



THE IMPACT OF EMPLOYEE LOYALTY AND ORGANIZATIONAL CITIZENSHIP BEHAVIOR ON ORGANIZATIONAL PERFORMANCE: A CASE OF TAIWAN-LISTED FAMILY BUSINESS

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ABSTRACT

The purpose of this study is to certify, using organizational commitment as the Dual Mediator, the effects of employee loyalty and organizational citizenship behavior on the organizational performance of Taiwan-listed family businesses. Research subjects and the primary interviewees are the section chiefs and managers of Taiwan-listed family businesses. The sampling method adopted in this study is the Simple Random Sampling method; while Structural Equation Modeling (SEM) is used to certify the overall research model and the fitting effect of its Structural Model and Measurement Model, followed by the use of Sobel Test, Bootstrapping, and Mackinnon PRODCLIN2 methods to certify the Dual Mediating effects. The research findings show that, to the Taiwan-listed family businesses: (1) employee loyalty has a significant positive effect on organizational commitment; (2) employee loyalty also has a direct positive, but not significant, effect on organizational performance; (3) organizational commitment has a significant effect on organizational performance; (4) organizational citizenship behavior has a significant positive effect on organizational commitment; and (5) organizational citizenship behavior has a significant effect on organizational performance. The above results show that "organizational commitment" has a "dual" mediating effect, which also implies that organizational commitment plays an important role in improving organizational performance. But, improving organizational performance does not solely rely on the accumulation of organizational commitment; a number of other channels may also contribute to it. Additionally, the results of this study may serve as a reference to help the management staff of Taiwan-listed family businesses with their strategic thinking when considering improving employee loyalty, organizational citizenship behavior, and organizational commitment, and hopefully improving their organizational performance as a result.

Keywords: Employee Loyalty, Organizational Citizenship Behavior, Organizational Commitment, Organizational Performance

BACKGROUNDS AND PURPOSES OF THIS STUDY

Whether in developed or developing countries, family businesses are without doubt the most important and most common type of business organizations in the era of economic globalization. The same phenomenon also exists in Taiwan and family businesses have been one of the major forces dominating the Taiwanese economic system [1].

In other words, management of family businesses is a unique type of corporate governance [2]. In Taiwan, it is a rather typical business management pattern among large corporations and small and medium enterprises.

However, the family business is a family-centric business management organization type. It can be discovered from the past family business studies that frequent issues in family businesses were employee equity issues, which will further worsen the effects of both organizational trust and commitment in case



these issues couldn't be effectively solved, or slightly, reducing the employee job satisfaction and job performance [3]. In addition, family-oriented culture as one of the essential characteristics for family businesses, similar to those important management activities of strategic human resource policies and organizational learning, all make crucial effects on family business organizational citizenship behavior [4].

Furthermore, large family businesses, particularly the listed ones, must cultivate the solidarity and even the loyalty between their internal employees to establish employee organizational citizenship behavior if the businesses would like to grasp advantages within such a rapidly changing environment; or through the employee trust on organizational perceptual commitment, have employees make positive commitment toward the organization for enhancing the organizational performance and further increasing business values that can achieve an ever growing business to strength potential sustainable development of business [3], which has been one of current key issues worth researching. Hence, this study attempts to verify the effects of employee loyalty and organizational citizenship behavior on organizational performance in Taiwan-listed family businesses, using organizational commitment as a dual mediator. Therefore, the concrete purpose of this study concludes these points as follows:

- (1) To certify whether employee loyalty has positive and significant influence on organizational commitment in Taiwan-listed family businesses;
- (2) To certify whether employee loyalty has significant influence on organizational performance in Taiwan-listed family businesses;
- (3) To certify whether organizational commitment has positive and significant influence on organizational performance in Taiwan-listed family businesses;
- (4) To certify whether organizational citizenship behavior has positive and significant influence on organizational commitment in Taiwan-listed family businesses;
- (5) To certify whether organizational citizenship behavior has significant influence on organizational performance in Taiwan-listed family businesses.

LITERATURE REVIEW

The main dimensions of this study include employee job satisfaction, employee loyalty, organizational commitment and organizational performance. Below is a review of relevant literature.

Relevant Literature Concerning Employee Loyalty

The Definition of Employee Loyalty

The foremost source of employee loyalty to an organization comes from their emotional attachment to the organization. Numerous studies show that organizations with strong emotional attachment from employees have much lower turnover rates and absenteeism rates, and their employees have a stronger motivation to work. There are three key principles to heighten employees' emotional attachment to the organization, specifically: (1) to allow all employees to have a sense of mission; (2) to give all employees who stay with the organization a sense of security; and (3) to allow all employees to have a sense of fairness [5].

The conceptual definition of employee loyalty in this study refers to that "employees feel good and satisfied with the working environment and the work itself, thereby heightening their allegiance to the organization, and bringing forth their positive commitment towards the organization." This definition is derived from the following research literature.

