

A BOOK

# e-Business

Robert P Batzinger

Me

by



# e-Business

*Robert P Batzinger*

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# Book Jacket



## Abstract

This book attempts to introduce undergraduate students to the nature and requirements for conducting business online. It starts with a discussion of the nature of business and the challenges and potential of the online environment, followed by a review of common methods of modelling business, and a study of open source business solutions. The final chapter focuses on emerging trends and sea-changes in e-Business. This book is currently a work in progress that is also comparing the process of book writing in both LeanPub markdown and Rstudio Bookdown

## About the Author

Robert Batzinger is an emeritus instructor in Computer Science at Payap University. He holds an undergraduate degree in Organic Chemistry, masters degree in Computer Science and Applied Mathematics, doctoral degree in Pathobiology and post-doctoral training in Chemical carcinogenesis. As such, he has been involved in numerous scientific and technical projects for over 50 years. He has published laboratory research in such fields as virology, organic chemistry, anthelmithics, and chemical mutagenesis. He also developed software to manage the financial and academic records of schools, support the development of publications in non-Roman scripts of Asia and Canada, and monitor the progress of multiple development projects. He has held administrative and advisory roles in various organizations and businesses, and has been instrumental in establishing web presence for many of them. He is currently developing data science and machine learning applications to address critical business management problems.



# Front Matter

## Dedication

Now to him who is able to do far more abundantly than all that we ask or think, according to the power at work within us. – Eph 3:20 (ESV)

– 3:20

(THSV11)

## Acknowledgements

The development of this book would not have been possible without the feedback and suggestions of colleagues and students. While I acknowledge that I am responsible for any remaining errors in this book, my students, referees, and readers have contributed immensely to the development of this book. I would like to acknowledge the impact of Ms. Phatnaree Srisomphan in helping to shape both the curriculum of this course and the nature of this book. I am also grateful for the support and encouragement of my wife Khajohn, especially in those long critical sessions when I was struggling to forge and edit the text of this manuscript.

## Colophon

The cover is a photograph of the Financial District from the Marina Bay in Singapore. The amazing metamorphosis of this central business district from swamp land into a regional financial center is representative of the current sea-changes in business driven by technological and social developments. Similarly, today's developers of business systems are sowing seeds that will change the future, much like Sir Raffles' vision for a seaport has grown into today's Singapore.

While early drafts of this book were written in Leanpub Flavored Markdown, this book was developed in the bookdown dialect of markdown. It was compiled in RStudio and published both as an HTML website and a printable pdf



Figure 1: A Business Entrance

document.

The cover and front matter photos were downloaded from Pixabay. The extra reading, discussion and exercise sidebar icons were created by Freepik and used as per Creative Commons 3.0 License.



# Preface

Advances and developments in Computer Science (CS) are driven by the need to create applications that effectively address real-world problems. Successful software development starts with a deep understanding of the problem domain from the users perspective and developing an application that is intuitive and easy to use. Breakthroughs in understanding the nature of a problem domain create new opportunities for addressing the needs of computer users. It is now common practice to integrate end users into software development and testing teams, as the resulting products tend to be more intuitive and successful.

In CS, our graduates will go on to develop applications and solutions for clients who, for the most part, have not studied CS, but who are experts in other problem domains. Courses that help students to explore and understand the basic issues in other problem domains are at the heart of our liberal arts education which balances professional skills with general knowledge needed to function effectively in the market place. As a part of this effort to introduce CS students to e-Business from a Business/IT perspective, we offer a course with the following course description. It is taught in Thai using English-based resources.

**CS340 :**

**CS340 E-BUSINESS:** Principles of business operations using information technology. This includes a discussion of Enterprise Resource Planning (ERP), Customer Relationship Management (CRM) and the use of social media to communicate both within and outside the organization.

This book is the product of that course and started as a collection of class slides, notes, and exercises. The content of this book continues to evolve in response to student feedback as well as changes in the software industry and conversations with business leaders and software developers. The basic design of this book is meant to parallel the outline of the corresponding course, as given below:

**Chapter 1: General principles.** A discussion of the key principles that define and characterize business both in the real world and in cyberspace.

**Chapter 2: Business modeling.** A discussion of leading methods used to create software models of the key transactions and activities that take place in business in general and in e-business in particular.

**Chapter 3: e-Business systems.** A survey of the concepts and functions of key open-source, online business systems. Each system is studied to determine how solutions are provided by addressing mission-critical questions using available data resources.

**Chapter 4: Emerging Technologies.** A discussion of futuristic e-Business technologies and practices that have already had an impact on how business is conducted worldwide.