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Family governance oversight, performance, and high performance work systems☆

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ABSTRACT

Recent analyses of U.S. public family firms (PFFs) show that family firms outperform other forms of organization. However, scholars call for more studies to determine why PFFs outperform the market. High performance work systems (HPWSs) reflect the extent to which an organization adopts and implements a strategic approach in HRM practices and could be why PFFs outperform. Using the stewardship perspective, agency theory, and the resource-based view of the firm, this study empirically examines the relationship among family governance oversight, HPWS, and performance at PFFs. Using a sample of 159 Taiwanese public firms, the empirical results indicate that independent directors on the board and the level of family member board participation associate with HPWS adoption. Adopting HPWS also mediates the effect of independent directors and subjective firm performance. This finding has both theoretical and practical implications.

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1. Introduction

Many recent studies of U.S. public family firms (PFFs) show that family firms outperform other organizations (Anderson & Reeb, 2003, 2004; Lee, 2006; McConaughy, Walker, Henderson, & Mishra, 1998). However, previous findings were controversial and scholars continue to call for more research to determine why PFFs outperform the market (Sharma, 2004; Tsao, Chen, Lin, & Hyde, 2009). Family governance oversight often refers to the level and mode of family ownership and control, which can influence owners' incentives and monitoring costs, strategic behavior, and company performance outcomes (Miller & Le Breton-Miller, 2006). Family firms may have concentrations of ownership and management control, management styles, and organizational culture different from that in other organizational forms. Thus, researchers lack complete understandings of why companies with strong family traditions outperform the market, and what mechanisms they use to develop, communicate, and reinforce a vision and organizational culture, and most importantly, their practices providing the firm with competitive advantages (Tsao et al., 2009).

Astrachan and Kolenko (1994) examine the effects of human resource management (HRM) and professional governance practices on family business success and survival, and argue that HRM is a neglected factor explaining family business success. Later, Sharma (2004) observes that issues involving human resources (HR) strategies receive almost no research attention, though understanding family firms' HR strategies may illustrate the mechanisms family firms use to reinforce their vision. In fact, family firms provide few leadership opportunities for non-family executives relative to non-family firms, and the methods family firms use to motivate and retain their talent to gain competitive advantage through effective HRM practices may be the critical factor in their success. This study argues that high performance work systems (HPWSs) as a strategic HR method are an important factor influencing family governance oversight and organizational performance since family governance oversight can further influence owners' incentives and monitoring costs, strategic behavior, and company performance outcomes. Thus, a family firm may use an HPWS as a critical means to motivate and retain valuable employees, which in turn leads to their superior performance.

Strategic HR systems have an important role in business outcomes (Huselid, 1995; Huselid & Becker, 1996; Lu, Chen, Huang, & Chien, 2015), though scant empirical studies directly investigate the role of HPWSs in family governance oversight and firm performance (Tsao et al., 2009). Therefore, this study examines whether adoption of HPWSs mediates the relationship between family governance oversight and firm performance by testing an intervening model that posits no direct link between family governance oversight and firm performance and predicts that family governance oversight will affect firm performance through HPWS.

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2. Literature review and hypotheses

2.1. Family governance oversight and firm performance in PFFs

Family governance dimensions often refer to the level and mode of family ownership, leadership, the broader involvement of multiple family members, and the planned or actual participation of later generations (Miller & Le Breton-Miller, 2006). This study focuses on the effects of diverse governance oversight as the level and the mode of family ownership and control on firm performance.

Family business research most often uses the agency and stewardship theories to explain and explore associations between ownership, management profiles, and family firm performance (Davis, Allen, & Hayes, 2010). Studies applying agency theory and stewardship theory to management focus mainly on the performance advantages from the alignment between ownership and control, since family-managed firms naturally align the owners' and managers' interests in terms of opportunities and risk. This alignment reduces their incentives for opportunism, sparing firms the need to maintain "costly mechanisms for separating the management and control of decisions" (Fama & Jensen, 1983; Jensen & Meckling, 1976) and increases attitudes of stewardship so managers and owners are driven by more than economic self-interest, thereby extending investment time horizons and building firm capabilities (Lumpkin & Brigham, 2011; Miller & Le Breton-Miller, 2006).