Chang [6] pointed out that organization should improve the communications and the capacity for cooperation between domestic employees and foreign laborers, thus enhancing job satisfaction, employee loyalty, and organizational commitment. If the capacity for "cooperation" between domestic employees and foreign laborers is improved, then employee loyalty can be further improved; when cross-country team work cooperation is enhanced, then organizational commitment can be further improved.

Wu; Yang; and Chen [7] suggested that customer satisfaction will positively affect customer loyalty.



Dai [8] defined employee loyalty as "employees' identification with organization's culture and values" (Business Weekly).

The Measurement Dimension of Employee Loyalty

The measurement dimension of employee loyalty in this study is divided into (1) employee satisfaction, and (2) employee commitment to the organization. The operational definition of these two sub-dimensions is described as follows:

(1) Employee satisfaction: refers to employee sense of satisfaction towards their work environment and the work itself, which includes (A) internal satisfaction, and (B) external satisfaction [9] .

(2) Employee commitment to the organization: refers to employee psychological sensibility towards the organization, and how employee past emotional attachment affects their acceptance with the target given by the organization and their level of effort. When the levels of participation and identification of employees are high, the levels of commitment to the organization are also high.

Relevant Literature Concerning Organizational Citizenship Behavior

The Definition of Organizational Citizenship Behavior

The "conceptual definition" of organizational citizenship behavior in this study is drawn from the research of Robbins [10] that "it is the discretionary behavior that members of an organization have towards the organization and the resulting allegiance to the organization, that impact organizational performance." Additionally, this study referenced theoretical models of various experts and scholars, and adopted the taxonomy of Hsieh; Lang; and Chen [11] for "organizational citizenship behavior" for this study. As a result, four sub-dimensional categories: (1) identification with the organization; (2) colleague assistance; (3) absence of the selfish pursuit of profits; and (4) dedication to work are formed as the "variables for teachers' organizational citizenship behavior" of this study; while their definition for classified dimensions is adopted for "operational definition" of this study. Above-

mentioned literature is summarized in the following description.

Seeking excellence and improved quality has always been an organization's ultimate objective. Organizational citizenship behavior is an organization member's behavior that exceeds his/her role officially laid down in the organizational rules, which is almost always a spontaneous personal expression that suggests something positive for the long-term organizational performance [12] . Likewise, Organ [13] said organizational citizenship behavior contributes to the organizational effectiveness. Apparently, whether or not an organization achieves its goals is closely related to organizational citizenship behavior. Non-Taiwanese researchers focused on organizational citizenship behavior studies such as Podsakoff and Mackenzie [14] , and Podsakoff, Ahearne and Mackenzie [15] surveyed U.S. insurers and paper mills and found most of the organizational citizenship behavior constructs positively affected a group's performance. Organizational citizenship behavior studies in Taiwan were conducted by Wang [16] and Guo [17] , both of whom found a positive correlation between organizational citizenship behavior and organizational effectiveness.

While Organ [13] mentioned the close connection between organizational culture and organizational citizenship behavior, Taiwanese studies in this regard are mostly focused on state- or private-run businesses or business units, and few of them address issues in the education circles or academic disciplines, which makes this study's topic worth further exploration.

A member's behavior in the organization is considered a type of organizational behavior, a notion stemming from the Hawthorne studies concluding that the motives behind working and social interaction are major determinants of a person's work performance in an organization [18] .

The concept of organizational citizenship behavior can be traced back to a study conducted by Katz [19] that involved an organization member's behavior exceeding his/her presumed role. Based on the Role Theory, organizational citizenship behavior explains how an organization member shapes his/her role and behavior as expected by the organization [20] .



Robbins [10] defined organizational citizenship behavior as “an employee’s spontaneous, unconditional behavior that is excluded from the official job description and contributes to organizational effectiveness.”

Hsieh et al [11] divided organizational citizenship behavior into four sub-dimensions: (1) Identification with the organization; (2) colleague assistance; (3) absence of selfish pursuit of profits; and (4) dedication to work.

Relevant Literature Concerning Organizational Performance

Concerning the measurements for "organizational performance", this study referenced the financial dimensions that are used in measuring organizational performance proposed by Huang [21], Ling and Hung [22], and adopted "EPS" and "ROE" as the dimensional indicators for measuring organizational performance. Above-mentioned literature is summarized in the following description.

Szilagyi and Wallar [23] indicated that performance is a tool for evaluating the efficiency or efficacy of an organization's resource utilization, and that performance can reflect the adopted behavior of an individual for reaching organizational goals that can lead to the future resource allocation in the organization [24]. Venkatraman and Ramanujam [25] deemed that the measurement of the organizational performance can be categorized to these dimensions: Financial performance, business performance and organizational effectiveness.

According to Ramaswamy, Kroeck and Renforth [26], there are multiple standards for performance evaluations enabled by financial indicators. That is, single constructs such as Return on Assets (ROA), Return on Sales (ROS), ROE and sales growth could be adopted as performance measures, depending on the target and scope of research.

