



The Influences of Sales Ability of Taiwan Publicly-listed Construction Companies upon Financial Performance: Interference Variable of Macro Environment Factors

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ABSTRACT

Looking back on the past, Taiwan listed construction companies often launched a series of Establishing development cases, after marketing success, and suddenly encountered the phenomenon of Bermuda Effect of Real Estate, in addition, with the rapid changes in the Macro Environment Factors, so that Taiwan's overall construction industry operations and organizations are full of "crisis and turnaround". Therefore, this study aims to verify the sales ability of Taiwan publicly-listed construction companies on the impact of Financial Performance, with Macro Environment Factors as the Interference variable, and take the management directors or higher level of the listed construction companies as the interview-subject as well as use the 2019 database of Taiwan Economic Journal (TEJ) to obtain the company's EPS datum. Besides, this study adopts Purposive Sampling to sample the population and uses the Linear Structural Equation Modeling (SEM) to verify the fitting of goodness effect of the Structural model and Measurement model and Whole model in this study.

These findings show that as below.

- (1) The Sales Ability (SA) has a positive effect on Financial Performance (FP), but not significant;
- (2) Macro Environmental Factors (ME) have a positive and significant impact on Financial Performance (FP); and
- (3) Sales Ability (SA) and Macro Environmental Factors (ME), both of which have a positive interaction with Financial Performance (FP), but not significant, which implies that changes in Macro Environmental Factors (ME) play an important role in promoting Financial Performance (FP).

KEYWORDS: Sales Ability (SA), Macro Environmental Factors (ME), Financial Performance (FP)

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I. INTRODUCTION

As countries around the world are affected by the outbreak of COVID 19 etc., the prospects for economic growth in various countries caused new uncertainty, triggering a sharp shock in financial markets. Construction industry suffered the outbreak of COVID 19 pneumonia, which made the serious shortage of domestic labor, construction sand, stone materials, sanitary, kitchenware and other related building materials and equipment etc., and due to the outbreak of countries by the relationship between delayed delivery, has been not only greatly affecting the construction progress of construction projects, but also affecting the delivery time of customers. While the construction industry is affected by the external competitive environment, the overall operating environment, policy decrees, how the construction industry in the general environment of fierce changes, COVID 19 pneumonia in the short term cannot be effectively controlled and the global economic growth rate may be adjusted down to 2.5%, although Taiwan has the profits and interests of "Taiwan businessmen back from Mainland China", yet it made the company's business operations are not affected and it may not have optimistic expectations.

Therefore, as far as sustainable operation is concerned, in order for construction operators to use funds efficiently, their project investment must consider the impact of changes in external environment and internal conditions, carefully measure risks and returns in order to make a careful decision. Is a good job of market segmentation select target markets, avoiding competition, strengthening their core competitiveness and as a solid and unbreakable barrier to entry. With the concept of target marketing, it is echoing; good market

segmentation, if combined with the self-core competitiveness, it will bring considerable profits.

Looking back, many marketing-related studies have confirmed that the improvements of sales performance can be facilitated if salespeople are successful in performing adjusted sales. For a long time, how to promote sales staff to sell successfully and improve sales performance has been one of the marketing topics that has attracted much attention in the academic and practical fields of sales management.

For enterprises, sales staff is an important channel to understand the customers and market dynamics; on the other hand, sales staffs still have considerable influence for the establishment of customer's corporate image, as well as to cultivate, maintain and enhance the relationship between enterprises and customers (Huang, 2020; Li, 2015; Chu, 2018; Zeng, 2010).

As for the company's short or long-term goals, its constant pursuit is always a greater enterprise value, such as: to improve the company's operating performance, including: increase in production, sales revenue and gross profit growth, etc. , and the current literature most often consider the variables affecting the company's financial difficulties are mostly taken from the company's financial ratios and accounting information, while ignoring the overall environmental uncertainty on the company's financial distress.

Therefore, in order to take advantage of the rapidly changing environment and improve their financial performance, enterprises not only have good Sales Ability (SA), but also recognize the changes in the Macro Environmental Factors (ME). In order to ensure the sustainable operation and development of the enterprises, and whether Sales Ability (SA) and Macro Environmental Factors (ME) of the enterprises can interact with the Financial Performance (FP) making the synergy effect, which is the most important motivation for this study.

