The Global Information Society

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The purpose of the book is to give a complete overview of the subject of information and the role it plays in the technological, economic, social, political and cultural areas of society. Martin portrays the information society not as a separate entity, but as a critical component or enabling factor in the changes that are occurring in society today. Martin's aim is to show the development of an information society as sharing an arena with such issues as population explosion, environmental challenges, biotechnology issues and global political tensions.

Chapter one asks the question as to whether an Information Society is evolving or whether it is largely a continuation of what has gone before. The origins of the concept of information society and various authors' points of view are examined and Martin offers his own definition of the information society: '... a society in which the quality of life, as well as prospects for social change and economic development, depend increasingly upon information and its exploitation. In such a society, living standards, patterns of work and leisure, the education system and the market place are all influenced markedly by advances in information and knowledge. This is evidenced by an increasing array of information-intensive products and services, communicated through a wide range of media, many of them electronic in nature' (p. 3). Martin suggests that certain criteria may be used to 'lend a holistic dimension to our assessment of progress towards the evolution of information society' (p. 6). He concludes this chapter by posing the question 'Information Society: Idea or Entity?' Martin states that 'acceptance of society as an information society is still largely a matter of faith, or at least of perception' (p. 14) and that we need to be able to quantify and qualify the effects of information before we are able to define the information society.

Chapter two consists of definitions and brief discussions on concepts such as information, meaning, data information and knowledge, and communication. Martin explores the existing perceptions of information and considers the meanings of such terms as information poor, and information rich. He grapples with the problem of treating the non-materiality of information as a resource and commodity, and examines 'information as a constitutive force in society', where he maintains that information is not just a passive element, but an active element in the environment. Knowledge, according to Martin, is a higher-order concept than information and has stood the test of time. He credits Drucker for an explanation whereby information is defined as data with knowledge and purpose, and the conversion of data into information requires knowledge. General Systems Theory is mentioned in identifying the relationship between information and communication. Communications is the process of transforming information enabling living systems to interact with their environment. Not only does information and communication have to exist but also the way it's used is touched upon by Dervin's sense-making theory which investigates the way humans use the information. The sense making approach leads into how information is used and how to manage information quality. This is a complex subject because it does not consider only the user's satisfaction with the service provided but also the degree of value it contributes to the solution of the overall problem for which it was sought. Martin concludes this chapter by emphasising the importance of information and communication theory to society in the presence of an ever-expanding array of sophisticated technologies, which can be used to mankind's benefit or detriment.

The subject of the third chapter is 'Developments in Computing'. This chapter gives

an overview (a little outdated in some areas) of computer hardware and software, types of computer, storage of data, artificial intelligence and expert systems, speech recognition and synthesis, databases and multimedia. The material in this chapter is technical in nature but the author does cover existing problems and future trends for each type of technology. Of interest are the future directions being taken in such areas as neural networks, artificial intelligence, expert systems where 'They are said to be concerned with the manipulation of knowledge rather than mere data' (p. 48). Proactive, intelligent databases are a technology that is emerging (an example is the Australian product Netmap used to solve the Backpacker murders) which combines artificial intelligence with database management. Martin points out that there are negative aspects to some of these technologies. An example is Virtual Reality which allows the user to become part of a three-dimensional graphic environment that is interactive and in real time. He points out that there are benefits when this is used for educational purposes but that people were 'retreating to their own virtual worlds at the expense of everyday social and community contact' (p. 57). Multimedia computing, which is a convergence of media communications and computer technologies, will have a great influence on society in the future in the areas of education, entertainment and commerce.

Chapter four is similar to the previous chapter but it covers telecommunications. The process of interconnecting national and international networks into a global network is fast becoming a reality. Topics covered include digitisation, transmission (cable, microwave and satellite), television, bandwidth, networks, value added services and mobile communications. The author addresses the still unresolved question of extending broadband services into the home or office over the local loop and value added services such as digital assistants, pagers and mobile phones. Martin is quite enthusiastic about the convergence of telecommunications and audio–visual services in the broadcasting and entertainment media but adds that there are significant regulatory and legal barriers to overcome. The implementation of this technology hinges on the issue of providing broadband cable in the local loop which would allow interactive features, enabling potential services such as tele-shopping and tele-banking to be offered. He touches upon high definition television and suggests that it could become a domestic super computer delivering interactive video and audio services to the home.

The economics of information is discussed in chapter five. Martin states that 'Today, the subject is concerned not only with the production, distribution and use of information, but also with matters of organisational change, of communication and the wider political economy of information' (p. 87). In this chapter he describes how the economics of information evolved as a sub-discipline and examines the problems of treating information as a commodity and determining the cost, price and value of information. These five chapters lay the foundation to the rest of the book, which deals with the social issues arising from these changes.