While family firms may have somewhat fewer agency costs from uniting ownership and management, the central tenets of agency theory in the family firm context are questionable because they introduce the "self-control" problem that creates incentives for owners to take actions that may threaten privately held family-managed firm performance (Miller & Le Breton-Miller, 2006). For example, Schulze, Lubatkin, Dino, and Buchholtz (2001) argue that private ownership and owner management have agency threats and costs, implying that family relationships tend to make agency problems associated with private ownership and owner management more difficult to resolve as an outcome of self-control and other altruism-related problems. That is, control over the firm's resources makes enable owner-managers to show generosity to their children and other relatives, such as through providing them with secure employment, in addition to the perquisites and privileges that they would not otherwise receive (Gersick, Davis, Hampton, & Lansberg, 1997; Ward, 1987). Despite the fact that previous studies are critical in terms of potential expropriation, destructive nepotism, exploitation of minority shareholders is a potential issue in private family firms. Other studies concentrate on public family firms, since they face pressure from market scrutiny and are accountable to public shareholders. For long-term survival, major PFFs have more external restrictions and internal complexity than privately owned family businesses.

Recent empirical findings show that PFFs outperform non-PFFs (Anderson & Reeb, 2003; Lee, 2006; Martínez, Stöhr, & Quiroga, 2007) and assert that PFFs are more efficient and valuable. Interestingly, compared to earlier family businesses studies that include only private firms or a mixture of public and private firms, recent studies that include only public firms report significant differences that favor family firms. They identify significant positive associations between family ownership and firm performance, and suggest that, compared to most public corporations owned by numerous shareholders, public family firms have a combination of ownership and control by concentrated shareholders (Anderson & Reeb, 2003; Lee, 2006; Martínez et al., 2007). Concentrated equity and managerial control, along with the founding family's historical presence, offers the family an advantageous position to monitor the business (Demsetz & Lehn, 1985). Since the family's welfare relies on their firm's health, these large, concentrated investors have more incentives to avoid conflicts between owners and managers to maximize firm performance than diverse shareholders (Lee, 2006). In terms of competitive disadvantages, family firms must survive the pressure of "public

market conditions," such as severe market scrutiny, and be accountable to public shareholders. These considerations help discipline family firms to avoid inefficiencies and weaknesses, thus boosting their performance (Martínez et al., 2007).

Furthermore, in light of the previous findings on outperforming PFFs, Miller and Le Breton-Miller's (2006) review of family governance and firm performance provide the basic rationale for expecting direct relationships between family governance oversight and firm performance. In their review, they propose four different levels and modes of family ownership oversight: (1) Ownership and control concentration – moderate or complete family ownership; (2) Ownership and control concentration > 30%; (3) Presence of strong independent directors on the board; and (4) Family control with little ownership. They propose these four levels and modes of family ownership mainly because the most critical issue for a public family firm is determining how much ownership and control to give to non-family members. Family governance oversight can further influence owners' incentives and monitoring, strategic behavior, and the firm's performance outcomes.

Research covering agency theory and stewardship theory suggest that different degrees of family ownership and control leads to different forms of oversight and firm capabilities that can have both positive and negative implications for firm performance. Specifically, when the degree of ownership and control concentration is moderate to 100%, the agency arguments postulate that the large owner-managers often have the knowledge and incentives to monitor their managers (Jensen & Meckling, 1976), reducing free-rider agency costs and increasing financial returns (Anderson & Reeb, 2003). Besides economic self-interest, stewardship theorists assert that these owner-managers often have a deep emotional investment in the company and employees, leading to higher attitudes of stewardship (Bubolz, 2001) and increasing financial returns.

On the other hand, agency theory also predicts higher agency costs with a diverse ownership structure because owners' and managers' (agents) incentives and objectives do not align. Moreover, stewardship theory argues that when owner-managers have less personal attachment to the company, they have a greater potential for nepotism, thus raising agency cost and reducing financial returns. Taken together, from both the agency and stewardship perspectives, this study extends Miller and Le Breton-Miller's (2006) work and proposes that companies with strong ownership concentration and family management control will outperform non-PFFs because they have a lower free-rider agency cost and superior attitudes of stewardship when managers' and owners' have the same interests, and family values guide critical operational decisions, which benefit overall performance, thus leading to the following hypotheses:

H1a. Concentration of family ownership positively relates to firm performance.

H1b. Family member board participation positively relates to firm performance.

