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Introduction to International Examples of Large Scale Systems: Theory and Practice

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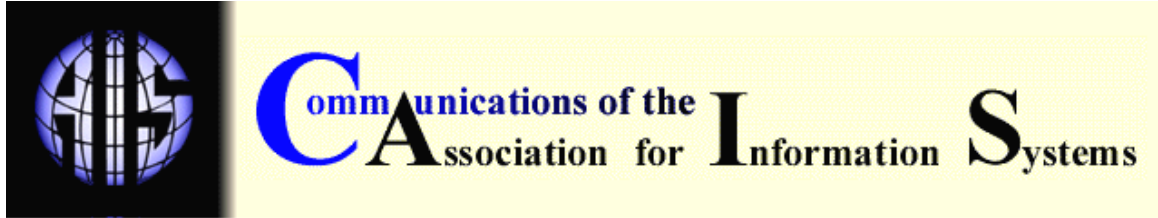
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INTRODUCTION TO INTERNATIONAL EXAMPLES OF LARGE-SCALE SYSTEMS: THEORY AND PRACTICE

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ABSTRACT

This article is an introduction to a series of papers by international authors who presented their work at the 2002 Hawaii International Conference on System Sciences. Each of the papers is concerned with an analysis of international, large-scale systems: SAP R/3 Enterprise Resource Planning (ERP) implementation in China; the development of a major outsourcing contract in an Asian company; a strategic analysis of international electronic marketplaces; and a collection of case studies of electronic commerce in ten large Australian companies.

Keywords: International, ERP, SAP R/3, outsourcing, electronic markets, electronic commerce

INTRODUCTION TO THE SERIES

This series of papers is drawn from the 2002 Information Systems in Global Business Track in the Hawaii International Conference on System Sciences (HICSS). The integrating themes are:

(1) the international dimension of the research projects;
(2) the focus on the implementation of large-scale systems; and
(3) the analysis of contemporary, original data based on a variety of research techniques.

The international dimension of the research is important because most of the published resources in information systems tend to be based on U.S. and to a lesser extent European companies, while experiences with Asian companies are almost absent. This bias is particularly true in B2B and ERP projects. The implementation of large-scale systems is of real concern to practising managers, and the publication of applied research into these topics is therefore of use to managers as well as academic researchers. All of the papers contain original data to enhance existing theoretical models or propose new ones.

The first paper, by Kai Reimers, presents research results into the implementation of SAP R/3 ERP projects in China. This paper builds on an earlier body of work into the implementation of systems in China compared with European and US companies. The research is impressive in terms of both its theoretical research scope and the size of its sample data. As well as being of academic value, it also makes a commercial contribution because it provides management insights that are of value to ERP vendors and user organisations involved in similar projects. The research data are based on a questionnaire survey which was informed by detailed case

research and prior knowledge of this area gained from earlier research in related areas conducted by the author. As China becomes more integrated into the global economy, its information technology infrastructure will present new opportunities for sharing data and systems with its economic partners, which in turn will lead to new opportunities for strategic alliances and outsourcing arrangements with international companies.

Asian companies are generally thought to be less experienced than their Western counterparts in managing outsourcing contracts. In a detailed case study of a large manufacturing company, Beulen and Ribbers identify important cultural characteristics of outsourcing contracts in Asia that affect the formation and execution of such arrangements in addition to other factors such as the relative novelty of outsourcing deals for Asian companies. Similar to Reimers' paper, the study was done in co-operation with a commercial organisation which is reflected in the quality of the company access and resulting case data.

Where the first paper focuses on individual companies and the second on a relatively small number of a special type of outsourcing relationship, the third paper, by Holland, concentrates on the market as the unit of analysis. That is, the interactions between multiple buyers and multiple sellers. It is a study of how competition and strategy are evolving in different types of electronic marketplaces. Using a common theoretical framework, it presents an analysis of different types of electronic markets using data sources from companies, published material, and internet research data. Although the data are from very different business contexts (automotive marketplaces; international banking systems and UK retail markets), several common patterns emerge. First, electronic marketplaces are still receiving widespread support across all types of industries. Second, strong business relationships and hierarchical trading structures are the norm, rather than the exception in both business and retail markets. This finding is in sharp contrast to earlier predictions of open markets and free competition. It also suggests that there will be a small number of very successful, large sites, and a large number of niche operators.

The final paper by Chan and Swatman explores the implementation issues of electronic commerce between separate companies. It is a detailed study of B2B implementations in ten large Australian organisations. The theoretical contribution is the development of a holistic framework that combines factor and process models of implementation into a single model that is applied through a series of case studies. It confirms the widely accepted theory that non-technical factors play an important role in B2B implementation, and presents an implementation model that reflects the management perceptions of such projects much more closely than traditional factor, or simple process models.
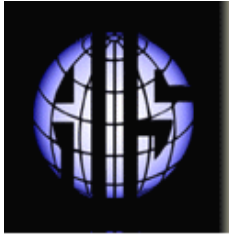
ABOUT THE AUTHORS

Christopher P. Holland is Professor of Information Systems at Manchester Business School, University of Manchester. His research interests include information technology strategy, electronic commerce, large-scale systems implementation and financial services. His papers in these areas in management and academic journals appear in Strategic Management Journal, Sloan Management Review, Organization Science, Communications of the ACM, The Banker, Journal of Strategic Information Systems, IEEE Software and Communications of the AIS. Christopher has consulted with a wide range of organisations in manufacturing, banking, information technology, and retailing industries in the areas of electronic commerce, information technology strategy and implementation. He teaches in Europe, South Africa, the US, and regularly presents at international business and academic conferences.

Pieter M. Ribbers is professor of Information Management at Tilburg University, School of Economics and Business Administration, the Netherlands, where he chairs the department of information management and is Academic Director of the Master Program of Information management at the Tias Business School. His interests span management of IT (alignment and information economics), inter-organizational systems (e-commerce), and the strategic and organizational consequences of the use of IT. He contributes articles to professional national and international journals and is co-author of several books.

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