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Perceptions of the Relative Importance
of Failure Factors: Comparison of Korea
and Japan

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Information Systems Developers' Perceptions of the Relative Importance of Failure Factors: Comparison of Korea and Japan

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ABSTRACT

IS designers from Japan and Korea were surveyed to explore potential similarities and differences in their views on eighteen IS failure factors which were identified based on a survey of previous literature. The developers of both countries viewed Lack of User Participation as the most critical factor. They also considered Lack of Clearly Stated Objectives and Lack of Detailed Project Plans as highly important. On the other hand, the developers from Korea viewed Lack of Top Management Support and Improper Project Scope as more important than the remaining factors, while the developers from Japan considered Lack of Leader's Project Monitoring/Control and Use of Inappropriate Technology more important.

INTRODUCTION

There has been an enormous progress in the methodologies and technologies used for the development and implementation of Information Systems (IS) during last decades. Yet, IS failure continues to plague the efforts of many companies. According to a recent report, up to 90% of all IS projects fail to meet their goal, 80% are late and over-budget, and 40% are abandoned [2]. It has also been reported that 31% of new IS projects are canceled before completion at an estimated combined cost of \$81 billion [6]. As IS become more critical for strategic operations of organizations, this high failure rate of IS projects is of great concern to both organizational management and IS professionals.

Numerous studies have been conducted to investigate factors that are associated with IS success or failure. Unfortunately, the bulk of the research concerning IS development and implementation has been conducted under assumptions that may only be applicable in the context of the United States. The growth of multinational businesses in recent years has been accompanied by a significant increase in IS applications which cross national

boundaries and span diverse cultures. Due to social and cultural differences, however, the successful IS implementation in a global environment may differ significantly from methods that have typically been proven to be successful in the United States. The differences have particularly been acute when Asian offices are involved [1].

There are few studies that have focused on detailing the factors associated with IS failure in other cultural environments. Furthermore, there are apparently very few studies that compared Japan and Korea. The objectives of this study are to determine if there are any differences between Korea and Japan in terms of important factors related to project failure based on the perceptions of IS developers in Korea and Japan.

The present study addressed the following three research questions:

1. What are the most important factors for IS *failure* as perceived by IS developers in Korea?
2. What are the most important factors for IS *failure* as perceived by the developers in Japan?
3. How similar or dissimilar are the perceptions of IS developers from Korea regarding the critical factors in comparison to those of IS developers from Japan?

RESEARCH METHODOLOGY

Questionnaire: Based on prior studies examining factors that contribute to the failure of IS projects [3][4][5][6][7], this study identified 18 potential factors that may be considered critical for IS failure (shown in the first column of the Table 2). These factors are controllable and are also applicable to IS developers in international environments. IS developers were asked to evaluate the importance of each of the 18 items on a seven-point scale ranging from (1) no contribution to (7) very high contribution for project success. In addition, for a second set of 18 failure factors, each respondent evaluated the items on a seven-point scale from (1) no contribution to (7) very high contribution in terms of contributing to IS failure. The order in which the items were presented on the survey was randomly determined.

Japan Data: The questionnaire was translated into the Japanese language by a faculty member at a university in Japan. The data for IS programmers were obtained from eight organizations. The organizations were selected primarily because of the existence of personal contacts with the firms. The type of organizations

included three in financial services/banking/insurance, two in manufacturing, and two in wholesale/retail. All respondents receiving the survey completed the questionnaire.

Korean Data: A faculty member at a university in Korea translated the questionnaire into the Korean language. A convenience sampling procedure was again used. The data were obtained from 127 IS programmers in ten organizations. The type of organizations included five in consulting/computer service companies, most of which belonged to a parent conglomerate company. Four companies were in manufacturing and the remaining company was in the oil industry. Table 1 shows the profile of the respondents

TABLE 1: PROFILE OF RESPONDENTS BY NATIONALITY

	Korea	Japan
Sample Size	127	46
Gender		
Males	115	41
Females	12	5
Education		
No College Degree	21	7
College Degree	93	37
Graduate Degree	13	2
Age		
Mean	32.24	38.09
Standard Deviation	6.26	8.21
Experience		
Mean	6.26	13.38
Standard Deviation	4.27	7.02

RESULTS

To examine the first and second research questions, the failure factors are ordered according to their importance in the Table 2. The overall grand means which combined the data for both countries are presented in Column 2. Higher values indicate the factor was perceived as more likely to contribute to project failure. The means for each country are presented in Columns 3 and 5 for Korea and Japan, respectively.

The following five factors are emerged as most important for IS project failure for Korea.

