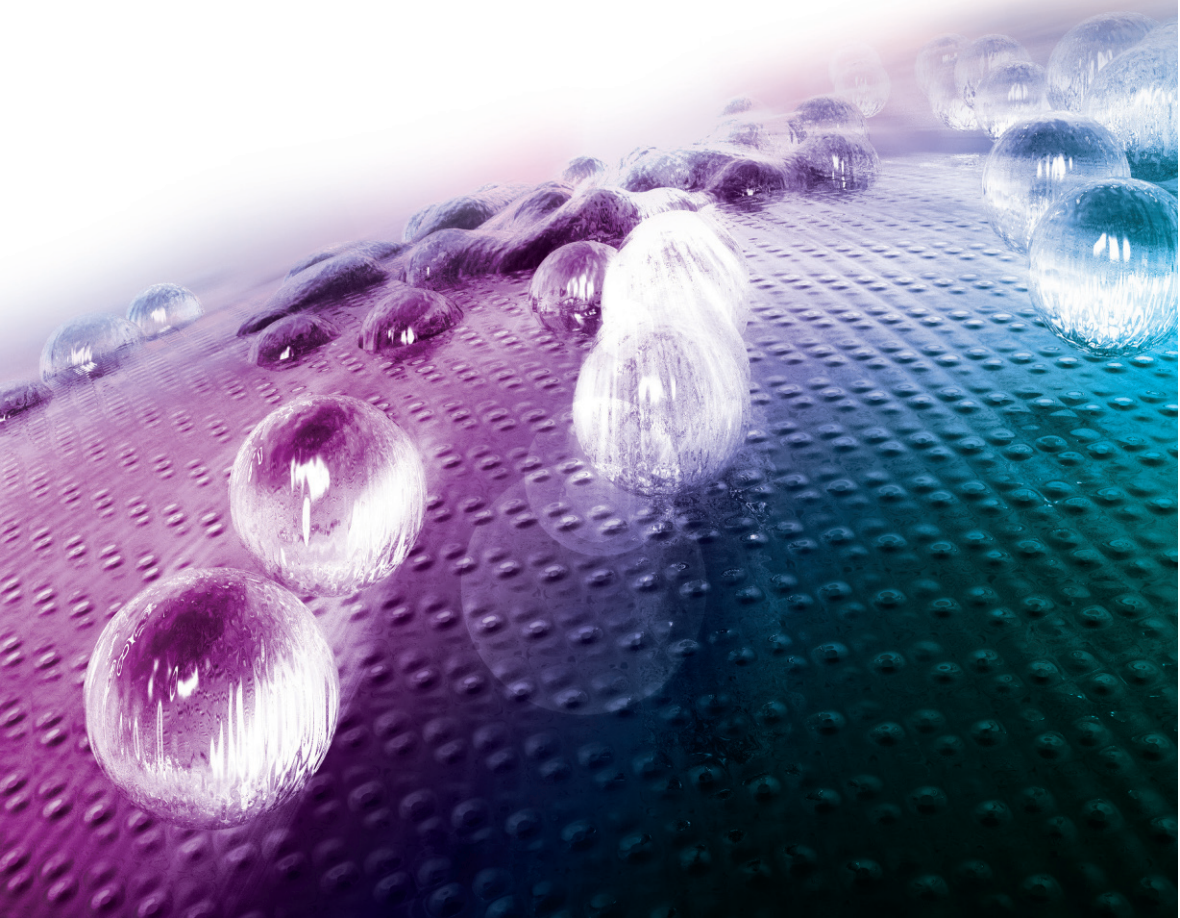


Electronic Financial Services

Technology and
Management

Hakman A. Wan



Electronic Financial Services: Technology and Management

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Electronic Financial Services: Technology and Management

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Chandos Publishing
Oxford · England

Chandos Publishing (Oxford) Limited
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Oxford OX29 5RL
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Tel: +44 (0) 1865 884447 Fax: +44 (0) 1865 884448
Email: info@chandospublishing.com
www.chandospublishing.com

First published in Great Britain in 2006

ISBN:
1 84334 132 8 (paperback)
1 84334 190 5 (hardback)

© H. A. Wan, 2006

British Library Cataloguing-in-Publication Data.

A catalogue record for this book is available from the British Library.

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Typeset by Domex e-Data Pvt. Ltd.
Printed in the UK and USA.