Zheng; Wang; and Zeng [27] pointed out that the original meaning of Performance refers to the level of achievement, the concept of which consists two aspects: Efficiency and effectiveness. Efficiency is measured by the output and input ratio; while effectiveness, as indicated by Hsieh [28], is the achievement level of an organizational goal. In the

context of organizational operation, it is the pursuit of an overall performance goal consisting of efficiency and effectiveness. As explained by the Incentive Theory of the science of management, it is "an employee completes a task". Whereas, from the perspective of organizational behavior, performance is measured as the overall performance of three aspects: efficiency, effectiveness, and efficacy.

There is extensive literature elaborating on the measurement dimensions of organizational performance but the ultimate benefits are eventually reflected on financials. Therefore, most scholars refer to financials as one of the indicators. In addition, Ling and Hung [22] suggest that organizational performance is the result accomplished by relevant divisions and departments before deadlines to achieve stage or overall goals of an organization.

Huang [21] uses financial growth and profitability indicator for the evaluation of organizational performance. Such indicators include above-industry EPS, ROE or ROA [22].

Relevant Literature Concerning Organizational Commitment

The definition and sub-constructs of organizational commitment are described in the following:

The Definition of Organizational Commitment

The conceptual definition concerning organizational commitment in this study is: a "teachers' behavioral tendency for not wanting to leave school because of salary, job position, freedom of professional creativity, and friendship with colleagues." Above-mentioned literature is summarized in the following description.

Because the subject of commitment varies, postulation of each theory is also different. A few definitions adopted by some scholars are hereby described in the following:

Sheldon [29] argued that organizational commitment is the attitude or inclination that links an individual to the organization.

Hrebiniak and Alutto [30] believed that organizational commitment is a behavioral tendency



of organization members for not wanting to leave the organization because of salary benefit, job position, freedom of professional creativity, and friendship with colleagues.

Chen [31] believed that organizational commitment includes (1) an individual's strong believe and acceptance of the organization's goals and values; (2) an individual's willingness to give more effort; and (3) an individual's wish to be a continuous part of the organization.

Liang [32] proposed that organizational commitment refers to an individual that has a strong identification with the goals and values of the organization, cares about the organization, and is willing to make an effort for the organization and to continue to be part of the organization.

The sub-constructs of Organizational Commitment

The sub-constructs of organizational commitment of this study are adopted from the three dimensions proposed by Zhang [33] that includes: (1) Organizational identification; (2) willingness for efforts; and (3) job-staying tendency. Relevant literature referenced concerning these dimensions is summarized in the following description.

Organizational commitment refers to where members of the organization identify with the organization's goals and philosophy, and are willing to make efforts for and have a desire to continuously stay with the organization. It is divided into three sub-dimensions as follows: (1) organizational identification: identify with the goals and values of the school where currently employed; (2) willingness for efforts: willing to make more effort in actions, and to fully cooperate with school measures; and (3) job-staying tendency: wish to remain at the school where currently employed [33]. Furthermore, Huang [61] also believed that organizational commitment with respect to teachers includes: (1) Positive evaluation of the school; (2) willingness to make an effort for the school and to continue receiving training; (3) solidarity with the school; and (4) willingness to continue working for the school.

Relevant Literature Concerning Employee Loyalty and Organizational Commitment

Chang [6] pointed out that, organizations should improve the communications and the capacity for cooperation between domestic employees and foreign laborers, thus enhancing job satisfaction, employee loyalty, and organizational commitment. If the capacity for "cooperation" between domestic employees and foreign laborers is improved, then employee loyalty can be further improved; when cross-country teamwork cooperation is enhanced, then organizational commitment can be further improved.

Wu et al [7] suggested that customer satisfaction will positively affect customer loyalty.

Summarizing the above; although the subjects of discussion belong to various industries and/or scales, there are sufficient similarities that allow this study to derive the following hypotheses:

H1: Employee loyalty of Taiwan-listed family businesses has a significant positive effect on organizational commitment.

Relevant Literature Concerning Employee Loyalty and Organizational Performance

In addition to the research perspective proposed by Chang [6], the research of Chao [34] also pointed out that organizational communications can enhance employee understanding of organizational reform, promote employee commitment to the organization, thereby improving work performance. While Mowday, Porter, and Steers [35] also suggested that an organizational structure may affect job performance because of organizational commitment.

Summarizing aforementioned literature, the following hypotheses are deduced in this study:

H2: Employee loyalty of Taiwan-listed family businesses has a significant positive and significant effect on organizational performance.

Relevant Literature Concerning Organizational Commitment and Organizational Performance



Steers [36] is the first scholar that develops a model on the effects of organizational commitment on work performances. Mowday et al [35] believed that organizational structures can influence work performances via organizational commitment. Finally, Mathieu and Zajac [37] came up with a complete model that describes the mediating effects of organizational characteristics and job satisfaction on work performances with organizational commitment as a mediator. In fact, organizational structures are one of the organizational characteristics.

