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Book review

Information Technology, Development and Policy, Edward M. Roche and Michael J. Blaine, eds, Aldershot, Avebury, UK, 1996.

Working Group 9.4 (WG 9.4) of Technical Committee 9 (TC 9), dealing with the broad theme of computers and society, of the International Federation for Information Processing (IFIP) is one of the most active WGs of that Federation. The scope of WG 9.4 is wide, covering not only national computerization policy issues, specifically with reference to developing countries (DCs), but also the potential societal and cultural implications of implementing such issues in the DCs. To fulfill its mandate WG 9.4 has been organizing a variety of international conferences and other international events (discussions, meetings, etc.). These are discussed in detail in the Foreword by S.C. Bhatnagar, until recently the chairperson of WG 9.4. The book under review consists of a selection of papers presented at the third international conference organized by WG 9.4 titled "The Impact of Informatics on Society: Key Issues for Developing Countries" and held at Havana, Cuba, in February 1994.

Apart from an Introduction by the editors, the book contains seven papers forming Part I: Theoretical Perspectives, and six papers forming Part II: Case Studies. A six-page detailed listing of the backgrounds of the authors, and a twenty-six-page list of references add to the value of the book as a reference and guide.

The introductory chapter by the editors has two objectives: First, to provide a broader conceptual framework to assimilate the individual contributions; and second, to identify the most important general lessons emerging from the conference.

The editors note that while the long-term impact of IT on DCs remains highly speculative, at least three issues deserve special consideration: (1) the effect of IT on traditional social and economic issues; (2) ITs impact on domestic employment; and most important of all, (3) the cost of building and maintaining the basic infrastructure needed to support advanced IT.

As for issue (1), the introduction of sophisticated IT has a destabilizing effect on the basic economic and socio-cultural structures of DCs. Easy access to information on a global scale (e.g., through e-mail, Internet, etc.) is bound to weaken, and ultimately destroy, traditional social hierarchies and power-bases. These liberating powers of IT must be carefully nurtured and channelled for the greater good of the people at large.

Concerning issue (2), the introduction of sophisticated IT in the manufacturing and service industries has the effect, in the short term, of rendering traditional skills and a large variety of jobs redundant. At the same time, training workers to effectively use IT – in industry as well as government – in general tends to be expensive and time-consuming in the DCs due to the lower initial levels of education of the large majority of the work force.

Coming to issue (3), many DCs at present are short of resources (capital, management expertise, etc.) even to implement their basic-needs programmes. For such countries, it is practically impossible to invest in modern information and telecommunication infrastructure to take advantage of the potential benefits of IT. As a result, contrary to expectations, IT may in fact widen the gap between the haves and have-nots and permanently isolate many of the currently poor nations.

Two alternatives have been tried over the years to help the DCs derive the potential benefits of IT. The first involves State intervention – centralized planning and dependence on multilateral funding

through UN agencies. The second involves primary dependence on the market forces, Multinational Corporations (MNCs) specifically, to increase rates of domestic growth and improve the efficiency of local institutions. The editors argue that "neither of these approaches has been particularly successful in assuring equal international access to sophisticated IT" (p. 6). To substantiate their argument, they give a detailed account of: (1) the systematic emasculation of the various UN agencies by "super-power" vested interests, rendering them totally ineffective in their efforts to assist the DCs; and (2) the predominantly negative consequences of the flow of private capital into the DCs through market mechanisms.

These themes are picked up and further elaborated – using specific countries and sectoral experiences as examples – by the individual contributions making up Part I. These are listed below:

1. R. Alvarez and M.A. Calas: "The global data highway: For whom a free way? For whom a toll road?"
2. D. Mundy: "IT in developing countries: a loss of independence?"
3. E.J. Lopez and M.G. Vilaseca: "IT as a global economic development tool."
4. R.B. Heeks: "Promoting software production and export in developing countries."
5. R.L. La Rovere: "Diffusion of IT and competitiveness of Brazilian banking."
6. S. Eliot: "Strategic information systems planning: experiences from Hong Kong."
7. R.B. France: "The global-concern-points technique: a Caribbean case study."

A central point emphasized by all these contributions is that the benefits of IT at a national level can be realized only by *widening* public access to it. This purpose is almost always defeated by handing over the *entire* task of modernizing and expanding the IT infrastructure of a country to the private sector. While it is generally conceded that public institutions in DCs should be improved in order to provide basic IT products and services more efficiently and at a lower cost, at the same time it is important for the State, through appropriate monitoring agencies, to retain control over policy issues relating to IT deployment and operation.

The following six papers make up Part II and deal with case studies:

1. D. Van Ryckeghem: "Computers and culture: cases from Kenya."
2. J. Braa and E. Monteiro: "Infrastructure and institutions: the case of public health in Mongolia."
3. A. Clement, M. Robinson and I. Wagner: "Healthcare networks: a hierarchical spider's Web model."
4. I. Horejs: "IT in rural development planning: the case of Nicaragua."
5. C. Avgerou and N. Mulira: "A study of a university admission system in Uganda."
6. E. Trauth: "Impact of an imported IT sector: lessons from Ireland."

The case studies are ambitious in their attempts to cover various aspects of the culture-society-technology interfaces both at the conceptual level and at the level of specific field experiences. Because of this wide-spectrum coverage, it is difficult to summarize the lessons to be learnt from these studies in other than very general terms. As the editors point out in their introduction, two conclusions emerge from these studies:

1. Information systems do not have to be expensive or complex to support the informatics needs of many of the DCs. Setting up appropriate organizational structures and training schemes are far more important to derive the intended benefits from information systems deployed in the field.
2. Involvement of local users at every stage in the implementation of the information systems is of vital importance. Multilateral funding agencies almost always recruit foreign consultants not

only to design the information systems but also to select and procure the physical equipment. This procedure inevitably results in culture-technology clashes that ultimately defeat the good intentions of the donor agencies.

It is significant to note that the case studies demonstrate that culture-technology problems are not restricted to traditional societies (e.g., Africa) but also occur in newly industrializing countries (e.g., Ireland).

To sum up, this book edited by Roche and Blaine makes substantial contributions to the identification and analysis of conceptual, as well as practical, problems that need to be confronted in enabling IT to assist in tackling the socio-economic development of the DCs.

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