This study will be as the Taiwan listed Construction Company' management directors or above as the research interview-object, and using the 2019 database of Taiwan Economic Journal to obtain the company's EPS data. Besides, this study adopts Purposive Sampling to sample the population. In addition, this study bases the research purposes and the past relevant literature at home and abroad, and puts forward hypotheses, establishing the research model and then verifying it to understand the model of appropriate fitting effect.

The main purposes of this study are as follows:

To verify and understand Taiwan's listed construction companies

- (1) Whether the Sales Ability (SA) has a positive and significant effect on Financial Performance (FP) or not;
- (2) Whether the Macro Environmental factor (ME) has a positive and significant impact on Financial Performance (FP) or not; and
- (3) Whether the Sales Ability (SA) and the Macro Environmental Factors (ME), whether both of them have a positive and significant interaction effect on Financial Performance (FP) or not.

II. LITERATURE REVIEW

This section is to understand the correlation between the research results of past scholars and the subject of this study. To develop the three research hypotheses from the literature review and establish the research model respectively, so the background of the related research and the main constructs of this study are briefly stated as below.

2.1 Sales Ability (SA)

The definition of Sales Ability in this study is "the enterprise formulates an efficient marketing strategy, so that the marketing expertise of the enterprise directly affects the customers' desire to buy", and the above definition is combined and based on the following literature.

Chen (2006) proposed the classification of Sales Ability (SA), are as following: (1) Advertising (SA₁); (2) Business Development Ability (SA₂).

Zeng (2010) believed that person selling is a process of communicating through people in order to persuade others to buy, because the way of people sell and content can be adjusted according to the time and place, and therefore it belongs to customized communication.

Chu (2014) pointed out that in order to achieve sales goals and create profits, enterprises also emphasize great importance to the sales abilities of sales staff; knowledge of sales includes knowledge of goods, customer and market knowledge, competitors and industry intelligence, company information, sales skills and management knowledge. The importance of the knowledge that a sales ability should have may vary depending on the mix of sales activities he or she is engaged in. Chu,

Chen (2014) also believed that sales person should have the ability to express, professional knowledge, interpersonal skills, and problem-solving skills.

Xu (2014) divided Sales ability in three constructs: (1) To explore the Perspective customers; (2) initial interviews and understand customer needs; and (3) Proposal delivery and promotion.

Su (2015) pointed out that the marketing professionalism of enterprises will directly affect the

customers' desire to buy, coupled with after-sales service, which will further affect the purchase rate of consumers.

From the above, and the classification of Sales Ability (SA) in this study is referred to Chen (2006) classification. Therefore, this study focuses on two sub-constructs of Sales Ability (SA), namely: (1) advertising (SA₁) and (2) business ability (SA₂).

2.2 Macro Environmental Factors (ME)

The definition of Macro Environmental Factors (ME) in this study is "the concept of a cycle of economic fluctuations and the consideration of natural and man-made disasters; e.g., earthquakes, the outbreaks and prevalence of COVID 19, etc., and the above definition is based on a combination of the following literature.

Pearce & Robinson (2000) divided the external environment into (1) Macro environment including: economic, social, political, scientific and technological, environmental ecology; (2) Industrial environment including: barriers to entry, bargaining power of suppliers, substitutes, existing competitors; and (3) Operating environment including: competitors, customers, labor, suppliers, and lenders. The cognition of the environmental level/layer, with the uncertainty of the environment, it impacts on the expansion of organizational strategy. Hence, the environmental level also relates to the organizational relationship from the perceptive relationship and task, so that the environmental impact is closely related to the business operation, and is more important, especially the formulation and selection of the business strategy.

Chen (2006) proposed the classification of the Macro Environmental Factors (ME) including: (1) The economic boom cycle (ME₁) and (2) natural and man-made disasters (ME₂).

Lin (2007) believed that the macro environment refers to the environmental factors that have an indirect impact on the operation of enterprises, and is therefore also known as the indirect environment. These include: demographic, economic, socio-cultural, political-law, scientific and technological and natural environments etc..

In the light of the above, the classification of Macro Environmental Factors (ME) in this study is based on the classification of Chen (2006).