Fun [38] indicated that attitudinal and exchangeable organizational commitment from teachers contributes to solid organizational performance of schools.

Chou [39] also pointed out a positive and significant relationship among organizational commitment, organizational learning and organizational performance.

In addition, Chao [34] suggested that employees can enhance the awareness of organizational changes via organizational commitment. This strengthens employee commitment toward their organization and hence boosts their work performances.

On the basis of the above literature review, this study develops the following hypothesis:

H3: Organizational commitment has positive and significant influence on organizational performance in Taiwan-listed family businesses.

On the basis of the above literature review, this study develops the following hypothesis:

H3: Organizational commitment has positive and significant influence on organizational performance in Taiwan-listed family businesses.

Relevant Literature Concerning Organizational Citizenship Behavior and Organizational Commitment

Numerous researches have proven that there is a high level of correlation between organizational commitment and organizational citizenship behavior.

To some degree, OC refers to attitude whereas OCB refers to behavior. There is substantial evidence supporting the notion that certain individual-level variables (e.g., job satisfaction and OC) correlate with individuals' OCB [40] [41]. Most empirical results indicate that OC is the determinant factor of OCB [42]. On the other hand, cognitive variables in previous literature such as job satisfaction, OC, perception of appropriateness and disinterest in reward, are positively related to OCB [43]. On the basis of a sample from the public and private sectors, Kuehn & Al-Busaidi [44] found that an employee with higher job satisfaction and normative commitment would have better OCB. Investigating the effects of profit sharing on OCB, Chiu & Tsai [45] supported the mediating role of OC between profit sharing and OCB; Besides, Lo [46] also proposed that organizational commitment affects organizational citizenship behavior due to the mediating variable of knowledge sharing.

Whilst the abovementioned literature examines different industries, scales or scopes, there is a degree of consensus. Therefore, this study develops the following hypothesis:

H4: Organizational citizenship behavior has positive and significant influence on organizational commitment in Taiwan-listed family businesses.

Relevant Literature Concerning Organizational Citizenship Behavior and Organizational Performance

The relevance between organizational citizenship behavior and organizational performance can be known from the following literature.

Wu and Huang [47] deemed there is the relevance between organizational citizenship behavior and organizational performance;

Chang [48] also pointed out organizational citizenship behavior will influence the organizational performance;

Besides, Huang [21] believed service-oriented organizational citizenship behavior has a partial



mediation effect on high-performance human resource management, productivity and turnover rate;

Hsieh [49] also indicated the service-oriented organizational citizenship behavior has a partial mediation effect on high-performance human resource management and the productivity of organizational performance;

Li [50] believed service-oriented organizational citizenship behavior has a partial mediation effect on high-performance human resource management and turnover rate;

Hsiao [51] agreed organizational citizenship behavior has a positive and significant effect on the organizational performance.

Research Structure

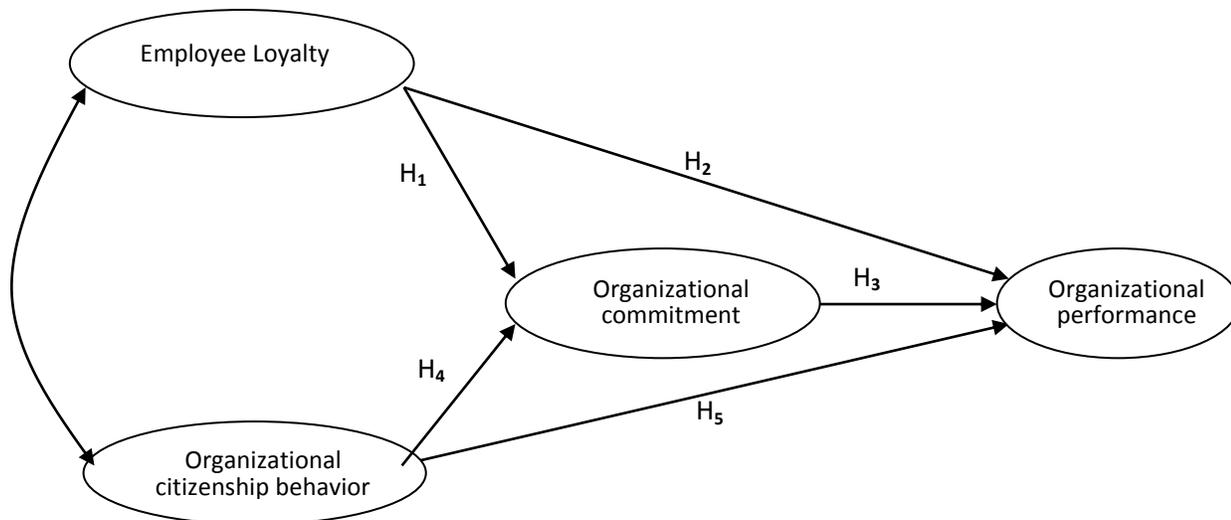


Figure 1 Research Structure

Whilst the abovementioned literature examines different industries, scales or scopes, there is a degree of consensus. Therefore, this study develops the following hypothesis:

H5: Organizational citizenship behavior has positive and significant influence on organizational performance in Taiwan-listed family businesses.