Past research documents the effect of strong outsiders (i.e., independent directors and non-family shareholders) on the board of directors on performance (Anderson & Reeb, 2004; Dalton, Daily, Ellstrand, & Johnson, 1998). These strong outsiders on the board may avoid minority shareholder exploitation from a poor de facto agent (Miller & Le Breton-Miller, 2006). According to the agency perspective, independent directors provide expertise and objectivity that enables them to monitor family executives and further avoid the expropriation of firm wealth by family members (Anderson & Reeb, 2004; Dalton et al., 1998). Indeed, if these independent directors are also significant shareholders, the stewardship perspective argues that these non-family director-owners have additional incentives to serve as informed stewards of the company's resources (Burkart, Panunzi, & Shleifer, 2002; Claessens, Djankov, Fan, & Lang, 2002), thereby improving performance outcomes. Building on this overarching logic,

independent directors on the board likely provides expertise and objective perspectives to assist with the firm's decisions and are likely to improve firm performance. Therefore:

H1c. Independent director board participation positively relates to firm performance.

2.2. The intervening model

Since most public family businesses face a critical decision related to how much ownership and control to give to non-family members, Miller and Le Breton-Miller (2006) propose specific levels and modes of family ownership. Family governance oversight can further influence owners' incentives and monitoring costs, strategic behavior, and the firm's performance outcomes. In terms of the specific mechanisms that foster family firms' efficiency and motivate talented employees, Astrachan and Kolenko (1994) argue with Ulrich and Lake's (1990) "organizational capability" logic proposal wherein firms establish competitive advantage in the marketplace by developing and leveraging their human resource base. Moreover, from a resource-based perspective, a firm can sustain competitive advantage and performance by establishing rare, unique, non-substitutable, and non-imitable human resources (Barney, 1991; Pfeffer, 1994). Clearly, HR practices in family-owned firms are worth to investigate because boards often provide guidance on hiring, appraisal, compensation, retention, and firing. These HR-related practices provide the firm with a means to develop and grow. Additionally, when a family-owned firm becomes a public company, building non-imitable distinctive competencies seems to require highly professional management as well as modern and effective human resource practices within practical time and budget constraints, improving the firms' capacity to attract, motivate, and retain talent, which generates superior returns (Barney, 1991).

The intervening model predicts that HPWS will account for variations in performance that family governance oversight measures leave unexplained. Strategic human resource practices, namely HPWS, lead to higher performance through their effects on employee-based firm capabilities and resources (Wright, Dunford, & Snell, 2001). Extensive empirical work also suggests that HPWS influences firm performance (Huselid, 1995; Huselid & Becker, 1996; Lu, Chen, Huang, & Chien, 2015). Organizational capabilities, that is, competitive advantage from developing and leveraging a human resource base (Ulrich & Lake, 1990) are particularly relevant in terms of family governance given the competitive pressures from globalization. As the competitive environment changes rapidly, the pressure to perform also provides a unique context to assess the role of HPWS in building organizational capabilities, with the reasonable expectation of positive direct relationships between HPWS and firm performance.

To date, scant empirical studies directly investigate the relationship among family controlling factors, HPWSs, and firm performance. Tsao et al. (2009) empirically assess the contingent moderation effect of HPWS on family ownership and performance outcomes, and find no association between family ownership and firm performance. However, after accounting for the level of HPWS in family-owned firms, the results indicate that the relationship between family ownership and firm performance is significantly negative for companies with lower levels of HPWS and significantly positive for companies with higher

levels of HPWS. Because they examine only family ownership and not ultimate family governance oversight (i.e., family member board participation), they suggest more research to examine how both ownership and governance oversight affect adoption of strategic HR practices and whether these practices provide the family firm with better outcomes. Moreover, the inconsistent finding for family ownership and firm performance also indicates a need to both test the immediate effect of family controlling factors on a firm's strategic HRM management choices and performance, and to consider HPWS adoption as a critical mechanism for strategy execution and to explore the mediating effects on organizational outcomes. Building on Miller and Le Breton-Miller's (2006) classification of family governance oversight, this study's intervening model posits that family governance oversight influences organizational performance entirely through HPWS, with no direct effect on performance. The choice among diverse family governance modes generates differing power, incentives, and knowledge to monitor, motivate, and reward non-family employees, which further influences the level and mode of ownership and control to give to nonfamily members. The level and mode of non-family ownership and control can ultimately influence owners' incentives and monitoring costs. Accordingly, under different governance conditions, owners and agents will have diverging interests that potentially lead to agency or stewardship consequences for HPWS and that will ultimately affect the firm's performance outcomes. These arguments lead to the following hypothesis:

H2. HPWS mediates the relationship between the level and mode of family governance oversight in terms of the concentration of family ownership, family member board participation, and independent director board participation and performance outcomes.