2.3 Financial Performance (FP)

The conceptual definition of Financial Performance in this study is refers to "the measurement of financial performance in terms of earnings per share (EPS) of the publicly-listed companies", and the above definition is combined and based on the following literature."

Lii (2004) proposed the financial performance indicators, operational performance indicators, human resources indicators, service quality performance indicators, innovative learning indicators etc., in order to recognize the integrity of the enterprise process performance evaluation standards and the independence of various indicators concepts which include: (1) Financial Performance indicators: the results of the use of enterprise resources, or called efficiency indicators; (2) Operating performance indicators: the results of the business ability or technology of the enterprise or called efficiency indicators; (3) Human resources indicators: the company's use of human resources to achieve results indicators; (4) Service quality index: As an "attitude", it is the degree of difference between customer's expectation of service and actual perception, including physicality, reliability, responsiveness, trust and care; and (5) Innovative learning indicators: the company's long-term change of environment or opportunity success, on behalf of the company's ability to adapt to the future, or learning ability.

Xie (2018) pointed out that financial performance is the correct contribution to the company's operating strategy and whether its implementation and execution are contributing properly to the final operating performance. The information of the financial statements expresses the enterprise's cost control, asset use management, the effect of the allocation of funds and the composition of shareholders' equity. The embodiment of financial performance can be divided into: (1) profitability, evaluation of enterprise profitability to reflect the net return of capital and capital incremental, is an important measure of Enterprise performance evaluation; (2)Operational capabilities, which can measure the asset management ability of enterprises, improve the efficiency of asset use and enhance profitability; and (3) Solvency, its strength is the main index of economic strength and financial situation of enterprises, but also an important basis for measuring whether the business continues to be sound.

Chen (2019) pointed out that the measurement of a company's financial performance is often divided into the following methods: based on the market-based and accounting-based measure. The stock market is based on the views of shareholders and the return rate of investors, while the accounting basis is the use of the company's surplus to reflect the company's financial situation.

The measure of Financial Performance (FP) in this study is based on EPS as a measure of financial performance, taken from the 2019 Database of Taiwan Economic Journal.

2.4 The Influence of Sales Ability (SA) on Financial Performance (FP)

The results of Lee (2017) research showed that the program structure of individual sales ability has two sub-constructs, namely: “Customer management and sales skills have a positive and significant impact on performance, which in turn is conducive to performance improvement.”.

The above literature, although the object under discussion is not a model for the construction industry, in order to make the hypothesis of this study more rigorous, the use of questionnaires, and put forward the hypothesis as follows:

Hypothesis 1 (H₁): The Sales Ability (SA) of the listed construction companies in Taiwan has a positive and significant impact on Financial Performance (FP).

2.5 The Influence of Macro Environmental factors (ME) on Financial Performance (FP)

The literature on the impact of the Macro Environmental Factors (ME) on Financial Performance (FP) in this study has not been found so far;

Hypothesis 2 (H₂): The listed construction companies in Taiwan face the changes of **Macro** Environmental factors (ME) which have a positive and significant impact on their Financial Performance (FP).

2.6 The Influence of changes in Sales Ability (SA) and Macro Environmental factors (ME) on Financial Performance (FP).

Chen (2012) pointed out that the bottom-point of the business cycle of the construction marketing strategy can be tailored to provide a highly customized service to target customers, in order to try to meet the individual needs of consumers in a way to improve sales performance.

However, whether Sales Ability (SA) and Macro Environmental Factors (ME) can make the synergy on Financial Performance (FP), which is the very important topic to verify by using AMOS.

Hypothesis 3 (H₃): Sales Ability (SA) and Macro Environmental Factors (ME) of the publicly-listed construction companies in Taiwan, both of which have a Interactive effect of positive and significant influence on Financial Performance (FP).

III. RESEARCH METHOD

Based on the above main research motivation, purposes and literature review, these research hypotheses are developed, and the Research Framework of this study is as shown in Figure 1.

