a Twentieth Century Phenomenon 17 -- 2.4 Evolution of Information and Its Proliferation in Society 21 -- 2.4.1 The Early Quest for Information and Knowledge (320 BCE-Thirteenth Century) 21 -- 2.4.2 The Age of Renaissance (Fourteenth-Seventeenth Century) and the Printing Press 22 -- 2.4.3 The Industrial Revolution (Eighteenth-Nineteenth Century) and Its Information Innovations 23 -- 2.4.4 The Era of the Mind and the Machine (Twentieth Century) 24 -- 2.4.5 Internet Boom and Information Explosion of the 1990s 27 -- 2.4.6 Data Deluge and Information Overload in the Twenty-First Century Digital Age 28.

2.5 Information Overload Concepts 29 -- 2.5.1 Definitions of Information Overload and Related Concepts 29 -- 2.5.2 The Context of Information Overload 30 -- 2.5.3 Causes and Consequences of Information Overload 31 -- 2.6 Conclusion and Four Lessons Learned 32 -- Acknowledgment 33 -- References 33 -- PRACTICAL INSIGHTS FROM IBM 39 -- 3 THE CHALLENGE OF INFORMATION BALANCE IN THE AGE OF AFFLUENT COMMUNICATION 41 -- Paulus Hubert Vossen -- 3.1 Introduction 42 -- 3.2 Quantitative Aspects of Information Overload 43 -- 3.3 Qualitative Aspects of Information Overload 45 -- 3.3.1 Philosophical Perspective: Information in Science and Technology 45 -- 3.3.2 Political Perspective: Information in Modern Society and a Global World 46 -- 3.3.3 Economic Perspective: Information as a Commodity on the Market 47 -- 3.3.4 Societal Perspective: Information as the Glue Between Communities 48 -- 3.3.5 Psychological Perspective: Information as a Basis for Knowing and Acting 49 -- 3.3.6 Ecological Perspective: Information as a Prerequisite for Living Creatures 50 -- 3.4 Conclusion 51 -- 3.5 A Call for Fundamental Research 52 -- References 53 -- PRACTICAL INSIGHTS FROM XEROX 55 -- Xerox Takes on Information Overload 55 -- Identifying the Problem 55 -- Sharing Information 56 -- Sorting Information 57 -- Cutting Through the Clutter 57 -- Life-Saving Software 58 -- Urban Central Nervous System 58 -- 4 FROM CAVE WALL TO TWITTER: ENGINEERS AND TECHNICAL COMMUNICATORS AS INFORMATION SHAMAN FOR DIGITAL TRIBES 61 -- Anne Caborn and Cary L. Cooper -- 4.1 Introduction: The Dawn of the Information Shaman 62 -- 4.2 The Magic of Metaphor 64 -- 4.3 The Audience: The Emergence of Digital Tribes 65 -- 4.4 Quill to Keyboard: The Writer and New Media 66 -- 4.5 Helping the Reader: Techniques for the Information Shaman 68 -- 4.6 The Magic of Hypertext Techniques: Journeys at the Speed of Thought 70 -- 4.7 Conclusion: The Responsibilities of the Information Shaman 72 -- References 73 -- PRACTICAL INSIGHTS FROM THE LIMBURG MEDIA GROUP 75.

Newspaper Position in The Netherlands 76 -- Managing Information Overload Using an Evolutionary Approach 76 -- A Revolutionary Perspective 77 -- 5 THE INFLUENCE OF CULTURE ON INFORMATION OVERLOAD 79 -- Jan M. Ulijn and Judith B. Strother -- 5.1 Introduction 80 -- 5.2 Levels of Culture 81 -- 5.3 Cultural Patterns of Discourse Organization 82 -- 5.4 High Context Versus Low Context 83 -- 5.5

