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Overview of the EFT Symposium

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It is increasingly recognized that large-scale technologies such as EFT have the potential for aiding in the solution of current societal problems. Yet, these technologies also generate problems. This symposium presents selected papers from a conference that sought to discover what is currently known about EFT impacts in society and what research is needed in the future.

Key Words and Phrases: EFTs, research agenda, conference results, public policy

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It is increasingly recognized that large-scale technology is a two-edged sword: It has the potential for creating new opportunities and solutions to current problems, yet, left unattended, it might create new problems. This is especially true with respect to large-scale technologies that involve sophisticated equipment, require substantial investment, evoke broad application, and generate complex societal impacts.

Electronic fund transfer (EFT) systems present one of the most prominent cases of such technological innovation. During the last decade it has become clear that the development of such systems has laid the foundation for major changes in the payment and fund transfer system in American society. Preauthorization techniques, automated banking terminals, point of sales devices, and automated clearinghouse facilities are already in use in a number of areas of the country. With the continuing achievement of technological advances, the entire payment system could eventually be based on digital impulses rather than cash or checks [13]. But how likely is such a major alteration in the fund transfer system, and what are the consequences of the changes that will occur over the next several decades?

Some have heralded EFT as a promising innovation for the future, the key to eliminating much of the paperwork in the financial industry, and an important means of attracting potential customers and increasing market share in the financial and retail industries [2, 3, 20]. Only a few short years ago visions of a "checkless, cashless society" filled the papers and received increasing publicity.

However, the results of the past few years have not met initial expectations. Consumers have been wary of the modifications tried and proposed, some systems have failed to obtain the volume sufficient to achieve reasonable profits for either bankers or retailers, and a number of policy makers have dampened their earlier enthusiasm [1, 18, 19]. The financial community also has proven reluctant to change. Financial institutions have been sheltered from vigorous competition through regulation and legislation since the bank failures of the great depression. As a consequence, regulatory, legislative, and

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even technological changes have been resisted by those who are opposed to expanded competition in the financial industry—usually the financial institutions themselves [8, 22, 23]. Revolutionary movement toward a checkless, cashless society has been thwarted. Instead, EFT technologies have focused on evolutionary modifications in the existing financial system such as automated bank tellers and incremental improvements in the technology of processing and clearing checks. The future of cash and checks seems assured, at least for the next few years, but major changes are still underway which will bring significant modification to the flow of funds in our society.

With the evolution of EFT, concern about the social issues it raises has been increasingly voiced by social critics, consumer advocates, and policymakers [7, 22, 23]. Computer scientists also have raised important questions about the policy and social issues connected with EFT [10, 11, 12, 14, and 24] and about the value conflicts implicit in various proposed EFT arrangements [13, 21]. And some have called for a moratorium on the development of large-scale systems. For example, as a result of his concern over the laissez-faire development of such systems, Press [18a] presented arguments for a moratorium on the development of community information utilities. Generally, such views do not represent the view of a majority of the computer science community. Nor do they apply to all systems or even to all large-scale systems. Yet many computer scientists have a favorite system that they would rather not see built.

Although some of these concerns are recent, it is precisely these kinds of concerns which led to the creation of a National Commission on Electronic Fund Transfers by Congress in 1974. The commission was charged with the wide-ranging task of studying and recommending appropriate administrative and legislative action concerning the development of public and private EFT systems. In its final report, *EFT in the United States, Policy Recommendations and the Public Interest* [15], the commission sets forth findings and recommendations in five broad areas: consumer interests, developmental issues in EFT, technology, the role of the federal government, and international development in EFT. Although the commission established a long-term perspective for its work, by Congressional mandate its life was only two years and the pressure of producing specific administrative and legislative recommendations forced the commission to devote much of its attention to only a few pressing policy issues. Furthermore, by necessity, the research carried out was generally short- or middle-range with results presented within the commission's lifetime. It was therefore appropriate to develop a longer-term parallel process to establish a research agenda concerning the public policy implications of EFT and the impact that such systems will have on society.

In order to develop a longer-term research agenda, the authors, supported by a grant from the National Science Foundation, developed a two-part methodology.