3.1 Research Framework

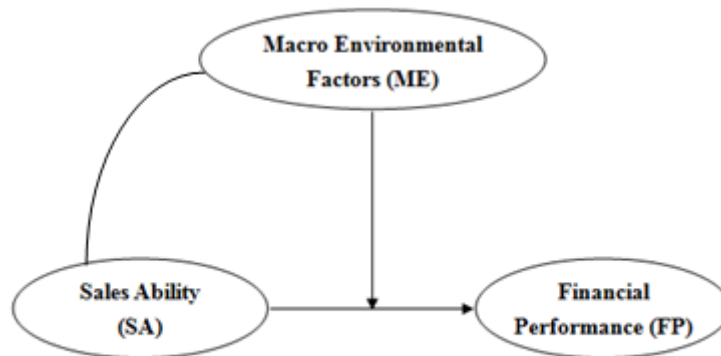


Figure 1 Research Framework

3.2 Questionnaire design.

The questionnaire design of this study is based on each observable composition and is carried out by means of "sub-measurement". The questionnaire is measured by the “seven-point-score” of Likert-Scale, giving a score of 7 to 1 according to the degree of consent and the degree of disagreement, while 7 points represent extreme consent, 1 point represents extreme disagreement; and the higher the degree of consent, the higher the score; Moreover, the data of the collected samples are "centralized", i.e.: The score of each topic of the questionnaire is reduced by the sum of their averages to zero, in order to eliminate the co-linearity between the independent variable and the interference variable, so as to facilitate the test of the interactive effect between the independent variable and the interference variable and "centralization" is mathematically expressed as follows:

$$\Sigma(X_i - \bar{x}) = \Sigma Y_i = 0$$

Regarding design of Sales Ability (SA) questionnaire, referring to the classification of Chen (2006) is as follows: (1) Advertising (SA₁) and (2) Business Development Ability (SA₂), and have a total of 6 questions.

The questionnaire design on Macro Environmental Factors (ME) is also classified by reference to Chen (2006), which is: (1) Economic boom cycle (ME₁) and (2) Natural and man-made disasters (ME₂) respectively, and has been revised to include a total of 6 questions.

Regarding the construct measurement of Financial Performance (FP), Earnings per share (EPS) is used as a measure of financial performance, and was taken from the 2019 Database of Taiwan Economic Journal.

3.3 Sampling method.

In this study, the population was sampled by using Purposive sampling. The directors or above of the publicly-listed construction companies in Taiwan were the visit-object, and the Company's EPS information was obtained from the 2019 Database of Taiwan Economic Journal, TEJ. This study issued 30 expert-questionnaires as the pilot-test, according to the experts' recommendations for improvement to be revised, and then processing post-test; the official distribution of 500 questionnaires, valid samples of 353, the recovery rate of effective samples is 70.6%.

3.4 Questionnaire Data and Measurement System.

To verify the research framework proposed by this study, the Linear Structure Equation Modeling (SEM) is used to establish and verify the research-model. Therefore, Confirmatory Factor Analysis (CFA) is used. Classifying the questionnaire into three Latent variables such as Sales Ability (SA), Macro Environmental Factors (ME), and Financial Performance (FP); each of these latent variables was divided into the following observable variants, and each observable variant has several questions to survey.

The information from the survey is then processed and the original questionnaire data file is established, and as regards the construction of the measurement system of this study model, although the questionnaire design is designed in the form of "sub-measurement", it is considered that the measurement can be carried out more smoothly when processed using computer software, the measurement is made using "Dual Measurements" (Chen, 2010), and the "Implicit variables" and "observable variables" of this study are used. The number of questionnaire questions and the reference sources for explicit variables are shown in Table 1.

Table 1-
Number of questionnaire questions on Implicit and Observable variants.

Implicit Variables	Explicit Variables	Number of questions	Questionnaire reference materials.
Sales Ability (SA)	Advertising (SA ₁)	3	Chen (2006)
	Business Ability (SA ₂)	3	
Macro Environmental Factors (ME)	Economic Boom Cycle (ME ₁)	6	Chen (2006)
	Natural and Man-made Disasters (ME ₂)	6	
Financial Performance (FP)	EPS (FP)	--	Taiwan Economic News Database

Source: this study.