Fig. 1 illustrates this study's research framework.

3. Methodology

3.1. Data and sample

This study uses data from 1304 local firms listed on the Taiwanese stock market in December of 2010 to test the hypotheses. Listed companies tend to be larger in scale with more established HRM functions and practices than small family enterprises; have corporate governance proxy statements on board structure and demographic information for directors, independent directors, supervisors, and executive officers; and have reliable financial data available. The researchers collected this information manually from the annual reports published in the second quarter of 2011 because most companies upload the previous years' annual report to the *Market Observation Post System* (<http://newmops.tse.com.tw>) databank issued by the *Taiwan Stock Exchange Corporation* no earlier than June of the following year. The data consists of names, positions, and share ownership within the board of directors, independent directors, supervisors, and executive officers as well as information related to family attributes.

Public companies must regularly release and report return on assets, annual sales, and operational expenditures. Since most other Taiwanese companies are reluctant to release or reveal their finances, the public financial data form listed companies is likely a reliable source of data to evaluate organizational performance outcomes. Collecting data from more than one source for each organization minimizes the effects of

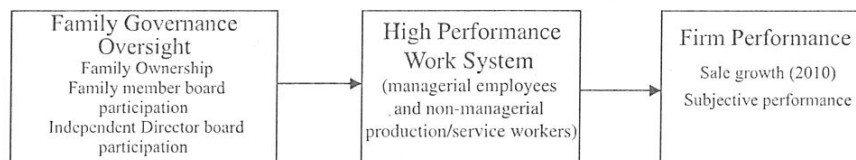


Fig. 1. Conceptual framework.

Table 1
Means, standard deviations, coefficient alphas, and inter-correlations among studied variables.

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Log firm size	2.46	0.67	-									
2. Firm age	28.81	14.63	0.09	-								
3. Industry	1.76	1.01	-0.06	-0.07	-							
4. Sale growth (08-09)	71.01	1162.65	-.190 [†]	-0.08	0.03	-						
5. Family ownership	8.41	10.83	0.02	0.07	-.272 ^{**}	-0.07	-					
6. Family member board participation	18.19	18.29	0.04	.228 ^{**}	-.342 ^{**}	-0.09	.682 ^{**}	-				
7. Ind. director board participation	0.09	0.12	-0.04	-.386 ^{**}	.168 [*]	-0.05	-0.01	-.197 [†]	-			
8. HPWS (production & service workers)	3.51	0.41	0.00	-.181 [*]	0.06	0.02	0.04	0.01	.276 ^{**}	($\alpha = .69$)		
9. HPWS (manager)	3.59	0.41	0.00	-0.11	0.04	0.11	0.06	0.09	.240 ^{**}	.739 ^{**}	($\alpha = .65$)	
10. Sale growth (2010)	22.48	39.52	.256 ^{**}	-0.14	-.162 [*]	-.207 ^{**}	.236 ^{**}	0.10	-0.01	0.06	0.09	-
11. Subjective performance	3.51	0.48	.254 ^{**}	-0.03	0.00	0.16	0.12	0.18	.201 [*]	.501 ^{**}	.516 ^{**}	0.04 ($\alpha = .77$)

Note: N = 159. Coefficients within parentheses and in bold are coefficient alphas. All tests are two-tailed.

[†] p < 0.05.

^{**} p < 0.01.

^{***} p < 0.001.

common method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The researchers translated the initial English questionnaire into Mandarin Chinese, before back translating it and checking the result against the original version for accuracy. The researchers mailed the subjective measures of performance outcomes and HPWS questionnaires to the HR manager at each company. The questionnaire asks about items related to the firm's HR practices for both managers and full time, permanent core service/production employees and subjective firm performance. As Lepak and Snell (1999) note, the set of suitable HR policies depends on the uniqueness and value of the worker. Because different levels in the organization might use different HR practices, HR managers rated the questionnaire items related to HR practices for both managers and core service/production full-time employees only, excluding non-contract or temporary workers. The study collected 159 valid matched questionnaires for analysis, a response rate of 12.19%. Of the sample, 55.97% (89 out of 159) were PFFs that remain under close family direction and scrutiny. The average firm age is 30 years for PFFs, and 26 years for non-PFFs; the average PFF firm size is 915.91 employees, compared to 1068.47 employees for non-PFFs. The PFFs consist of 59.55% of firms in the manufacturing industry, 11.24% in the service industry, 20.22% in the high-tech industry, and 7.87% in other industries. The non-PFFs consist of 54.29% of firms in the manufacturing industry, 21.43% in the service industry, 18.57% in the high-tech industry, and 5.71% representing other industries.