RESEARCH METHODS

Based on the above research purposes, hypotheses and literature review, this study comes up with the following research structure (Figure 1):

Questionnaire Design and CMV Test

Questionnaire design

This study uses simple random sampling for the questionnaire survey. To enhance the content validity and reliability of the questionnaire, this study conducts an expert questionnaire based on the initial questionnaire design for a pilot test. Inappropriate questions are either modified or deleted before the

post test. The questionnaires are issued to the section chiefs and managers working in Taiwan-listed family businesses. A total of 600 questionnaires are posted, and 210 effective questionnaires, or at 35% effective recovery rate, are collected after the elimination of incomplete and invalid questionnaires. All the measurable sub-constructs in the questionnaire are evaluated separately in individual section. The measurement is based on Likert’s scale of 1~7, with 7 indicating “extreme agreement” and 1 indicating



“extreme disagreement”. The stronger the level of agreement, the higher the score is [52] .

The questionnaire concerning "employee loyalty", which consists of a total of 6 questionnaires, was designed by this research with reference to the study of Wu [7] , where the measurement dimensions of employee loyalty includes the dimensional scales: (1) Employee satisfaction; and (2) employee commitment to the organization.

The questionnaire design concerning "organizational citizenship behavior" in this study referenced the taxonomy proposed by Hsieh et al [11] , which includes 4 sub-dimensional scales: (1) Identification with the organization; (2) colleague assistance; (3) absence of the selfish pursuit of profits; and (4) dedication to work. A total of 12 questions are designed in this study for this questionnaire.

The design of the questionnaire section on organizational commitment is referenced to the classification by Allen & Meyer [53] . A total of 9 questions are developed to cover the three sub-constructs, i.e. affective commitment, continued commitment and normative commitment.

The measurement of organizational performance is a reference to the financial dimension elaborated by Table 1 Questionnaire structure

Huang [21] and Ling and Hung [22] . The dimension indicators for organizational performance are EPS and ROE. This study designs and modifies the questionnaire section, which consists of four questions.

SEM and Measurement System

To validate the research structure, this study adopts Structure Equation Modeling (SEM) for Confirmatory Factor Analysis (CFA). The questionnaire measures four latent variables, i.e. employee loyalty, organizational citizenship behavior, organizational commitment and organizational performance. Each latent variable can be divided into secondary variables, for which multiple questions are developed. The collated survey data is processed and the data file for the questionnaire responses is established. Whilst the questionnaire is designed into individual sections for the measurement system of the research model, this study performs dual measurements in order to facilitate software processing [54] . Table 1 summarizes the number of questions and reference sources of individual implicit variables and explicit variables [55] .

Implicit construct	Explicit dimension	No. of questions	References
Employee loyalty	Employee satisfaction	3	Wu et al [7]
	Employee commitment to the organization	3	
Organizational citizenship behavior	Identification with the organization	3	Hsieh et al [11]
	Colleague assistance	3	
	Absence of selfish pursuit of profits	3	
	Dedication to work)	3	
Organizational commitments	Affective	3	Allen et al [53]
	Continued	3	
	Normative	3	
Organizational performance	EPS	2	Huang [21] ;Ling and Hung [22]
	ROE	2	

Source: This study



Linear Structural Model

Confirmatory Factor Analysis (CFA) is a type of analysis in contrast with Exploratory Factor Analysis (EFA). This study conducts pairwise CFA on the four dimensions, i.e. employee loyalty, organizational citizenship behavior, organizational commitment and organizational performance. Structural equation

modeling (SEM) consists of structural modeling and measurement modeling. It can effectively solve the causal relationship between explicit variables. Hence, this study sets out to examine three elements of the model: (1) the compliance of the fit measurement for the overall model with the requirement; (2) the fit of the measurement model and (3) the fit of the structural model [55] .

RESEARCH ANALYSIS & FINDINGS

CMV Test

The questionnaire in this study didn't have the CMV problems after applying the CFA certify comparison method, and the results have been shown as Table 2.

Table 2: CMV Test Results

Model	χ^2	DF	$\Delta\chi^2$	ΔDF	P
Single-Factor	1326.2	97	884.8	99	0.000
Multiple-Factor	441.4	196			

Source: This study

Overall Fit Certification

After the literature review and the factor analysis on sampled data, this study constructs the overall model and, as suggested by Hair, Anderson, Tatham, , and

Black [56] , classifies the measurement of the overall model fit into three categories, i.e. measures of absolute fit, increment fit and parsimonious fit. Table 3 shows the results of the overall fit tests [57] .