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Preface

Unlike the tidal wave of e-commerce that hit (and left?) the retail market at the turn of the century, the financial services industry has been quietly revolutionised by information and communication technology (ICT). We have seen more and more financial services institutions and their consumers making transactions online. To the industry, corporate websites and Web-based applications are a means to cut cost, to get more customers, and to retain competitiveness in the increasingly hazardous business environment. A better understanding of the ICT infrastructure on which those applications depend can certainly support better management of their strategic use, as well as supporting the daily operations of those systems that are unique in the financial services industry.

This book is written to fill the gap between a generalist's view on information system management and the almost unreadable techies' manuals. It introduces the contemporary concepts of ICT – hardware, software, communication and information management – in the first two chapters. Most of the technical jargon used in the book is explained in Chapter 2. The next five chapters are dedicated to the discussion of the ICT applications developed for various sectors of the financial services industry – banking, payment, insurance, stock brokerage and fundraising. The book also offers a rather comprehensive review of risk management, which is divided into three areas: security management, regulatory compliance, and financial risk management – the three topics of the last three chapters. These three areas are definitely the major concern of today's financial services institutions, whether they operate on- or offline.

Descriptions of ICT applications are given at both a high-level perspective (which shows the functionality of the applications) as well as a lower-level view (which reveals the applications' capacity, limitations, scalability and maintainability). The book does not intend to explain technicality in great detail. It only mentions a few technological developments that are commonly found in the vocabulary of systems

analysts and consultants when they deal with ICT applications in the financial services sector. The jargon selected, especially in Chapter 2, represents those terms needed in the descriptions of systems at the higher level.

Besides descriptions of technological and management issues, a number of small cases are collected in various places throughout the book. These are real-life examples of application developments that have been put into practical use. A few questions are attached at the end of each chapter to let readers recap some of the topics in the chapter or begin a more in-depth discussion of them. Besides being an information source for management, the book could be used as a textbook for courses in relation to modern financial services.

This book is prepared at the time when both ICT products and the financial services market are rapidly changing. The information it captures reflects the contemporary development of ICT applications in the e-financial services sector as well as the regulatory landscape of 2006. This is the time when the effects of several new laws and regulations (such as the Sarbanes-Oxley Act and Patriot Act in the USA) have just begun to emerge; these effects will surely affect the next generation of ICT applications that are designed for the financial services sector. However, it is believed that the basic infrastructure for ICT applications will not deviate too widely from the ones described in this book.

The author is indebted to Dr Glyn Jones and Dr Rex Sharman for their generous advice in relation to the completion of the book.

Disclaimer

This book aims to provide up-to-date information on e-financial services and the information and communication technologies deployed in the finance sector. Any theory, opinion, report, or recommendation in it cannot be deemed to engage the author, any contributor, or the publisher. Thus, neither the author nor the publisher shall: provide any warranty, expressed or implied, as to the accuracy, timeliness, completeness, merchantability or fitness for any purpose of any information contained in the book; assume any liability for any damage or loss, in contract, warranty, tort or otherwise, incurred in connection with any information contained in this book; or endorse or accept any liability for the content or use of linked websites. The URLs mentioned in this book are for information purposes only and are subject to change without notice.

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The new age of financial services

Impact of technology

All the turmoil and instability experienced by the financial services sector in the last decade or so can be attributed, either directly or indirectly, to the advance in information and communication technology (ICT), among which the Internet has triggered the greatest change. It is the new frontier for business opportunity, but also the treacherous waters where people and businesses have drowned. The e-commerce hype that turned into the dot.com bubble a few years ago still haunts our memory today.

Similar bubbles occurred in the financial services sector. Having been optimistic about the potential of the Internet, Wells Fargo Bank, the Security First Network Bank (SFNB), NetBank (Nasdaq: NTBK; formerly NetB@nk) and some others corporations (mostly in the USA) began Internet banking in 1995 and 1996. Only NetBank managed any profit¹ and when SFNB was sold to Royal Bank of Canada in 1998, the deal could still have included a handsome amount of assets,² however, many other Internet banks were simply being shut down within one or two years.

Failure stories in e-commerce are lessons to learn from, but they do not make the Internet less attractive. The growth in e-commerce continues and has even been praised as one of the few high points in the otherwise flat economic landscape in the new millennium (Hansen, 2003). The US Department of Commerce released figures of retail e-commerce sales on 19 August, 2005, showing an upward trend of sales (Figure 1.1). Similarly encouraging figures can be found in other parts of the world. In the UK, for example, the Interactive Media in Retail Group reported a 44 per cent growth rate for the online retail sector in 2003, and Forrester Research predicted that the growth rate in 2004 would increase slightly to 46 per cent. In the Far East, iNAGO, the inventor of