Internationalization Versus Localization 85 -- 5.5.1 Latin America 86
-- 5.5.2 Japan 87 -- 5.5.3 China 87 -- 5.6 The Effect of Professional Culture 88 -- 5.7 Japan and U.S. Discourse Structures 91 -- 5.8 Cultural Issues in Reader Versus Writer Responsibility 92 -- 5.9 Implications for Engineers and Technical Communicators and Their Corporations 93 -- 5.10 Conclusion 95 -- References 95 -- PRACTICAL INSIGHTS FROM A2Z GLOBAL LANGUAGES 99 -- 6 EFFECT OF COLOR, VISUAL FORM, AND TEXTUAL INFORMATION ON INFORMATION OVERLOAD 103 -- NoEel T. Alton and Alan Manning -- 6.1 Introduction 104 -- 6.2 Previous Studies of Decorative and Indicative Effects 106 -- 6.3 Experiments and Results 111 -- 6.3.1 Study One: Restaurant Menu Design 112 -- 6.3.2 Study Two: Graph Design and Recall Accuracy 114 -- 6.3.3 Study Three: Diagram Design and Recall Accuracy 116 -- 6.4 Practical Implications for Engineers and Technical Communicators 117 -- 6.5 Conclusion 119 -- References 121 -- PRACTICAL INSIGHTS FROM APPLIED GLOBAL TECHNOLOGIES 123 -- 7 COST OF INFORMATION OVERLOAD IN END-USER DOCUMENTATION 125 -- Prasanna Bidkar -- 7.1 Introduction 126 -- 7.2 Information Overload 126 -- 7.3 Causes of Information Overload 128 -- 7.4 Sources of Noise in User Documentation 129 -- 7.4.1 Information Content 129 -- 7.4.2 Channel 130 -- 7.4.3 Receiver 131 -- 7.5 Effects of Information Overload on Users 132 -- 7.6 The Current Study 133 -- 7.6.1 The Survey 133 -- 7.6.2 Results and Observations 133 -- 7.7 Cost of Information Overload 135 -- 7.7.1 Cost Framework 135 -- 7.7.2 Scenario 1: Ideal Scenario 136 -- 7.7.3 Scenario 2 136. 7.7.4 Scenario 3 136 -- 7.7.5 Scenario 4 136 -- 7.7.6 An Example from the User's Perspective: Denim Corp 137 -- 7.7.7 An Example from the Producer's Perspective: Logistics Corp 137 -- 7.8 Conclusion 138 -- References 139 -- PRACTICAL INSIGHTS FROM HARRIS CORPORATION 141 -- Sources of Information Overload 141 -- Strategies for Dealing with Information Overload 142 -- SECTION II. CONTROL AND REDUCTION OF INFORMATION OVERLOAD: EMPIRICAL EVIDENCE -- 8 TAMING THE TERABYTES: A HUMAN-CENTERED APPROACH TO SURVIVING THE INFORMATION DELUGE 147 -- Eduard Hoenkamp -- 8.1 Introduction 148 -- 8.2 Reducing Information Overload by Being Precise About What We Ask for 150 -- 8.2.1 Conversational Query Elaboration to Discover Support Groups 150 -- 8.2.2 Constructing Verbose Queries Automatically During a Presentation 151 -- 8.3 Steering Clear of Information Glut Through Live Visual Feedback 152 -- 8.4 Improving Search Engines by Making Them Human Centered 156 -- 8.4.1 Case 1: The Basic Level Category 158 -- 8.4.2 Case 2: The Complex Nominal 162 -- 8.4.3 Case 3: Exploiting Natural Language Properties 165 -- 8.5 Conclusion 167 -- Acknowledgments 167 -- References 168 -- PRACTICAL INSIGHTS FROM THE LABORATORY FOR QUALITY SOFTWARE 171 -- References 173 -- 9 TECHNOLOGIES FOR DEALING WITH INFORMATION OVERLOAD: AN ENGINEER'S POINT OF VIEW 175 -- Toon Calders, George H. L. Fletcher, Faisal Kamiran, and Mykola Pechenizkiy -- 9.1 Introduction 176 -- 9.2 Information Overload: Challenges and Opportunities 177 -- 9.3 Storing and Querying Semistructured Data 179 -- 9.3.1 XML as a Data Format for Semistructured Data 180 -- 9.3.2 RDF as a Data Format for Semistructured Data 181 -- 9.3.3 Remarks on the Use of XML and RDF 183 -- 9.4 Techniques for Retrieving Information 183 -- 9.5 Mining Large Databases for Extracting Information 187 -- 9.6 Processing Data Streams 190 -- 9.7 Summary 190 -- References 191 -- PRACTICAL INSIGHTS FROM THE COLLEGE OF AERONAUTICS, FLORIDA INSTITUTE OF TECHNOLOGY 195 -- From Data to Information to Situational Awareness to Decisions 196.