IV. RESULTS AND ANALYSIS

4.1 Linear Structural Equation Modeling (SEM)

The Confirmatory Factor Analysis (CFA) is an analytical method relative to Exploratory Factor Analysis (EFA), and this study analyzes the verifying factors among three implicit variables such as Sales Ability, Macro Environmental Factors and Financial Performance. Linear Structural Equation Modeling (SEM) includes Structural Model and Measurement Model, which are effective in addressing the causal relationship "between" unobservable variables / implicit variables. In addition, according to Diamantopoulos & Siguaw (2000) proposed that the established model verified by this study includes three parts, namely: (1) verification of the fitness of the Measurement model; (2) verification of the fitness of the Structural model; and (3) verification of the fitness of Overall model whether the model-fit is in line with the fit indexes, that is, the relevant fit indexes are used to judge the fit-effect of the Overall SEM Model).

The factor loading of each Latent/Implicit Variables and the explicit variables / observable variant is primarily a measure of the linear correlation between the Explicit and Implicit Variables; If the factor loading is closer to 1, it means that the "observable variable" can highly measure the "unobservable variable". As the factor loading of each observable variable in this study is between 0.8 and 0.9, this indicates that it has good Reliability. Therefore, the "observable variables" in the Measurement system of this model can appropriately measure the "unobservable variables". In addition, in accordance with the view-point of Fornell & Larcker (1981) that Average Variance Extracted (AVE) is to calculate the variation explanation ability of unobservable variables

for/towards each observable variable; if the AVE value is higher, the unobservable variable has higher Reliability and Convergence validity. Usually the AVE value must be greater than 0.5 that is: the explainable variation from the observable variable is greater than the measurement error The AVEs of this study are all greater than 0.5, which means that the observable variables/Explicit Variables have high Reliability and Convergence validity, as shown in Table 2 and Figure 2.

Table 2 –
The judgment-indicator of the measurement system in the model

Non-observable variants (Implicit variants)	Observable variants – centralized with dual measurements	Factor loading	Average Variance Extracted, AVE
SA	SA ₁ C	.83	.66
	SA ₂ C	.82	.64
ME	ME ₁ C	.81	.64
	ME ₂ C	.82	.62
SA*ME	SA ₁ ME ₁ C	.86	.65
	SA ₂ ME ₂ C	.83	.65

Source: this study

Note: EPS, a measure indicator of Financial Performance, is taken from the 2019 Database of Taiwan Economic Journal, TEJ. Therefore, it is not listed in Table 2.

4.3 Analyzing fit of Structure Model

4.3.1 Path Analysis Results of Structure Model

After the Overall Model has passed the fitness-check, this study estimates the parameter estimates among implicit variables, and the standard error (S.E.) & Critical Ratio (C.R.) results between implicit variables, as shown in Table 3. In addition, Table 4 shows that Sales Ability and Macro Environmental Factors (SA-ME) have a positive interaction effect on Financial Performance (FP), but not significantly (c= .32), which implies that changes in Macro Environmental factors (ME) play an important role in promoting Financial Performance (FP).

Table 3-
Path analysis results for Structural model (Un-standardized)

The path factor between implicit variables	Estimate	S.E.	C.R.	P	Label
SA → FP	.33	.21	1.57		a
ME → FP	.93	.11	8.45	**	b
SA*ME → FP	.32	.31	1.03		c

Source: this study

Note: * P< .05; ** P< .01; *** P< .001

Table 4-
Path analysis results for Structural Model (Standardized)

The path factor between potential variables	Estimate
SA → FP	.23
ME → FP	.72**
SA*ME → FP	.32

Source: this study

Note: * P< .05; ** P< .01; *** P< .001

4.3.2 (Coefficient of Determination

The so-called coefficient of determination is also called Squared Multiple Correlation (SMC), which is the degree of interpretation of the "independent variable" of each implicit variable to the "dependent variable" of each implicit variable. The path determination coefficients are shown in Tables 5 & 6.

Table 5-
Coefficients^a **【Hierarchical Regression)】**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.87a	.76	.75	.31	.01	179.21	2	97	.00
2	.88b	.78	.77	.41	.00	7.02	1	96	.00

Source: this study

Note: (a) Predictors: (Constant), ME and SA; (b) Predictors: (Constant), ME, SA and ME*SA

Table 6 –
Coefficients^a

Coefficients of Determination	R ²
Sales Ability (SA), Macro Environmental Factors (ME) on Financial Performance (FP)	.76
Sales Ability (SA), Macro Environmental Factors (ME) and SA*ME on Financial Performance (FP)	.78

Source: this study

Note: Table 6 is extracted from Table 5, as shown below.

