

A Study of Operating Costs and Organizational Performance in Taiwanese Investments in the City of Shanghai

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ABSTRACT

This study of how Taiwanese business investment in mainland China can grasp key investing success factors to increase organizational performance and lower risks. The purpose of this research paper is to identify the influences of operational costs on organization performance for Taiwanese business investing in mainland China. This paper mostly focuses on Taiwanese business investments in the manufacturing industry in the Shanghai market. The research includes data collected from 96 Taiwanese small and medium enterprises (SMEs). Results indicate that a company's operational costs, particularly management and sales costs influence their organizational performance. Additionally, companies that were satisfied with their management and sales costs did better in return of investment, net income, and staff productivity than companies that were not satisfied with their management and sales costs. Other research findings and relevant suggestions have also been raised and discussed.

INTRODUCTION

Due to the gradual slow down of population and labor force, as well as the quality of population, the Taiwan manufacturing organization is changing. Light manufacturing industries and labor intensive industry that used to rely on low labor cost is no longer feasible. Due to open policy, high population pool, untapped market, mainland China has become a prime place to compete for investment. The trend of Taiwanese businessmen investing in mainland China has benefited the relationships between cross-straits. As volume of investments grew, so do investment risks.

There are myriad of investment problems incurred by Taiwanese business, especially on the operational management side. Not only the learning style of employees is different from Taiwan, the penalties and fines stemming from unclear laws are bothersome by the Taiwanese investors.

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The study was designed to collect quantitative variables on measures of organizational characteristics and identified operating costs. This study examines the impact of these factors on their relationships with organizational performance. Questionnaires were distributed in April 2008 by mail to Taiwanese parent companies that are currently investing in China.

REVIEW OF THE LITERATURE

Operating Costs

According to Huang (2001) the idea of operating cost refers to the cost of running a system. Products with higher content of specific knowledge or huge investment in R&D tend to result in full control entry mode. According to the operating cost perspective, firms will compare their benefits of integration with costs of integration, and then decide to take the entry mode of full control or shared control. Benefits of integration would vary with the asset specificity. Huang (2001) has indicated that a positive relationship exists between asset specificity and integration benefits. Traditional operating cost perspective assumes that non transaction cost benefits are not taken into consideration and the cost of integration is always huge (Erramilli & Rao, 1993). The low control entry mode is the default choice of low asset specificity firm and a traditional operating cost perspective focuses on investigating the relationship between high asset specificity and entry mode choice (Huang, 2001).

Palenzuela and Bobillo (1999) indicated that entry mode choice was significantly influenced by asset specificity as well as by firm size and country risk. A reverse relationship existed between capital intensity at lower level and full control mode. International experience and cultural distance on entry mode failed to show any effect. It also showed that the interaction of operating costs and bargaining power played a good role in explaining ability. According to Huang (2008), the election helped enable direct flights between China and Taiwan therefore reducing expenses of NT310 billion every year.

Organizational Performance

Performance is a way of measuring the scope with which an organization has reached its goal. General business performances refer to what financial statements show as income, including asset return rates, share holder dividend rates, return of investment, and so on.

Venkatraman and Ramanujam (1986) suggested three different performance measures: financial performance, such as profit rates, sales growth; business performance, a combination of financial performance and operational performance, which referred to such non-financial benchmarks as market share and product quality; and organizational effectiveness. In addition to the two performances, a measure of interest related to personnel was taken into account. Although such a measure covers the most extensive areas, few businesses actually use it.

Osland and Cavusgil (1996) studied the performance issues of Sino-U.S. joint venture businesses in Mainland China and noted that five measures such as satisfaction, financial results, uncertainty; technology transfers, and exports could be used to measure organizational performance. Satisfaction referred to senior management's level of satisfaction of Mainland subsidiaries' overall performance. Based on their interviews, they found that foreign businesses' level of satisfaction was relatively high prior to the June 4 Tiananmen Incident. After the Incident, most businesses became rather conservative in terms of satisfaction. For finance results, return of assets and the share price of Mainland subsidiary could be the measure. When both performed well, it also meant the subsidiary performed well and they were considered objective measures. As for uncertainty it referred to how frequently the shares of Mainland China subsidiary changed hands. When majority shareholders of the subsidiary changed frequently, it might signal operational problems in the subsidiary, and as a result, its performance would suffer (Chang, 2000).

Technology transfers included hardware and management technology transfers. When a foreign business was willing to continue injecting resources, it meant the prospect of the business could be anticipated, and its performance would also gradually improve (Chang, 2000). The last measure was export volumes. During the 1980s, in order to protect its domestic industries, Mainland China dictated that 20–100% of foreign subsidiaries' products must be destined for export (Chang, 2000, p. 52). In recent years, China has gradually loosened its control but there still remain certain restrictions. As a result, the more a business can export its products, the better its performance was.