Table 3 Test Results Regarding Fit of the Overall Model

Fit measures		Criteria	Research results
Absolute fit	GFI	>0.9	0.913
	AGFI	>0.8	0.882
	RMR	<0.05	0.013
Increment fit	NFI	>0.9	0.921
	CFI	>0.9	0.913
Parsimonious fit	PNFI	>0.5	0.613
	PGFI	>0.5	0.611

Source: This study

Measurement System within Model

The factor loading of latent (implicit) variables (i.e. main constructs) and manifest (explicit) variables (i.e. sub-constructs) measures the strength of linear correlation between individual latent variables and manifest variables. The closer the factor loading is to 1, the better the measurement variable (or sub-

construct variable) can evaluate the main construct. All the factor loading values of individual dimensions in this study are greater than 0.7, indicating strong reliability. Therefore, all the sub-dimensions (manifest variables) in the measurement system can appropriately evaluate the main constructs (latent variables). Meanwhile, Average Variance Extracted



(AVE) expresses the explanatory power of latent variables on measured items. The higher the AVE, the better reliability and convergent validity the latent variables are. Usually, the AVE value must be greater than 0.5, indicating the explained variance of the construct concerned is greater than measurement

error [58]. All the factor loading values in this study are higher than 0.7, Composite Reliability (C.R.) and Cronbach's α also greater than 0.7. All the AVE values exceed 0.5, suggesting the latent/implicit variables carry high reliability and convergent validity (Table 3, Table 4 and Figure 2).

Table 4 Criteria for Measurement System in Model

Main dimension	Sub-dimension (or measurement)	Factor loading	Composite Reliability, C. R.	Cronbach's α	Average Variance Extracted
Employee Loyalty (EL)	Employee satisfaction	.822	.833	.831	.673
	Employee commitment to the organization	.841			
Organizational Citizenship Behavior (OCB)	Identification with the organization	.831	.831	.824	.671
	Colleague assistance)	.833			
	Absence of selfish pursuit of profits	.832			
	Dedication to work)	.834			
Organizational commitments (OC)	Affective	.854	.844	.834	.674
	Continued	.842			
	Normative	.844			
Organizational performance (OP)	EPS	.863	.871	.863	.671
	ROE	.872			

Source: This study and Fornell et al [58]

In addition, this study refers to AVE to determine discriminant validity of individual dimensions. Fornell et al [58] believed that the AVE of each dimension should be greater than the squared value of the coefficient of the dimension in question in order to validate the discriminant validity between

the dimensions. Table 5 indicates the presence of discriminant validity between the dimensions such as employee satisfaction, leadership styles, organizational commitment and organizational performance



Table 5 Estimates of confidence interval for discriminant validity

Parameter	Estimate	$\Psi \pm 2\sigma$		Bias-corrected		Percentile method	
		Lower	Upper	Lower	Upper	Lower	Upper
EL \leftrightarrow OC	.573	.291	.855	.302	.857	.303	.852
EL \leftrightarrow OP	.162	.131	.194	.134	.202	.193	.211
OC \leftrightarrow OP	.473	.393	.553	.401	.582	.409	.591
OCB \leftrightarrow OC	.531	.407	.655	.411	.662	.413	.663
OCB \leftrightarrow OP	.442	.364	.520	.372	.532	.373	.534

Source: This study

Coefficient of Determination

Coefficient of determination, also known as Squared Multiple Correlation (SMC), represents the

explanatory power of independent variables to dependent variables. Table 6 shows that the independent variables in this study exhibit medium levels of explanatory power on dependent variables.

Table 6 Path Coefficient of Determination

Coefficients of Determination	R ²
Employee Loyalty (EL) → Organizational Commitment (OC)	.441
Employee Loyalty (EL) → Organizational Performance (OP)	.133
Organizational Commitment (OC) → Organizational Performance (OP)	.281
Organizational Citizenship Behavior (OCB) → Organizational Commitment (OC)	.451
Organizational Citizenship Behavior (OCB) → Organizational Performance (OP)	.283

Source: This study

Path Coefficients of Latent variables

After the validation of the model with internal fit tests, this study summarizes the standardized

coefficients and C.R. values of individual latent (implicit) variables in Table 7 and Table 8 according the path analysis results. Figure 2 illustrates the path analysis.

Table 7 Results of path analysis on structural model (un-standardized)

	Estimate	S.E.	C.R.	P
Employee Loyalty (EL) → Organizational Commitment (OC)	.573	.129	4.442	***
Employee Loyalty (EL) → Organizational Performance (OP)	.162	.102	1.588	
Organizational Commitment (OC) → Organizational Performance (OP)	.473	.112	4.223	***
Organizational Citizenship Behavior (OCB) → Organizational Commitment (OC)	.531	.123	4.317	***
Organizational Citizenship Behavior (OCB) → Organizational Performance (OP)	.442	.121	3.653	***

Remarks: *denotes P<0.05; **denotes P<0.01; ***denotes P<0.001.