1. Lack of User Participation in the Project
2. Lack of Top Management Support
3. Lack of Clearly Stated Objectives
4. Improper Project Scope
5. Lack of Detailed Project Plans

The five most critical factors for IS failure for Japan developers are:

1. Lack of user participation
2. Lack of detailed project plans
3. Lack of leader's project monitoring/control
4. Lack of clearly stated objectives
5. Use of inappropriate technology

The results for the third research question are summarized in the last two columns of the Table 2. As can be seen in comparing columns 3 and 5, the developers from Korea rated each of the 18 factors as more likely to contribute to project failure than did the developers from Japan. Since this difference could be attributable to cultural or language differences in the interpretation of the seven-point Likert scale, the responses for each developer were converted to z-scores to represent the perceived *relative* importance of each failure factor. The means for the z-scores are presented in Columns 4 and 6 for Korea and Japan, respectively. Again, high values or positive values indicate the factor was perceived as more likely to contribute to project failure, while low values or negative values indicate the factor was viewed as less likely to contribute to project failure. To examine potential differences between the two countries, independent group t-tests were conducted on each of the 18 failure factors. The t-test statistics and p-values are presented in the last two columns. As illustrated in the last column, only two significant differences between the countries were observed. For Item 11 (Lack of Project Leader Feedback to the Team), Korean developers did not view this factor as a likely contributor to project failure, while developers from Japan viewed this factor as more likely to contribute to project failure. For Item 12 (Lack of Team Member Commitment), developers from Japan viewed this factor as very unlikely to contribute to project failure, while developers from Korea viewed this factor as much more likely to contribute to project failure.

TABLE 2: COMPARISON OF THE FACTORS

Failure Factors	Overall	Korea (n = 129)		Japan (n = 46)		Comparison	
	Means	Mean	Z-Mean	Mean	Z-Mean	t-value	P-value
1. Lack of User Participation in the Project	5.79	5.89	.911	5.49	.716	0.76	.450
2. Lack of Clearly Stated Objectives	5.21	5.38	.501	4.68	.544	-0.19	.849
3. Lack of Detailed Project Plans	5.15	5.19	.255	5.02	.291	-0.18	.858
4. Lack of Leader's Project Monitoring/Control	5.10	5.17	.229	4.90	.249	-0.12	.908
5. Lack of Top Management Support	5.06	5.41	.320	4.00	.119	0.84	.403
6. Improper Project Scope	4.96	5.20	.143	4.24	.082	0.29	.774
7. No attempt Reengineering Business Process	4.92	5.18	.024	4.10	-.154	0.82	.416
8. Use of Inappropriate Technology	4.89	4.98	.118	4.59	.149	-0.17	.869
9. Inexperience of Project Leader	4.88	5.06	.047	4.31	.113	-0.39	.696
10. Poor Alignment of Project and Corporate Goals	4.85	5.05	.009	4.24	.155	-0.66	.513
11. Lack of Project Leader's Feedback	4.77	4.85	-.298	4.54	.036	-2.28	.025*
12. Lack of Team Member Commitment	4.71	5.02	.194	3.73	-.335	3.06	.003*
13. Inadequate Training for the Team Members	4.64	4.78	-.305	4.20	-.238	-0.38	.707
14. Inexperience of Team Members	4.52	4.65	-.387	4.10	-.380	-0.03	.973
15. Lack of Team Member Self-	4.54	4.67	-.293	4.12	-.255	-0.22	.830

control							
16. Utilizing an Ineffective Methodology	4.48	4.59	-.369	4.14	-.205	-0.87	.384
17 Insufficient Peer Review on Project Progress	4.42	4.54	-.531	4.07	-.269	-.156	.120
18. Little Utilizing of a Prototype	4.23	4.44	-.569	3.58	-.618	0.29	.772

CONCLUSIONS

This study compared the critical factors for IS failure as perceived by IS developers of Japan and Korea. When the results were rank ordered, the results suggest that there are some similarities as well as a couple of differences with respects to the perceptions of developers in two countries. Of the five most important failure factors, three factors emerged as important for both countries. “User participation,” “Detailed project plans,” and “Clearly stated objectives” are important for both countries. On the other hand, while Korean developers considered “Top management support” and “Improper project scope” as important, the developers from Japan considered “Lack of leader’s project control” and “Use of inappropriate technology” more important than the rest of the factors.

However, independent group t-tests conducted on the z-scores for each of the 18 failure factors revealed only two significant differences between the countries. The developers from Japan viewed “Lack of Project Leader Feedback to the Team” as more likely to contribute to project failure than did the developers from Korea. On the other hand, the developers from Japan viewed “Lack of Team Member Commitment” as very unlikely to contribute to project failure, while developers from Korea viewed this factor as much more likely to contribute to project failure.

As organizations expand across borders, IS managers need to know different cultures, values and strategies prevailing in other nations. IS managers also need to analyze the differences in order to develop effective IS implementation strategies for global IS environment.

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