3.2. Variables

3.2.1. Family governance oversight

This study identifies family firms using Anderson and Reeb's (2003) definition: (1) according to the fractional equity ownership of the founding family and (2) the presence of family members on the board of directors. Three measures from company annual reports capture the extent of family governance oversight in terms of ownership concentration, family member board participation (i.e., voting rights), and independent director board participation. First, family ownership is the total percentage of shares owned by family executives on the board. Family member board participation is the number of family directors divided by the total number of directors on the board. Finally, independent director board participation consists of the number of independent directors divided by the total number of directors on the board. The resulting Z score transformations represent an indicator for the extent of the level and mode of ownership and control oversight.

3.2.2. High performance work system

The questionnaire assesses the various components of a firm's HR system and focuses on HRM practices related to regular, permanent employees. According to the strategic human resources management (SHRM) literature (e.g. Arthur, 1992; Bae, Chen, & Lawler, 1998;

Huselid, 1995; Youndt, Snell, Dean, & Lepak, 1996), HPWS includes human resource policies related to: (1) staffing, (2) compensation, (3) employment security, (4) flexible job assignments, (5) self-directed teams, (6) training, and (7) communication.

This study adopts Bae and Lawler's (2000) SHRM literature-based HPWS scale tested empirically in Korea. The scale is suitable as Taiwan and Korea share similar cultural, economic, and geographic situations. The HRM practices are measured using various Likert items to reflect different components of a firm's HRM strategy as applied to supervisory and full time non-managerial, production/service workers, and to measure the degree to which the firm relied upon extensive training, highly selective staffing, performance-based pay, and empowerment. High values in all of these areas indicate a stronger HPWS within an organization, while low values indicate a weaker HPWS within an organization ($\alpha = .65$ for managerial and $\alpha = .69$ for non-managerial production/service employees).

3.2.3. Firm performance

The survey captures one subjective measure of performance and sales growth as the objective measure from the 2010 annual report to capture organizational performance. Sales growth data come from the *Taiwan Economic Journal* databank. In addition, the study adopts the subjective perceived performance measurement from Khandwalla's (1977) scale that Bae and Lawler (2000) and Bae, Chen, Wan, Lawler, and Walumbwa (2003) empirically tested. Because the sample includes

Table 2
Summary of regression analyses of family governance oversight and HPWS (production & service workers and managerial employees).

	Production & service workers			Managerial employees		
	ΔR^2	Model 1 β	Model 2 β	ΔR^2	Model 3 β	Model 4 β
Step 1						
Control variables	0.042			0.027		
1. Log firm size		.008	.010		.021	.014
2. Firm age		-.198 [*]	-.123		-.120 [*]	-.053
3. Industry		.035	.038		.101 [*]	.033
4. Sale growth (08-09)		.008	.034		.103	.135
Step 2						
Independent variables	0.048			0.07 [*]		
5. Family ownership			-.016			-.078
6. Family member board participation			.102			.223
7. Ind. director board participation			.234 [*]			.264 ^{**}

N = 159.

^{*} p < 0.05.

^{**} p < 0.01.

^{***} p < 0.001.

Table 3
Summary of regression analyses of family governance oversight, HPWS (managerial employees) and firm performance.

	Sale growth (2010)			Subjective performance				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6		
	ΔR ²	β	β	β	ΔR ²	β	β	β
Step 1								
Control variables	0.167***				0.116*			
1. Log firm size		.271**	.275**	.271**		.290**	.270**	.243**
2. Firm age		-.182*	-.175*	-.170		-.074	-.031	-.005
3. Industry		-.133	-.112	-.115		-.054	-.025	-.059
4. Sale growth (08-09)		-.208*	-.195*	-.209*		.223*	.266*	.175*
Step 2								
Independent variables	0.012				0.093*			
5. Family ownership			.075	.080			-.006	.022
6. Family member board participation			.038	.019			.249*	.127
7. Ind. director board participation			.052	.025			.235*	.129
Step 3								
Mediator variable	0.009				.160***			
HPWS			.098					.432***

N = 159.
* p < 0.05.
** p < 0.01.
*** p < 0.001.

companies in different industries with varying goals and performance, the analysis includes a relative, multidimensional, and subjective assessment of perceived performance. The HR managers rated nine performance related questions on a 5-point Likert scale from "strongly disagree" to "strongly agree." Respondents answered questions related to how well the firm archived objectives related to employee productivity, growth, new product development, customer satisfaction, product/service quality, and overall employee satisfaction and commitment to the organization. The related Cronbach's alpha value is 0.77.