Transformative Airspace Architecture 197 -- Robust, Agile, and Intelligently Responsive Information-Sharing Architecture 197 -- Next Generation Efforts to Manage Information 198 -- Distributed Decision Making 199 -- System-Wide Information Management (SWIM) 200 -- Shared Situation Awareness and Collaborative Decision Making 201 -- Automation and Information in the NAS 201 -- Summary 201 -- References 202 -- 10 VISUALIZING INSTEAD OF OVERLOADING: EXPLORING THE PROMISE AND PROBLEMS OF VISUAL COMMUNICATION TO REDUCE INFORMATION OVERLOAD 203 -- Jeanne Mengis and Martin J. Eppler -- 10.1 The Qualitative Side of Information Overload 204 -- 10.2 Causes of Information Overload 206 -- 10.3 How Information Visualization Can Improve the Quality of Information and Reduce Information Overload 208 -- 10.4 Using Visualization in Practice: Understanding the Knowing-Doing Gap 209 -- 10.5 Methods and Context of the Study 211 -- 10.5.1 Measures 211 -- 10.5.2 Procedure and Analysis 213 -- 10.6 Indications of the Knowing-Doing Gap: Visuals Are Valued, but Poorly Used 214 -- 10.7 Understanding the Knowing-Doing Gap with TAM 214 -- 10.8 Discussion 216 -- 10.9 Conclusion 217 -- 10.10 Future Research Directions 218 -- 10A.1 Appendix 219 -- References 222 -- PRACTICAL INSIGHTS FROM ALVOGEN 227 -- The Challenges of Information Overload 227 -- Strategies for Dealing with Information Overload 228 -- 11 DROWNING IN DATA: A REVIEW OF INFORMATION OVERLOAD WITHIN ORGANIZATIONS AND THE VIABILITY OF STRATEGIC COMMUNICATION PRINCIPLES 231 -- David Remund and Debasish "Deb" Aikat -- 11.1 Introduction 232 -- 11.2 Defining Information Overload within Organizations 232 -- 11.3 Evolution of the Information Overload Concept in Organizations 234 -- 11.4 Implications of Information Overload within Organizations 235 -- 11.4.1 Organizational Implications 235 -- 11.4.2 Employee Implications 237 -- 11.5 Traditional Strategies for Addressing Information Overload 238 -- 11.5.1 Organizational Strategies 238 -- 11.5.2 Individual Strategies 239. 11.6 Strategic Communication Principles: A Viable Solution? 240 -- 11.7 Putting Strategic Communication into Practice 242 -- 11.8 Further Research 243 -- 11.9 Conclusion 243 -- References 243 -- PRACTICAL INSIGHTS FROM THE DUTCH EMPLOYERS' ASSOCIATION 247 -- Acting as an Information Resource 248 -- Focusing on the Added Value of Information 248 -- Co-Creating Added Value in Interaction with Companies 249 -- A Final Observation 250 -- References 250 -- 12 BLINFOLDED THROUGH THE INFORMATION HURRICANE? A REVIEW OF A MANAGER'S STRATEGY TO COPE WITH THE INFORMATION PARADOX 251 -- Arjen Verhoeff -- 12.1 Introduction 252 -- 12.2 Decomposing the Information Paradox 253 -- 12.2.1 The Control of the Internal Information Process 253 -- 12.2.2 The Control of the External Information Process 254 -- 12.3 A Framework to Analyze the Information Paradox 255 -- 12.3.1 Do Managers Experience Issues Regarding Information? 257 -- 12.3.2 Do Managers Use an Information Strategy? 257 -- 12.3.3 Do Managers Use a Strategy to Transform Information into Added Value? 257 -- 12.4 Illustrating the Framework with Some Dutch Empirical Evidence 258 -- 12.4.1 The Importance of an Information Strategy 258 -- 12.4.2 Preliminary Survey Among Dutch Managers 259 -- 12.5 Discussion and Conclusion: Lessons in Information Strategy 260 -- 12.5.1 Discussion 260 -- 12.5.2 Methodological Grounding 261 -- 12.5.3 Learning Points 261 -- 12.5.4 Applied Innovative Directions 262 -- 12.5.5 Toward an Innovative Research Agenda 264 -- 12.5.6 General Conclusion 264 -- References 265 -- List of References for Boxed Quotations 267 --

Sommario/riassunto

"This book covers the ever-increasing problem of information overload from both the professional and academic perspectives. Focusing on the needs of practicing engineers and professional communicators, it addresses the causes and costs of information overload, along with strategies and techniques for reducing and minimizing its negative effects. The theoretical framework of information overload and ideas for future research are also presented. The book brings together an international group of authors, providing a truly global point of view on this important, rarely covered topic"--