
Preface

Satisfying information need (IN) is one of the eternal human problems. However, it is also an eternally new problem because the conditions of life, its content, and humans themselves are constantly changing. Throughout history and its various stages of development, human beings have developed various methods and forms for satisfying IN. In this century, characterized by an unprecedented growth of information, efforts to develop methods for the satisfaction of IN received systematic attention. This eventually led to the creation of information science, all areas of which focus directly or indirectly on satisfying IN.

One of the more important new forms of satisfying IN is the information retrieval (IR) system. These systems were first studied almost half a century ago, and since that time a great number of ideas have been introduced, and extensive experience has been gained as the result of using many real functioning IR systems. These successes, both theoretical and practical, provide the foundation for the theory of IR systems presented in this book. At the same time, because the theory of constructing IR systems is only one area of information science, and this theory relies significantly on a number of fundamental results in information science, this factor will also be taken into consideration in its description.

This book could be viewed as consisting of six parts. The first part (which includes Chapter 1) examines the general principles of constructing any system, particularly an IR system. The second part (Chapters 2 and 3) provides a detailed analysis of basic (key) concepts such as IN, information, information crisis, and the notion of information retrieval. The third part (Chapters 4 and 5) examines the goal, function, and structure of an IR system and information retrieval language (IRL) used in an IR system. The fourth part (Chapters 6, 7, 8, and 9) describes the construction of an IR system, that is, the methods, algorithms, and approaches to the realization of every structural element of the system. The fifth part of the book (Chapters 10 and 11) deals with different approaches to evaluating the results of information retrieval, the IR system itself, and separate components of an IR system. The sixth part (Chapter 12) describes some new