4.4 The Indices of Fit of the Overall Model

Using Linear Structural Equation Modeling (SEM) as the purpose of modeling in this study is to explore the relationship between the unobservable variables in the Structural Model and whether the measurement system (Measurement Model) has Measure Reliability and measure the fit effect of the overall-fit of this research.

According to the view-point of Bagozzi & Yi (1988) that the overall fitness indicators used in this study are χ^2 , df, GFI, AGFI, NFI, CFI, RMR, RMSEA, etc., usually $\chi^2/df < 5$; $1 > GFI > 0.9$; $1 > NFI > 0.9$; $1 > CFI > 0.9$; $RMR < 0.05$; $RMSEA < 0.05$.

Looking at the overall model of this study the overall model fit is $\chi^2/df < 5$; GFI, AGFI, and NFI are all greater than 0.90, while RMR value is less than 0.05, indicating that the overall-fit of this research model is good (goodness-of-fit), as shown in Table 7.

Table 7-

The fit- scale of Overall model in this research

Determination index	χ^2	DF	GFI	AGFI	NFI	CFI	RMR	RMSEA
Fit value	12.71	14	0.92	0.91	0.90	0.90	0.01	0.01

Source: this study

4.5 Standardized Results of SEM Analysis

The standardization results of Overall Framework through computer-executed is shown in Figure 2.

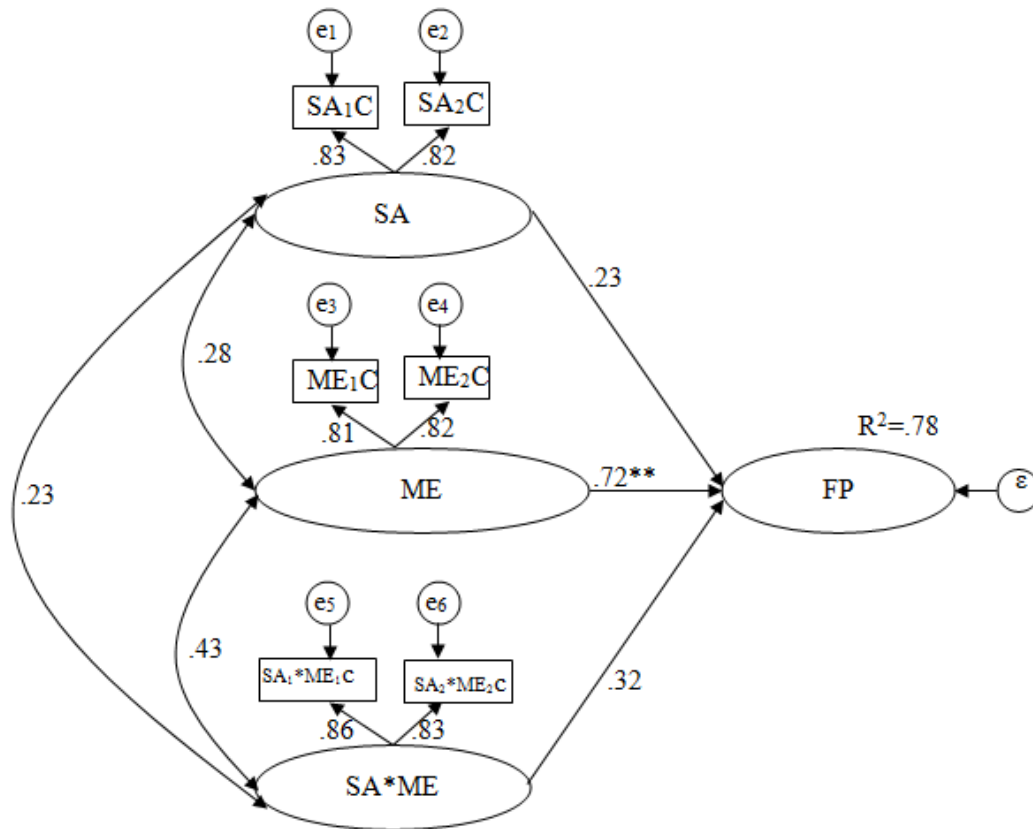


Figure 2 Standardized results of SEM analysis

4.6 Path Effect Analysis and Verifying of Structural Model

The detection of interference variables in this study is first to carry out Hierarchical Regression analysis as shown in Table 5, and then to centralize the regression analysis and *t*-test of SA, ME, SA-ME, to test whether the significance of partial regression coefficient *c* is true or not. (i.e. whether *c* equals zero), as shown in Table 8.