3.2.4. Control variables

The control variables include log firm size, industry, firm age, and previous years' sales growth. Firm size is commonly associated with performance (Weiner & Mahoney, 1981). The other variables are included as some researchers suggest that measures of size such as industry, firm age, and previous years' sales growth relate to performance outcomes (e.g. Anderson & Reeb, 2003; Braun & Sharma, 2007).

4. Results and discussion

4.1. Regression analysis

The study uses correlation analysis, regression analysis and a Sobel test to evaluate the hypotheses. Table 1 reports the means, standard deviations, and correlations for each of the variables in the model.

For the three family governance oversight variables, family ownership is significantly associated with 2010 sales growth, and independent director board participation is significantly associated with perceived firm performance.

Table 2 reports the regression analysis results. Models 2 and 4 indicate that independent director board participation is significantly associated with a firm's adoption of HPWS.

Tables 3 and 4 summarize the hypothesis testing results. Overall, the results provide partial support for each hypothesis. Regressing the three measures of family governance oversight (concentration of family

Table 4
Summary of regression analyses of family governance oversight, HPWS (production & service workers) and firm performance.

	Sale growth (2010)			Subjective performance		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	ΔR ²	β	β	β	β	β
Step 1						
Control variables	0.137***				0.113*	
1. Log firm size		.257**	.267**	.265**		.286**
2. Firm age		-.135	-.149	-.142		-.075
3. Industry		-.141	-.093	-.095		-.034
4. Sale growth (08-09)		-.170*	-.160*	-.163*		.222*
Step 2						
Independent variables	0.059*				0.081*	
5. Family ownership			.316*	.315*		-.027
6. Family member board participation			-.121	-.127		.245*
7. Ind. director board participation			-.049	-.065		.219*
Step 3						
Mediator variable	.004				.146***	
HPWS			.065			.414***

N = 159.
* p < 0.05.
** p < 0.01.
*** p < 0.001.

Table 5
Summary of fs/QCA of family governance oversight, HPWS (managerial employees and production & service workers) and firm performance.

Variable	Outcome				
	Raw coverage	Unique coverage	Consistency	Solution coverage	Solution consistency
HPWS (Production & service workers)					
Ind. director board participation	0.784	0.115	0.803	0.911	0.706
Family member board participation	0.746	0.022	0.765		
Family ownership	0.760	0.008	0.790		
HPWS (Managerial employees)					
Ind. director board participation	0.776	0.108	0.795	0.909	0.713
Family member board participation	0.753	0.024	0.793		
Family ownership	0.758	0.008	0.817		
Sale growth 2010					
HPWS_Managers*~Family ownership	0.686	0.013	0.858	0.916	0.748
-Ind. director board participation *Family member board participation	0.642	0.018	0.828		
HPWS_Managers*HPWS_Workers	0.740	0.008	0.816		
Family member board participation *Family ownership	0.715	0.016	0.853		
HPWS_Workers*~Family member board participation *~Family ownership	0.642	0.014	0.879		
-HPWS_Managers*~HPWS_Workers*Ind. director board participation *~Family member board participation	0.565	0.010	0.925		
Subjective performance					
HPWS_Managers*~Family ownership	0.704	0.010	0.850	0.922	0.765
HPWS_Managers*HPWS_Workers	0.834	0.071	0.857		
HPWS_Workers*~Family member board participation *~Family ownership	0.642	0.001	0.869		
HPWS_Workers*~Ind. director board participation *~Family ownership	0.559	0.000	0.884		
-HPWS_Workers*~Ind. director board participation *Family member board participation	0.559	0.023	0.859		
Ind. director board participation *Family member board participation *Family ownership	0.640	0.009	0.920		
-HPWS_Managers*~HPWS_Workers*Ind. director board participation *~Family member board participation	0.556	0.005	0.895		

ownership, family member board participation, and independent director board participation) on financial performance in terms of 2010 sales growth in Models 1 to 3, and perceived firm performance in Models 4 to 6 to test H1a, H1b, and H1c provide partial support. For managerial employees (Model 5 in Table 3), the results indicate that family member board participation ($\beta = .249$; $p < .05$) and independent director board participation ($\beta = .235$; $p < .05$) show a significant relationship with HPWS and perceived firm performance, though family ownership concentration is unrelated. For non-managerial production/service workers (Model 5 in Table 4), the results indicate that both family member board participation ($\beta = .245$; $p < .05$) and independent director board participation ($\beta = .219$; $p < .05$) also show a significant relationship with HPWS and perceived firm performance.