Based on the discussions, organizational performance in this study was narrowed down to financial performance and non-financial performance. Financial performance was measured by sales growth rate, profit rate, and returns of investment. Non-financial performance was measured by market share, rate of goal attainment, staff retention, and staff productivity. Overall performance was the combination of financial and non-financial performances.

METHODOLOGY

Introduction

The purpose of this study is to identify factor of operation costs for Taiwanese companies to consider when investing in Shanghai. A quantitative approach using statistic methods is most suitable to analyze both variables: operation costs (independent variables) and organizational performance (dependent variable) and to achieve the desired result: developing a model that will help those companies that are planning to invest in Shanghai to reduce their investment risks (Creswell, 2003).

The study will use a questionnaire to survey a sampling of Taiwanese business owners. The sample targets are Taiwanese companies in the city of Shanghai and their contact information is obtained from the Chinese National Federation of Industries. The population consists of 3,200 companies and 900 random samples are drawn from that population.

Survey Construction

Operating costs. In this area, level of satisfaction is measured for the Taiwanese company's overall operating costs. Seven cost items are listed: cost in obtaining raw materials, labor cost, production cost, cost of sales, management cost, financial cost, and land acquisition cost. A 5-point Likert's scale is used (Chiu, 2004), with scales ranging from representing very unsatisfied, somewhat unsatisfied, no opinion, satisfied, to very satisfied.

Hypotheses and Research Question

This study will have research question, which correspond to the proposed hypotheses:

Research Question

What is the relationship, if any, between operating costs and organizational performance?

Hypothesis

- H₁. Costs of production (costs of raw material, labor, and production) and costs of management (costs of sale, management, and finance) have a significant effect on organizational performance.
- H₀. Costs of production (costs of raw material, labor, and production) and costs of management (costs of sale, management, and finance) have no significant effect on organizational performance.

Data Collection Methods

Data collection was generated by use of a survey which was sent to random sample of 900 companies drawn from the population of 3,200 Taiwanese companies investing in Shanghai, as listed in the Taiwanese Business Directory published by the Chinese National Federation of Industries.

FINDINGS

Factor Analysis of Operating Costs

First, factor analysis was conducted on the seven items in Operating Costs, i.e. Items 1 to 7. Then independent samples t-test was carried out on these items.

In the factor analysis of the seven items in operating costs, orthogonal rotation and principal component method were used. The results of the two components explained 59.573% of the overall variation.

Table 1. Components in Operating Costs That Explain the Overall Variance

Component	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative%	Total	% of Variance	Cumulative %
1	3.109	44.419	44.419	2.277	32.531	32.531
2	1.061	15.154	59.573	1.893	27.041	59.573

Extraction Method: Principle Component Analysis

With regard to factor loadings of the two rotated factors in rotation with the various question items, the loadings all reached a level above 0.50 (See Table 2). Among them, Factor 1 included questionnaire items 1, 2, 3, and 7. It can be named as Production Costs. Factor 2 included items 4, 5, and 6 and can be named as Management and Sales Costs. Then, items within each factor were summed up to obtain the Management and Sales Costs Total Score (Factor 1), and the Production Costs Total Score (Factor 2).

Table 2. Factor Loadings of the Two Components in Operating Costs with questionnaire items

	Component	
	1	2
Financial costs	.870	
Cost of sales	.782	
Management costs	.677	
Costs in obtaining land	.584	
Production costs		.837
Raw materials		.762
Labor costs		.645

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

Analysis of Management and sales Costs (Factor 1) and Performance

The total scores of questionnaire items in Production Costs (Factor 1) can be categorized into the high and low score groups. A total score of 14 or below was defined as the low score group. The low score group was set as 1. A total score of 15 or over (including 15) was defined as the high score group. The high score group was set as 2. The independent t-test was conducted on the two groups.

Table 3. Frequency Distributions of Sums of Management and Sales Costs

Score	Frequency	Percent	Cumulative Percent
Valid			
7.00	1	1.0	1.0
8.00	2	2.1	3.1
9.00	3	3.1	6.2
10.00	5	5.2	11.3
11.00	5	5.2	16.5
12.00	7	7.2	23.7
13.00	10	10.3	34.0
14.00	19	19.6	53.6
15.00	13	13.4	67.0
16.00	23	20.7	90.7
17.00	8	8.2	99.0
20.00	1	1.0	100.0
Missing Data	1	1.0	
Total	98	100	

In Table 4, mean performance measures of the low score group and the high score group in management and sales costs are presented.