Table 8 – Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	Sig.
	B	Std. Error	Beta		
1 (Constant)	3.82	.88	.45	.51	**
SA	1.75	.31	.68	2.19	
ME	1.89	.32	.42	1.31	
2 (Constant)	2.04	.56	.41	.73	**
SA	1.19	.09	.23	2.55	
ME	1.37	.53	.72	1.36	
SA*ME	3.41	.23	.32	1.39	

Source: this study

Note: (a) Dependent Variable: SA & ME (even though ME is a moderator); (b) EPS, a measure indicator of Financial Performance, is taken from the 2019 Database of Taiwan Economic Journal, TEJ. Therefore, it is also not listed in Table 8.

From Table 8 above, it is learned that the path coefficient of ME*SA to FP is *c* = .32, which is not equal to zero, so it is learned that ME*SA has a positive interactive effect on FP, but it is not significant.

Based on the above analysis, the following verification results can be found in this study:

(1) Sales Ability (SA) has a positive effect on Financial Performance (FP), but it is not significant. As the standardized path coefficient is .23, so it is assumed that H₁ is partially supported. (The hypothesis is partially

established.)

(2) Macro Environmental Factor (ME) has a positive and significant impact on Financial Performance (FP), and the standardized path factor is .72, so H₂ is assumed to be fully supported. (The hypothesis is entirely true.)

(3) Sales Ability (SA) and Macro Environmental Factors (ME), both of which have a positive interaction effect on Financial Performance (FP), but not significant; as the standardized path coefficient is .32, so it is assumed that H₃ is partially supported. (The hypothesis is partially established.)

5. Conclusions and Suggestions

5.1 Research conclusions

Based on the above results and analysis, the following specific conclusions can be obtained as below.

5.1.1 Model verification of SEM

The Linear Structural Equation Modeling (SEM) constructed by this study, and its Measurement Model, Structural Model and Overall Model have a fit-of-goodness, showing that the established model fits well.

5.1.2 The Verification in Practice

Sales Ability (SA) and Macro Environmental Factors (ME) of the publicly-listed construction companies in Taiwan have a positive interaction effect on Financial Performance (FP), but they are not significant. In other words, it also implies that the Macro Environmental Factors (ME) play an important positive impact role in promoting Financial Performance (FP). When the Sales ability of the company's internal sales staffs are excellent, which can create good financial performance, but in the event of adverse changes in the overall environmental factors, such as: while the companies encounter Bermuda effect of Real Estate and other factors, their financial performance will deteriorate rapidly, or even create a financial distress; therefore, management must respond early to prevent the future of the company in the face of adverse overall environment changes and close to financial distress.

5.2 Contributions to This Study.

(1) At the practical level:

This study firstly establishes the model and verifies the model by using AMOS to see whether it has a fit-of-goodness effects or not, so the subject of this study is Confirmatory Factor Analysis (CFA) which is a practical topic of importance, and the further research that deserve to be continued in this related field by follow-up researchers for references; besides, these research results can also provide a very important reference-value of managerial implication for decision makers of the publicly-listed construction companies and the related sectors of the government in Taiwan.

(2) Innovation in the Application of Research Method

Looking back at the relevant literature of the past regarding this construction field of real estate , most of the research methods that used the multi-regression analysis method for exploratory research, with less consideration of the confirmatory factor analysis of the interference effects of Implicit variables. The main constructs of this research topic are implicit variables, so it is more suitable to use Confirmatory Factor Analysis (CFA) and Linear Structural Equation modeling (SEM) as the measurement tool and model framework of this research; therefore, the research method of this study is more innovative.

5.3 Research Limitations and Recommendations.

(1) This study is a "one cause, one result and one moderator" model, and is limited to the Confirmatory Factor Analysis (CFA) of Taiwan publicly-listed construction companies, follow-up researchers may consider different verification methods such as Meta-Analysis etc., to verify that whether there is a moderate difference of fit in the same model or different models;

(2) Besides, this study belongs to the analysis of verification factors; while establishing the model. According to the view-point of Chen (2010) that we should try to design a more concise verification model, to avoid the establishment of too complex models resulting in moderately poor model matching, so this study only considers the impact of Sales Ability (SA) on Financial Performance (FP) with Macro Environmental Factors (ME) as the interference variable.