It included an exploratory workshop to initially review and identify research needs, and a follow-up conference to analyze ideas more fully and to develop an agenda for future research.¹ The agenda setting process was based on the premise that future research should build on the work of the National Commission and that the methods used in establishing the research agenda should entail meaningful interaction with the commission.

Five broad categories of primary research concerns were developed and assessed at the workshop and further explored at the conference. These included:

- issues in establishing EFT operating systems and technologies;
- the impact of EFT on people;
- the impact of EFT on the economy;
- regulation and control of EFT systems;
- monitoring and evaluating EFT systems in the broader context.

Since the workshop and conference brought together experts from various backgrounds with different interests and points of view regarding EFT, divergent as well as reinforcing conclusions were expressed on the relevant definitions of EFT; the nature, process, and timing of EFT research; and the appropriate agenda for EFT research. This symposium presents some of the key papers from that conference.²

Donn Parker identifies areas in which EFT systems exhibit vulnerability to losses. Specifically, he examines the threats that accidental acts, white collar crime, organized crime, and intentional destruction for purposes of extortion pose to EFT users. Allen H. Lipis examines what is known about the costs of current payments systems in the U.S. by focusing on the comparative costs and transaction volumes of cash, credit card, check, and EFT payments. He also identifies gaps in current knowledge about the costs of particular payment methods, and about the comparative costs and benefits of different payment methods. His study also indicates how we really know very little about the costs of existing payments systems, as well as about proposed systems. Robert H. Long presents his views on the issues faced by consumers in the payments system. Moreover, he assesses the roles of policymakers, providers, and third-party institutions in assuring and influencing consumer protection and education under EFT systems. Kenneth Kraemer and Kent Colton present the results of the Conference on EFT Research and Public Policy in the form of an agenda for future research. They present the agenda with particular emphasis on the conflicting value orientations

¹ The exploratory workshop was conducted in Washington, D.C. on November 18 and 19, 1976, and the conference was held in Boston on June 2 and 3, 1977. These meetings were planned and organized by Public Systems Evaluation, Inc. (PSE) of Cambridge, Massachusetts, and the Public Policy Research Organization (PPRO) of the University of California at Irvine. They were supported by a grant from the National Science Foundation to Public Systems Evaluation, Inc.

² For the other papers presented at the conference and a more complete analysis of the conference results, see [5].

that characterize the field, the efforts to develop a long-term research agenda, and the resulting agenda.

While the papers in this symposium cover their topics in some depth, they obviously represent only a smattering of the topics relevant to EFT. But, they demonstrate the overwhelming need for continuous, empirical research into EFT as a means of informing the issues and the varied groups concerned with EFT. While the recommendations of the NCEFT addressed certain issues, they left others, such as the vulnerability of EFT technologies, unattended. Moreover, even the issues that have been addressed are likely to reach the public decision agenda more than once during the next decades of EFT development. Most recently, the Office of Technology Assessment has identified EFT as one of three areas to be examined as part of their study of National Information Systems [16, 17]. This attests to the fact that EFT is, and will be, a recurring national issue.

But both the NCEFT and the current OTA efforts illustrate the inadequacy of the current research base for informing public policy on EFT. The NCEFT faced earlier, and OTA now faces, a paucity of research findings about the actual impacts of different kinds of EFT systems when they have been implemented. While there is extensive debate on the policy issues in EFT, there is almost no systematic research being conducted. Moreover, conceptual and analytical tools for understanding the potential impact of EFT on individuals, institutions, and the society are undeveloped.

Consequently, it is important to begin systematic research on EFT systems to fill the many gaps in policy information. There is also a need to create a cadre of people who are knowledgeable about EFT systems and capable of doing objective, scientific research in the area. One approach toward meeting this need is to create a center or multiple centers for the study of EFT similar to the "centers" program of the National Science Foundation, the Department of Transportation, and other federal agencies [9]. Such a center (or centers) would require a five- to ten-year charter, funding on a continuous basis by a scientific institution (such as NSF), and governance by a policy body representative of the broad interests in EFT. The centers approach would offer an opportunity to produce continuous, high-quality research from a core staff committed to EFT research as a policy, an intellectual and a practical focus. While it would not obviate the need for future policy-oriented study commissions, such as the NCEFT or the OTA group, it would create a solid information base for policy decisions and would reduce the need for ad hoc approaches to this critical technological development.

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