Source: This study



Table 8 Standardized Regression Weights: (Group number 1–Default model)

		Estimate	
Employee Loyalty (EL)	→	Organizational Commitment (OC)	.573
Employee Loyalty (EL)	→	Organizational Performance (OP)	.162
Organizational Commitment (OC)	→	Organizational Performance (OP)	.473
Organizational Citizenship Behavior (OCB)	→	Organizational Commitment (OC)	.531
Organizational Citizenship Behavior (OCB)	→	Organizational Performance (OP)	.442

Remark: *denotes P<0.05; ** denotes P<0.01; ***denotes P<0.001.

Source: This study

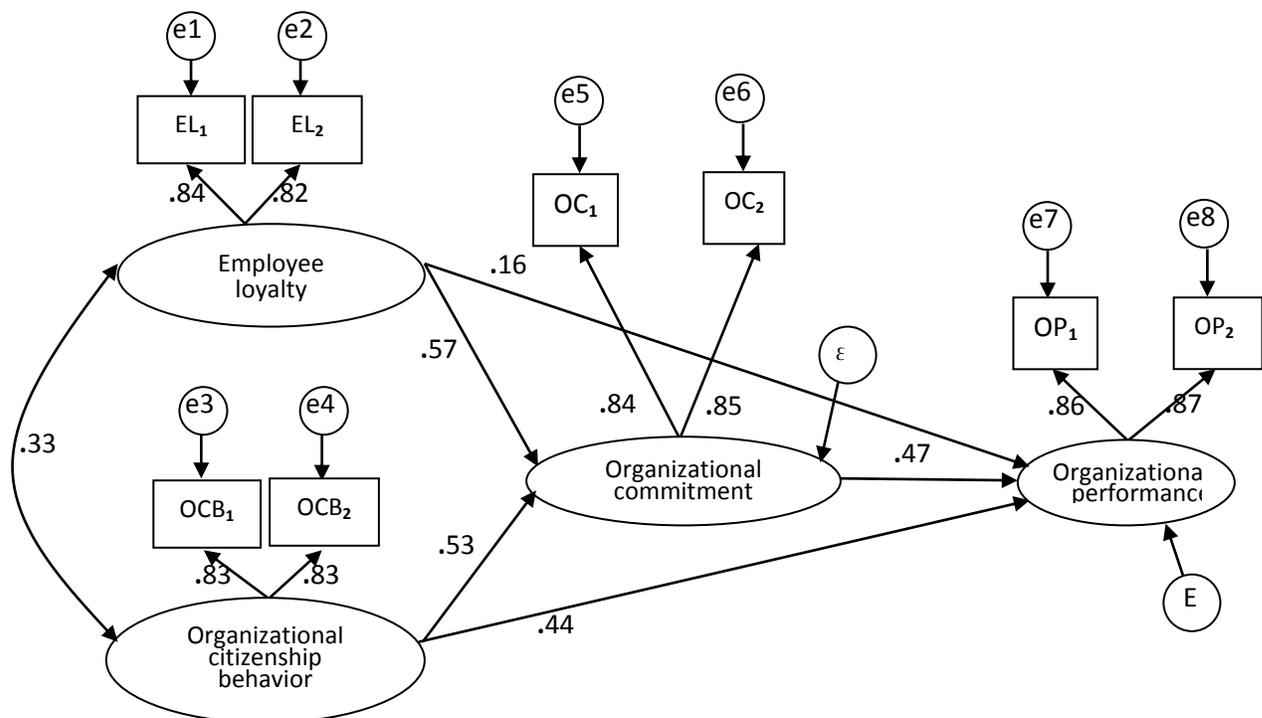


Figure 2 Standardized SEM analysis results

Path Effect Analysis & Tests on Structural Model

This study performs Sobel tests, Bootstrapping and Mackinnon PRODCLIN2 on the path coefficients of latent variables (or non-observable variables) as the

path effect analysis on the path effects in the structural model. The organizational commitment (OC) serves as a dual mediator. Test results are shown in Tables 9 and 10 [59] [60] .



Table 9 Intervening variables (un-standardized)

Variable	Point of Estimates	Product of Coefficients		Bootstrapping				MacKinnon PRODCLIN2 95%CI	
				Bias-Corrected 95% CI		Percentile 95% C			
	(Est.)	SE	Z	Lower	Upper	Lower	Upper	Lower	Upper
EL→OC	.573	.129	4.442	Total Effects					
				.731	.911	.521	.822		
OC→OP	.473	.112	4.039	Indirect Effects				.361	.481
				.412	.511	.302	.411		
EL→OP	.162	.102	1.588	Direct Effects					
				.322	.401	.221	.412		

Source: This study

Table 10 Intervening variables (un-standardized)

Variable	Point of Estimates	Product of Coefficients		Bootstrapping				MacKinnon PRODCLIN2 95%CI	
				Bias-Corrected 95% CI		Percentile 95% C			
	(Est.)	SE	Z	Lower	Upper	Lower	Upper	Lower	Upper
OCB→OC	.531	.123	4.317	Total Effects					
				.731	.931	.601	.801		
OC→OP	.473	.112	4.039	Indirect Effects				.361	.482
				.412	.511	.302	.411		
OCB→OP	.442	.121	3.653	Direct Effects					
				.321	.421	.302	.392		

Source: This study

Based on Figure 2, this study derives the following conclusions:

(1) Employee loyalty has positive and significant influence on organizational commitment for employees of Taiwan-listed family businesses. Standardized coefficient is estimated to be 0.57. Therefore, H1 is substantiated.