The significant effect of family member board participation on subjective performance may result from the high correlation with family ownership ($r = .682^{**}$) (see Table 1), which may create suppressor effects (Thompson, 1992) and thus resulting in an insignificant correlation between family member board participation and subjective performance ($r = .18$), but a significant relationship with HPWS (managerial employees and non-managerial production/service workers) and perceived firm performance ($\beta = .249$; $p < .05$; and $\beta = .245$; $p < .05$, respectively) (see Model 5 in Tables 3 and 4)). Thus, the significant regression effect of family member board participation on performance is suspicious. On the other hand, the results indicate that independent director board participation has a significant relationship with HPWS and subjective performance. For managerial employees, the influence of independent director board participation on subjective performance (Models 5 and 6 in Table 3) decreases from .235* to .129 and indicates mediation through HPWS. For non-managerial production/service workers, the influence of independent director board participation on subjective performance (Models 5 and 6 in Table 4) decreases from .219* to .117 (non-significant) also indicates mediation through HPWS.

Therefore, the study includes a Sobel (1982) test, and the results show that independent director participation influences organizational performance through HPWS for both managerial and non-managerial employees ($t = 2.44$, $p = 0.014$; and $t = 2.26$, $p = 0.023$, respectively).

Table 6
Summary of regression analyses of family ownership, family member board participation, and independent director board participation on subjective performance.

	Subjective firm performance			
	Model 1	Model 2	Model 3	Model 4
ΔR^2	β	β	β	β
Step 1				
Control variables	0.11*			
1. Log firm size		0.29**	0.27**	0.29**
2. Firm age		-0.06	-0.01	-0.01
3. Industry		-0.04	-0.01	-0.02
4. Sale growth (08-09)		0.22*	0.26**	0.27**
Step 2				
Independent variables	0.06*			
5. Family ownership		-0.03	-0.05	-0.11
6. Family member board participation		0.25*	0.24	0.24
7. Ind. director board participation		0.22*	0.21*	0.44**
Step 3				
Two way interaction	0.02			
8. Family ownership \times Family member board participation			0.09	0.12
9. Family ownership \times Ind. director board participation			-0.04	0.13
10. Family member board participation \times Ind. director board participation			-0.08	-0.18
Step 4				
Three way interaction	0.05*			
11. Family ownership \times Family member board participation \times Ind. director board participation				-0.35*

N = 159.
* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.

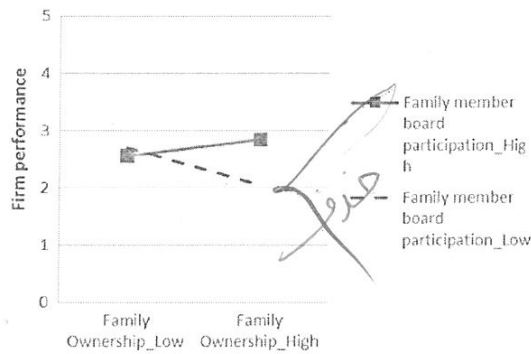


Fig. 2. Interaction effect of family ownership and family board participation on perceived firm performance for sampled firms without independent director board participation (Ind. director board participation = 0).

4.2. Post-hoc analysis

Additionally, since the study includes multiple variables and aims to examine how different parts of variables fit together in context, a fuzzy set/Qualitative Comparative Analysis (fs/QCA) analyzes the data by listing and counting all combinations of variables in the data set. The researchers then apply the rules of logical inference to determine which descriptive inferences or implications the data supports (Tóth, Thiesbrummel, Henneberg, & Naudé, 2015; Vis, Woldendorp, & Keman, 2007; Woodside, 2013). Table 5 presents the results to verify the findings from the Sobel test. Independent director board participation affects HPWS for non-managerial employees (consistency = 0.803), consistent with the results reported in Table 2; however, the results also indicate that family ownership affects HPWS for managerial employees (consistency = 0.817), a different result from that in Table 2. Moreover, the results also indicate that independent director participation significantly affects firm performance (\sim HPWS_Managers*HPWS_Workers*Ind. director board participation*Family member board participation, consistency = 0.925). Finally, although HPWSs for both managerial and non-managerial employees significantly influences subjective firm performance (HPWS_Managers*HPWS_Workers, consistency = 0.857), family governance oversight has more impact (Ind. director board participation*Family member board participation*Family Ownership, consistency = 0.920).