Table 4. Summary of Mean Performance Measures Between the High Score Group and the Low Score Group in Management and Sales Costs

Performance Items	N	Mean	Std. Deviation
Return of investment	52	3.1923	.8174
	46	3.8043	.4998
Net income	52	3.1538	.8179
	46	3.7174	.5442
Sales growth rate	52	3.4808	.7538
	46	3.5870	.7476
Market shares	52	3.2500	.7106
	46	3.4783	.6909

Staff turn-over	1.00	52	2.8462	.9779
	2.00	46	3.2174	.9408
Staff's productivity	1.00	52	2.8654	.8863
	2.00	46	3.3261	.8706

Table 5. Summary of t-test on High and Low Score Groups in Management and sales Costs

Performance Items	T	Df	Sig. (two-tailed)
Return of investment	-4.401**	96	.000
Net income	-3.779**	96	.000
Sales growth rate	-0.699	96	.486
Market shares	-1.608	96	.111
Staff turn-over	-1.909	96	.059
Staff's productivity	-2.590*	96	.011

$p < .05^*$; $p < .01^{**}$

Table 5 presents the results of testing the difference in performance between the high-score group and the low-score group of Management and Sales Costs. The results show that significant differences were found in these performance measures: return of investment, net income, and staff productivity. Companies that were satisfied with their management and sales costs did significantly better in return of investment than did companies that were less satisfied with their management and sales costs. Similarly, companies that were satisfied with their management and sales costs had better net income and staff productivity than did companies that were less satisfied with their management and sales costs.

Analysis of Production Costs (Factor 2) and Performance

The sums of item total scores of Production Costs were categorized into two groups. A total score of 11 or below was defined as the low-score group. The low-score group was set as 1. A total score of 12 or greater was defined as the high-score group. It was set as 2. Then an independent-sample t-test was conducted on the two groups.

Table 6. Frequency Distributions of Sums of production Cost total score

Score	Frequency	Percent	Cumulative Percent
Valid	6.00	2	2.1
	7.00	2	4.1
	8.00	4	8.2
	9.00	5	13.4
	10.00	15	28.9
	11.00	16	45.4
	12.00	37	83.5
	13.00	6	89.7
	14.00	7	96.9
	15.00	3	100.0
Total	97	99.0	
Missing Data	1	1.0	
Total	98	100.0	

Table 7. Summary of Mean Performance Measures of the High and Low Score Groups in Production Costs

Performance Items	N	Mean	Std. Deviation
Return of investment	1.00	3.2500	.8105
	2.00	3.6667	.6443
Net income	1.00	3.1591	.9135
	2.00	3.6296	.5923
Sales growth rate	1.00	3.3182	.7708
	2.00	3.7037	.6904
Market shares	1.00	3.1591	.7759
	2.00	3.5185	.6063

Staff turn-over	1.00	44	2.8864	.9205
	2.00	54	3.1296	1.0103
Staff's productivity	1.00	44	3.000	.8353
	2.00	54	3.1481	.9597

The results suggested that companies that were satisfied with their production costs did better in return of investment, net income, sales growth rate and market share than did companies that were less satisfied with their production costs .

Table 8. Summary of t-test on the High and Low Score Groups in Management and Sales Costs

Performance Items	T	Df	Sig. (two-tailed)
Return of investment	-2.836**	96	.006
Net income	-3.076**	96	.003
Sales growth rate	-2.609*	96	.011
Market shares	-2.574*	96	.012
Staff turn-over	-1.234	96	.220
Staff's productivity	-0.805	96	.423

$p < .05^*$; $p < .01^{**}$

CONCLUSIONS AND FINDINGS

Conclusions

Factor analysis of management costs and operating costs was mainly conducted through principal component analysis. Two factors of operating costs were obtained through exploratory factor analysis. The first factor was "management and sales costs." and the second was "production costs" Management and sales costs included costs of sales, management and finance. Production costs included costs of raw materials, labor, production, and land acquisition.

Scores of items in the management and sales factor were then summed up to categorize the companies into two groups: (a) companies that were satisfied with their management and sales costs and (b) those that were not satisfied. A comparison between the two groups showed that in return of investment, companies that were satisfied with their management and sales costs did better than companies that were not satisfied with their management and sales costs. Companies that were satisfied with their management and sales costs had better net income than companies that were not satisfied with their management and sales costs. For staff productivity, companies that were satisfied with their management and sales costs did better than companies that were not satisfied with their costs. To summarize, companies that were satisfied with their management and sales costs did better in return of investment, net income, and staff productivity than companies that were not satisfied with their management and sales costs. In short, if a company has adequate control over its costs, it will have better than a company that does not have good control over its costs. There were no significant influences of production costs and organizational performance.

Operating costs have the most significant effects on organizational performance whether they are costs of production or costs of management and marketing. For consideration of their strategies, lowering the costs of raw materials, labor, production, and land acquisition are key factors for Taiwanese businesses to move their production facilities to Mainland China. Such strategies will benefit their financial performances (high return of investment, high net income, high sales growth rate, and high market share). Similarly, consideration of costs of sales, costs of management, and finance are also key issues for Taiwanese businesses that intend to expand into the Mainland China market. With good control of costs of management and marketing, companies can achieve excellent performances in return of investment, net income, and staff productivity.

In light of strategies, lowering operating costs is the key area in Taiwanese companies' expansion into Mainland China. If companies cannot lower their operating costs, then they cannot achieve better performance in their Mainland facilities.

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