

# ABSTRACT

This thesis tries to analysis and evaluates information technology investment in retail industry by using *information economics* (IE) approaches. (Parker, 1988)

The results of return on investment (ROI) calculation is increases from negative 12 by using traditional cost benefit to negative 4 by using IE approaches. *Value linking, value acceleration, value restructuring and innovation valuation* are the factor why this ROI calculation is increase. Therefore, even though the ROI is negative, the company should continue the investment, because the contribution of ROI score is only 10 %.

The Business and Technology assessment contributes for 90 % of the IE total weighted score of IE scorecards. The company should considered with Strategic Match, Competitive Advantages, Management Information, Competitive Response and Project or Organizational Risk, Strategic IS Architecture, Definitional Uncertainty, Technical Uncertainty and IS Infrastructure Risk.

The result of the total score in IE scorecards is 48. In Information Technology (IT) investment classification, the score of 48 means the IT investment is a second of excellent.

**Keywords:** *Information Economics, Return on Investment, Value Linking, Value Acceleration, Value Restructuring, Innovation Valuation.*

# TABLE OF CONTENTS

COVER.....	i
APPROVAL.....	iii
ACKNOWLEDGEMENT.....	iv
ABSTRACT.....	vi
TABLE OF CONTENTS.....	vii
LIST OF FIGURES.....	x
LIST OF TABLES.....	xii
CHAPTER 1 INTRODUCTION	
1.1 Background.....	1
1.2 Problem Definitions.....	2
1.3 Objectives.....	3
1.4 Scopes of Analysis.....	3
1.5 Organization of Thesis.....	3
CHAPTER 2 THEORETICAL FRAMEWORK	
2.1 Information Economics.....	5
2.2 Cost-Benefit Analysis and Value.....	6
2.3 Model and Variable.....	7
2.4 Value Linking and Value Acceleration.....	12
2.5 Value Restructuring.....	12
2.6 Innovation Valuation.....	13

2.7 Business Domain Value.....	13
2.8 Technology Domain Value.....	14
2.9 Corporate Value.....	15
2.10 Information Scorecard.....	20
<b>CHAPTER 3 THE DESIGN OF METHODOLOGY</b>	
3.1 Company Profile.....	21
3.1.1 Organization Structure.....	22
3.1.2 Business Model.....	23
3.1.3 Information Technology.....	24
3.2 Operational and MIS Departments.....	26
3.3 Research.....	26
3.4 Data Collecting Method.....	27
3.5 Measurement of Information Economics scorecard.....	28
<b>CHAPTER 4 RESULT AND DISCUSSION</b>	
4.1 Result of ROI calculations.....	30
4.1.1 Cost-Benefit.....	30
4.1.2 Value Linking and Value Acceleration.....	34
4.1.3 Value Restructuring.....	37
4.1.4 Innovation Valuation.....	40
4.2 Result of Business Domain.....	40
4.2.1 Questionnaire Recapitulation.....	45

## LIST OF FIGURES

4.3 Result of Technology Domain.....	45
4.3.1 Questionnaire Recapitulation.....	49
4.4 Corporate Value.....	50
4.5 Result of Analysis.....	53
<b>CHAPTER 5 CONCLUSION AND RECOMMENDATIONS</b>	
5.1 Conclusion.....	57
5.2 Recommendations.....	58

## REFERENCES

## APPENDIX

## LIST OF TABLES

- Table 4.1 The Productivity of Employees
- Table 4.2 The Productivity of Employees, *value restructuring*
- Table 4.3 Business Domain Questionnaire Recapitulation
- Table 4.4 Technology Domain Questionnaire Recapitulation
- Table 4.5 IT Investment classifications

# LIST OF FIGURES

- Figure 2.1 Information Economics two-domain model
- Figure 2.2 Information Economics techniques for developing simple ROI calculations
- Figure 2.3 Factors for computing the project score
- Figure 2.4 Development cost worksheet
- Figure 2.5 Ongoing expenses worksheet
- Figure 2.6 Economic impact worksheet
- Figure 2.7 Establishing corporate (line of business) value
- Figure 2.8 Investment quadrant corporate value
- Figure 2.9 Strategic quadrant corporate value
- Figure 2.10 Infrastructure quadrant corporate value
- Figure 2.11 Breakthrough or management quadrant corporate value
- Figure 2.12 Information Economics Scorecards
- Figure 3.1 Organization Structure
- Figure 3.2 Business Model
- Figure 3.3 Network Infrastructure
- Figure 4.1 Development Cost Worksheet Operational Department
- Figure 4.1a Development Cost Worksheet MIS Department
- Figure 4.2 Ongoing Expense Worksheet Operational Department
- Figure 4.3 Economic Impact Worksheet, cost benefit
- Figure 4.4 Economic Impact Worksheet, value linking and value acceleration
- Figure 4.5 Economic Impact Worksheet, value restructuring
- Figure 4.6 Strategic Match Worksheet

- Figure 4.7 Competitive Advantages Worksheet
- Figure 4.8 Management Information Worksheet
- Figure 4.9 Competitive Response Worksheet
- Figure 4.10 Project or Organizational Risk Worksheet
- Figure 4.11 Strategic IS Architecture Worksheet
- Figure 4.12 Definitional Uncertainty Worksheet
- Figure 4.13 Technical Uncertainty Worksheet
- Figure 4.14 IS Infrastructure Risk Worksheet
- Figure 4.15 Corporate Value Result
- Figure 4.16 Evaluation Criteria and Weighted Value
- Figure 4.17 Information Economic Scorecards