Chapter six deals with the social impact of information and communications technologies. Martin restricts the discussion to subjects of data security and protection, computer crime, privacy, intellectual property, censorship and freedom of expression, computer-mediated work and the networking of society. He dwells on the two thorny subjects of security and privacy and poses some thought provoking questions such as a 'user' of personal information may not be only an individual but a process acting across a network on behalf of a user. An interesting checklist of privacy related issues obtained from the Canadian Privacy Commissioner are presented. The topic of telework is an interesting one as it has not proved to be as popular as originally predicted. Martin touches upon the subject of international teleworking on a global scale and the emerging concept of the electronic immigrant. This leads to the possibility of electronic colonialism

and the exploitation of labour in developing countries. The Internet is talked about but surprisingly, not in much detail. No reference is made to the World Wide Web. Martin is quite enthusiastic about the Information superhighway project, championed by United States Vice President Al Gore, which he claims will have a profound impact upon society as a whole. Included is a description by Oracle Corporation as to what the Information Superhighway will be and some of the expected services it will offer. The last part of the chapter examines the social impact of information and communication technologies. Martin says 'There is still no easy answer to the question of whether information and communication technologies will fit into existing social patterns or whether social behaviour will be modified to fit the technology' (p. 129).

Martin feels that the topic of information-based industries covered in chapter seven presented more of a challenge to him than any other chapter in the book. He restricts the discussion to *information-based* goods and services activities that are taking on characteristics of *knowledge* industries. This chapter is a little dated in some of its material dealing with alliances, however this is understandable because of the dynamic nature of the telecommunication business today and the constantly changing alliances, outsourcing and acquisitions. Martin covers major developments in the computer, telecommunications and electronics industries giving unnecessary detail in the form of tables and statistics. He spends some time considering the importance of standards in the various industries and concludes the chapter with a summary of the status and the strategic position of each type of information based industry in the global economy.

Martin defines information management in chapter eight as 'management of a corporate resource critical to the attainment of organisational aims and objectives' (p. 169). The chapter methodically starts out defining the need for information management and that standard management processes are applied. Information assets are defined as the value obtained from using the information and information resources defined as the content of the information, be it in a book, a databank or a CD-ROM. A description of an information manager and various management tools and techniques is given. Various examples are illustrated in customer focus, quality service, cultural change and teamwork, which show the role information plays in organisational change.

The final chapter is entitled 'Global Information Flows: Content and Context'. To demonstrate global information transfer, Martin starts the chapter by giving examples of media coverage on significant events such as the Chernobyl nuclear disaster and the upheaval in Iran leading to Ayatollah Khomeini gaining power. Martin, however, focuses on corporate and business information flows only. He begins by writing about the influence on 'corporate information flow by the networking of organizations both in a technical and structural sense' (p. 190). The corporate networks now encompass all parts of the organisation, extending to customers, suppliers and sometimes competitors. This leads into a paragraph on global markets for telecommunications and developments in the world trade in information services. Various aspects of the General Agreement on Tariffs and Trade (GATT) and the General Agreement on Trade in Services (GATS) are discussed. Martin points out that in the poorer developing countries, the immediate need is not for informatisation but for development. The role of information and its associated technologies in economic development, and various strategies for development, are covered. The chapter ends with a section on North versus South in which Martin examines the difficulties developing countries have in getting a fair deal in their relationships with the developed countries in such matters as informational sovereignty, cultural imperialism and the activities of multinational corporations.

Martin achieves his purpose in stimulating readers by highlighting anomalies and inconsistencies which have challenged authors in this field. He has covered the subject

thoroughly and linked the technological subject matter with social, economic political and cultural aspects of society. The question of whether there is an information society is not answered and is not really relevant. Far more important are identification of the changes that have been and are occurring in our society due to information and information technology and what the future holds for us.

Martin has organised the material in the book in a logical, easy to understand format. The paragraphs and chapters flow into one another in a logical manner guiding the reader along the path he has chartered. He starts out dealing with basic definitions and discussions on basic concepts and then leads into existing and future information technologies. Debating whether information is a commodity, he explores the effect of information economics on the social, cultural and political areas of society. Building up from this background he assesses the impact of these changes on society. He then gives an overview of information-based industries and information management ending with a chapter on the global effects of the changes.

Martin expresses himself in a clear, concise manner. The book is easy to read without being too simplistic. His enthusiasm comes out when describing subjects such as convergence, and his sense of social justice appears frequently in his empathy for the developing nations and consumer rights. He presents the material in a straightforward, objective manner and does not advocate a particular theoretical or ideological point of view (which this reader finds refreshing). However, in chapter seven Martin has included a lot of industry statistics, which does not add to the value of the story and could just as well be left out.

When judging the success or failure of a book, one must consider the target audience and whether the author succeeded in his or her purpose. Martin's stated purpose was to relate the growth in communications, telecommunications and computing to global trends such as the demographic crises of over population, environmental challenges, biotechnology and north–south tensions and other social issues. He accomplishes this by constantly examining the social, cultural and political implications of various technologies throughout the text and by the way in which the material is organised. No writer can produce a book that pleases every person. Martin's book is outdated in some of its information, does not take an ideological stand, does not offer an in-depth analysis and assessment of the impacts of the changes in information and information technologies, and does not offer anything new for readers who are authorities in the field. It is, however, very well referenced, very comprehensive and informative, and provides the reader with a good background on the subject and directions for further study. It provides a good understanding of the processes of the information age and their impact on social structures. I recommend the book for students, first time readers and to lecturers as a text book.

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Borders in Cyberspace: Information Policy and the Global Information Infrastructure

Brian Kahin and Charles Nesson (Eds)

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The basis for this book can best be summed up by the ancient Latin proverb: *Occasio Facit Furem* (opportunity makes a thief). It is because of this that we have police, laws and