(2) Employee loyalty has positive, but not significant, influence on organizational performance for employees of Taiwan-listed family businesses. Standardized coefficient is estimated to be 0.16. Therefore, H2 is substantiated.

(3) Organizational commitment has positive and significant influence on organizational performance

in Taiwan-listed family businesses. Standardized coefficient is estimated to be 0.47. Therefore, H3 is substantiated.

(4) Organizational citizenship behavior has positive and significant influence on organizational commitment in Taiwan-listed family businesses. Standardized coefficient is estimated to be 0.53. Therefore, H4 is substantiated.

(5) Organizational citizenship behavior has significant influence on organizational performance in Taiwan-listed family businesses. Standardized coefficient is estimated to be 0.44. Therefore, H5 is substantiated.



These above results suggest that organizational commitment serves partly as a dual mediator. This also implies that organizational commitment plays a pivotal role in the promotion of organizational performance. However, the improvement of organizational performance takes more than just organizational commitment. It is necessary to push for performance improvements via other means.

CONCLUSIONS AND SUGGESTIONS

This section reaches conclusions on the basis of the above analysis and findings, and elaborates on the contribution of this study. Finally, the research limitations are summarized and the suggestions to follow-up studies are made.

Conclusions

In sum, this study interviews the section chiefs and managers working in Taiwan-listed family businesses in order to develop an SEM model to validate the research hypotheses. The following is the research conclusions:

(1) Effects of employee loyalty on organizational commitment in Taiwan-listed family businesses

The research findings support H1 that employee loyalty has positive and significant effects on organizational commitment in Taiwan-listed family businesses. This is in line with Wu et al [7] .

(2) Effects of employee loyalty on organizational performance in Taiwan-listed family businesses

The research findings support H2 that employee loyalty has positive but not significant effects on organizational performance in Taiwan-listed family businesses. This is consistent with Chao [34] and Mowday et al [35] .

(3) Effects of organizational commitment on organizational performance in Taiwan-listed family businesses

The research findings support H3 that organizational commitment has positive and significant effects on organizational performance in Taiwan-listed family businesses. This is in agreement with Steers [36] , Mowday et al [35] , Mathieu et al [37] , Chou [39] and Chao [34] .

(4) Effects of organizational citizenship behavior on organizational commitment in Taiwan-listed family businesses

The research findings support H4 that organizational citizenship behavior has positive and significant effects on organizational commitment in Taiwan-listed family businesses. This is in line with Lo [46] .

(5) Effects of organizational citizenship behavior on organizational performance in Taiwan-listed family businesses

The research findings support H5 that organizational citizenship behavior has positive and significant effects on organizational performance in Taiwan-listed family businesses. This is consistent with Wu et al [47] , Chang [48] , Huang [21] , Hsieh [49] , Li [50] and Hsiao [51] .

Research Contributions

(1) This study constructs a model with two causes, one effect and one mediator. The model is based on relevant studies and validated for the goodness-of-fit effects. Hence, it adopts a CFA (Confirmatory Factor Analysis) approach on an important real-life issue with an innovative approach. It is suggested that follow-up studies continue to explore relevant topics and further examinations.

(2) This study completes a series of tests on the reliability and the validity on the model dimensions for the questionnaire and conducts CMV analysis and tests. The statistical approach and the research methodology are pragmatic and creative.

(3) The results of this study may serve as a reference to help the management staff of Taiwan-listed family businesses with their strategic thinking when considering improving employee loyalty, organizational citizenship behavior, and organizational commitment, while hopefully improving their organizational performance as a result of these improvements.



Research Limitations

This study suffers from limited resources, although it seeks to complete all the stages of research tasks in a manner as robust as possible. Below is a list of research limitations:

(1) There are limited studies in Taiwan and overseas on the research dimensions developed in this study and very few papers address the pairwise dimensions as in this study. This is why the supporting data seems inadequate for hypothesis development.

(2) This study uses simple random sampling and issues the questionnaires via post. As a result, the effective recovery rate is low and the sample may not be representative of the population.

(3) Due to research resource limitations, this study only samples the Taiwan-listed family businesses. The research scope does not cover all the small-and-medium size family businesses in Taiwan.

Suggestions to Follow-up Studies

This study only interviews the section chiefs and managers working in the Taiwan-listed family businesses. To broaden the scope of data or seek innovative approaches, follow-up studies may examine the players of different sizes in the same industry such as the small-and-medium sized family businesses or investigate other industries for comparisons and analyses.

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