Table 5 indicates a significant three way moderation effects of family ownership, family member board participation, and independent director board participation on subjective performance. Thus, the study uses regression analysis to test their interaction effect. The results show a significant three-way moderation effect among family ownership, family

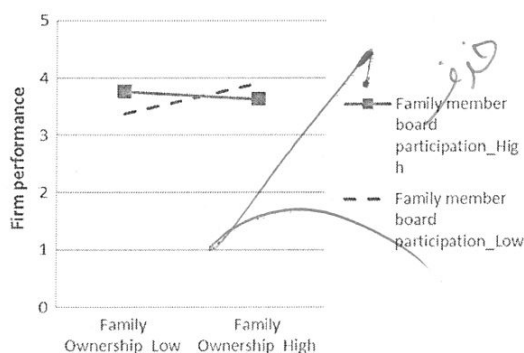


Fig. 3. Interaction effect of family ownership and family board participation on perceived firm performance for sampled firms with independent director board participation (Ind. director board participation = 1).

member board participation, and independent director board participation on subjective performance ($\beta = -.35, p < .05$) (see Table 6).

To better understand the three-way moderating effects of family ownership, family members board participation, and independent directors board participation on perceived firm performance, the study plots the significance of the interactions graphically, following the recommendations of Cohen and Cohen (1983). Fig. 2 indicates that for those sampled firms without independent director board participation (i.e., Independent directors board participation = 0), where high family ownership and family members board participation have a greater positive influence on perceived firm performance. Moreover, as evident from Fig. 3, for those sampled firms with independent directors board participation (i.e., independent director board participation = 1), despite where family ownership and family member board participation have insignificant influence on the perceived firm performance, nevertheless, they have higher perceived firm performance in comparison with those sampled firms without independent director board participation.

Overall, the empirical result highlights the positive influence of independent director board participation through HPWS for both managerial and non-managerial employees on perceived firm performance. One most interesting finding relates to the fact that this study finds a positive and significant effect of both family ownership and family member board participation on perceived firm performance, and that becomes insignificant in cases where there is independent director board participation.

5. Conclusion

A growing body of research highlights the significant impact of family involvement on employee management and firm performance. This study aims primarily to investigate the impact of family governance oversight on firm performance and examine the mediating mechanism of HPWS on this relationship. This study advances the existing family business literature in two ways. First, this study provides empirical evidence for the positive influence of independent directors on HPWS and subjective performance. In partial support of Hypothesis 2, the data analysis reveals that for both managerial and non-managerial production/service employees, HPWS mediates the influence of independent director board on subjective performance. However, family ownership and family board participation show an insignificant relationship with HPWS and firm performance, contrary to expectations. Therefore, although the empirical findings did not fully support previous research on family governance oversight and firm performance establishing the positive effect of family controlling factors on organizational profitability (Anderson & Reeb, 2003, 2004; Lee, 2006; McConaughy et al., 1998), the findings supplement previously identified relationships and highlight the potential advantages of independent board participation in HRM issues. That is, although the literature suggests that independent non-family directors are unlikely to be truly independent since the family appoints them and they are likely drawn from the family's close network, this study's findings show a relative advantage from a high level of independent board participation in governance oversight because independent directors participating on the board provide professional oversight. Consequently, management is more likely to adopt HPWS that improves performance because independent and professional advice guides personnel decisions.

Second, in addition to regression and Sobel testing, an fs/QCA further verifies the findings from the regression analysis, because an fs/QCA enables an analysis of data sets that includes rules of logical inference to determine which descriptive inferences or implications the data supports. Therefore, although the study finds non-significant results for family ownership, family member board participation, and HPWS-related to performance through the regression analysis, the fs/QCA results indicate a significant three way moderation effect of independent director board participation, family member board participation, and

family ownership on subjective performance, highlighting an avenue for future research.

Finally, this study has several limitations that open additional future research directions. First, the data consists only of firms from a Taiwanese database, which may restrict the generalizability of the findings. Second, the likelihood of common method variance may still exist because a single set of participants provide data for the independent (HPWS) measurement items and dependent variables (subjective performance) (Podsakoff et al., 2003). Third, future research should explore other family governance oversight mechanisms such as a family member CEO or multiple generations in the business as important family controlling factors (Miller & Le Breton-Miller, 2006).

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