References

- [1]. Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Academy of Marketing Science. Journal.* 16(1), 74-94.
- [2]. Chen, C. C. (2019). The Relevance of Foreign Investment Ratio and Institutions Legal Person Shareholding Ratio and Financial Performance: A Study of Listed Companies in Taiwan. Taiwan: Master's thesis of the Department of Business Administration, Nantai University of Science and Technology.
- [3]. Chen, H. L. (2016). The study of Key Success Factor of the Construction Company after Implementing New Regulation of Housing and Land Tax Unity-A Case study of Kaohsiung Area. Taiwan: Master's thesis of the Department of Business Administration, National Sun Yat-sen University.

- [4]. Chen, M. H. (2012). Research on the Marketing Strategy of Taiwan's Real Estate Industry in the Overall Environment-Taking Construction Companies A and B as Examples. Taiwan: Thesis of Senior Executive Master of Business Administration, National Central University School of Management.
- [5]. Chen, S. Y. (2010). Structural Equation Model. Taiwan: Psychological Press.
- [6]. Chu, C.Y. (2014). A study of sales competency related to a personal knowledge of management ability and involvement in electronics product. Taiwan: Master's thesis of Institute of Production Management, Kang Ning University.
- [7]. Chu, Y. H. (2018). The Impact of Team Social Capital and Adaptive Sales Ability on Job Satisfaction. Taiwan: Master's thesis of Ling-Tung University of Science and Technology Business Management Department.
- [8]. Diamantopoulos, Adamantios & Judy A. Siguaw (2000). Introducing LISREL: A Guide for them. Uninitiated. London: Sage Publications.
- [9]. Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with un-observables and measurement error. *Journal of Marketing Research*, 18: 39-50.
- [10]. Huang, Y. C. (2020). A Study of Continuous Quality Improvement of Construction Companies by the Criteria 'Customer and Market Development' of National Quality Award-Take a Construction Company as an Example. Taiwan: Master's thesis in business management of Shih-Hsin University.
- [11]. Lee, S. H. (2017). A Study on the Relationship between Sales Capability and Performance : Take the fast moving consumer goods company as an example. Taiwan: Master's thesis of Marketing and Distribution Management Department, National Kaohsiung First University of Science and Technology.
- [12]. Li, T. P. (2015). Apply STP Strategic Planning Theory to Construction Company-A Case Study of Chiao-Fu Construction Company. Taiwan: Master's thesis of Da-Yeh University School of Management.
- [13]. Lii, J. Y. (2004). Research the Enterprise Flow Internal Performance Evaluation Indicators Establishment-Take The Systems Science Theory as The Discussion. Taiwan: Master's thesis of the Institute of Enterprise Management, Chung Yuan National Culture University.
- [14]. Lin, J. H. (2007). Introduction to Enterprise. Taiwan: Huatai Culture.
- [15]. Su, J. C. (2015). Discussion on Affecting Sales Performance of Automobile Salespersons-Taking a Certain Automobile Dealer as an Example. Taiwan: Master's thesis of Marketing and Distribution Management Institute of Nantai University of Science and Technology.
- [16]. Taiwan Economic News Database (2019), search site: <https://www.tej.com.tw/twsite/TEJ%E8%B3%87%E6%96%99%E5%BA%AB/tabid/164/language/zh-TW/Default.aspx>
- [17]. Xie, B. E. (2018) ' The Relationship between Financial Performance and Stock Return-Empirical Evidence from the Public-Listed Companies of Taiwan 50 index as an example ' Taiwan: Master's thesis of Adult Education Institute of National Kaohsiung Normal University.
- [18]. Xu, W. X. (2014). Relevant Research on the Influence of Sales Ability, Sales Behavior and Sales Performance. Taiwan: Master's thesis of the Department of Risk Management and Insurance, Ming Chuan University.
- [19]. Zeng, G. H. (2010). Introduction to Marketing Management, Exploring Principles and Experience Practice. Taiwan: Future Culture Co., Ltd.

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