



## Chapter X

# Information System Development Failure and Complexity: A Case Study

About Bakar Nauman, COMSATS Institute of Information Technology, Pakistan

Romana Aziz, COMSATS Institute of Information Technology, Pakistan

A.F.M. Ishaq, COMSATS Institute of Information Technology, Pakistan

## Abstract

---

*This chapter examines the causes of failure in a Web-based information system development project and finds out how complexity can lead a project towards failure. Learning from an Information System Development Project (ISDP) failure plays a key role in the long-term success of any organization desirous of continuous improvement via evaluation and monitoring of its information systems (IS) development efforts. This study reports on a seemingly simple (but only deceptively so) failed ISDP to inform the reader about the various complexities involved in ISDPs in general, and in developing countries in particular. An existing framework from contemporary research is adopted to map the complexities found in the project under study and the critical areas, which lead to the decreased reliability and failure in Web-based information system development, are highlighted.*

## Introduction

---

Information and Communication Technologies (ICTs) are globally recognized as an enabler of economic and social growth, and Information Systems (IS) can play a key role in accelerated growth and development if applied properly. In the developing countries, there is much talk of “development leapfrogging” by deployment of Information and Communication Technologies (ICT). Developing countries are making direct deployment of the latest technologies, techniques, and methodologies for the use of information systems without the step-by-step use of previous technologies already abandoned in the Western-developed countries. In this scenario, most development efforts in the field of Information Systems are overshadowed by organizational dissatisfaction and schedule and cost overruns resulting in project abandonment and failure. The following quote from a UN report (Gilhooly, 2005, p. 25), mentioning Least Developed Countries (LDC), sums up the severity of the situation:

*Failure to urgently and meaningfully exploit the available means to bridge the digital divide may consign many developing countries, particularly LDCs, to harmful and even permanent exclusion from the network revolution.*

In this chapter, our focus is Information System Development Project (ISDP) failure from the perspective of a developing country. Learning from an ISDP failure plays a key role in the long-term success of any organization desirous of continuous improvement via evaluation and monitoring of its information systems development efforts. The “learning from failure” factor assumes a higher level of significance in the context of developing countries. In developing countries it is very important that the scarce resources are optimally utilized in such a way that the probability of failure is minimized. This study reports on a seemingly simple (but only deceptively so) failed ISDP to inform the reader about the various complexities involved in information systems development projects in general and in developing countries in particular.

This chapter is organized in five sections. In section two we describe the general information system development process and the associated rate of failure in this industry. Section three discusses the relationship between failure and complexity. A case study is presented in section four, followed by conclusions in section five.

## Background

---

Most of the IS research reported in the literature falls in three main categories, that is, positivist, interpretive, and critical, and there is widespread consensus that interpretive style with a critical stance is most suited for researching the IS-related issues in developing countries. The research is interpretive in nature, and an interview approach is used for investigations. The research is of significance to a wide audience in the IS community who are interested in understanding the impact and influence of various factors on failure of an ISDP in the peculiar environment of a developing country.

27 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: [www.igi-global.com/chapter/information-system-development-failure-complexity/5223](http://www.igi-global.com/chapter/information-system-development-failure-complexity/5223)

## Related Content

---

### Feature Optimization in Sentiment Analysis by Term Co-occurrence Fitness Evolution (TCFE)

Sudarshan S. Sonawane and Satish R. Kolhe (2019). *International Journal of Information Technology and Web Engineering* (pp. 16-36).

[www.irma-international.org/article/feature-optimization-in-sentiment-analysis-by-term-co-occurrence-fitness-evolution-tcfe/227686](http://www.irma-international.org/article/feature-optimization-in-sentiment-analysis-by-term-co-occurrence-fitness-evolution-tcfe/227686)

### A Conceptual Model to Next-Generation Smart Education Ecosystem

Palanivel Kuppasamy and Suresh Joseph K. (2021). *Transforming the Internet of Things for Next-Generation Smart Systems* (pp. 76-99).

[www.irma-international.org/chapter/a-conceptual-model-to-next-generation-smart-education-ecosystem/278626](http://www.irma-international.org/chapter/a-conceptual-model-to-next-generation-smart-education-ecosystem/278626)

### Genome Sequencing in the Cloud

Wei Chen, Yun Wan, Bo Peng and Christopher I. Amos (2016). *Web-Based Services: Concepts, Methodologies, Tools, and Applications* (pp. 67-87).

[www.irma-international.org/chapter/genome-sequencing-in-the-cloud/140796](http://www.irma-international.org/chapter/genome-sequencing-in-the-cloud/140796)

### Autocorrelation Regression Model Analysis and Selection of Cross-Border RMB Settlement From 2011 to 2020

Cheng Zhang, Ni Huand Qiang Yan (2022). *International Journal of Information Technology and Web Engineering* (pp. 1-23).

[www.irma-international.org/article/autocorrelation-regression-model-analysis-and-selection-of-cross-border-rmb-settlement-from-2011-to-2020/314569](http://www.irma-international.org/article/autocorrelation-regression-model-analysis-and-selection-of-cross-border-rmb-settlement-from-2011-to-2020/314569)

### Data Cleansing and Validation for Multiple Site Link Structure Analysis

Mike Thelwall (2005). *Web Mining: Applications and Techniques* (pp. 208-227).

[www.irma-international.org/chapter/data-cleansing-validation-multiple-site-link-structure-analysis/31140](http://www.irma-international.org/chapter/data-cleansing-validation-multiple-site-link-structure-analysis/31140)