Scientific Papers (www.scientificpapers.org)
Journal of Knowledge Management, Economics and Information Technology

Vol. III, Issue 5
October 2013

Complicated Relationships among Audit Committee Independence, Nonfinancial and Financial Performance

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The relationships among the audit committee independence, nonfinancial performance and financial performance are quite complicated. They are not simply bivariate correlations. Rather, there may be mediating effects or moderating influences on these casual associations. Nonetheless, previous research has not investigated these complicated relationships. This paper seeks to examine the mediating impact of nonfinancial performance on the association between the audit committee independence and financial performance. Further, it also explores the moderating role of the audit committee independence in the influence of nonfinancial performance on financial performance. The findings imply that nonfinancial performance interferes with the effect of the audit committee independence on financial performance, in which it lessens this effect. The empirical results also suggest that the audit committee independence plays the moderating role in the relationship between nonfinancial performance and financial performance, in which the independence of the audit committee is positively related to this relationship.

Keywords: *Audit committee independence; nonfinancial performance; financial performance*

Introduction

An audit committee is an operating committee in the board of directors, which is responsible for supervising and monitoring all internal and external audit activities in a firm. The role of the audit committee is to appoint external auditors, meet on a regular basis with managers and external auditors to assess the financial statements and communicate with internal and external auditors during the audit process and internal control (Bouaziz 2012). Bouaziz (2012) also argues that the audit committee independence is positively related to the quality of earnings as well as to the reliability of financial statements. Several studies have explored the effects of the audit committee independence on financial performance (Chang and Li 2008; Aldamen et al. 2012; Al-Matari et al. 2012) and on nonfinancial performance (Neuvo et al. 2001; Zhang et al. 2011). They claim that the audit committee independence facilitates effective supervision on management activities, because the independent members of the audit committee more likely make objective decisions and need less negotiation as well as less deliberation. The independence characteristics are necessary for the audit committee to fulfil its supervising responsibility. Moreover, nonfinancial performance is discovered to be a determinant of financial performance (Zack et al. 2009). Overall, it is found that the audit committee independence leads to improved nonfinancial performance, which in turn results in better financial performance. Based on the suggestions on the mediation by Baron and Kenny (1986), we argue that the relationships among the audit committee independence, nonfinancial performance and financial performance are more complex than expected, in which nonfinancial performance may play an important mediating role in the association between the audit committee independence and financial performance. However, there is still a lack of theoretical discussions as well as empirical evidence on the mediating role of nonfinancial performance in the literature on corporate governance in general or audit committee independence in particular. We find it essential to investigate the mediating effect of nonfinancial performance on the relationship between the audit committee independence and financial performance in order to replenish this gap in the audit committee literature.

This paper is aimed to separate firm performance into two elements that are financial and nonfinancial performance and include them in the research model together with the audit committee independence. Further,

in agreement with Baron and Kenny (1986), it suggests the intermediary effect of nonfinancial performance on the connection between the audit committee independence and financial performance. Then, it utilizes a method introduced by Sobel (1982) to investigate the statistical significance for the intervenient role of nonfinancial performance in the influence of the audit committee independence on financial performance. The findings provide statistical evidence that the independence of the audit committee brings about enhanced financial performance as well as better nonfinancial performance, which in turn also leads to improved financial performance. Furthermore, nonfinancial performance statistically mediates the impact of the audit committee independence on financial performance. On the one hand, nonfinancial performance improves financial performance; on the other hand, it also reduces the direct relationship between the independence of the audit committee and financial performance. In addition, we also investigate the moderating influence of the audit committee independence on the link between financial performance and nonfinancial performance, and find out that the higher level of the audit committee independence augments the association between nonfinancial performance and financial performance, compared to the lower level of the audit committee independence.

We make both the theoretical and managerial contributions. To the literature, our paper is the first to provide statistical evidence on the mediating role of nonfinancial performance in the impact of the audit committee independence on financial performance. Moreover, it is also the first to offer statistical evidence on the moderating effect of the audit committee independence on the relationship between nonfinancial performance and financial performance. To the managerial circle, we shed light on the relationships among the audit committee independence, nonfinancial performance and financial performance. Especially, we offer managers with an insight on the intermediary role of nonfinancial performance in the influence of the audit committee independence on financial performance as well as the moderating effect of the audit committee independence on the linkage between nonfinancial performance and financial performance. Accordingly, they can make better decisions on the proportion of independent members in the audit committee, which help create competitive advantages and thereby lead to possible improved performance for their firm.

We go on with the literature review, which reviews the related literature and then develops hypotheses. Subsequently, the methodology explains how to collect and analyse the data, followed by the results. The conclusions are offered in a subsequent part.

Literature Review

This section will review the literature in the casual associations among the composition of audit committee, nonfinancial and financial performance. It also explains the mediation effect of nonfinancial performance in the connection between the composition of audit committee and financial performance. More detail is discussed below.

Nonfinancial and Financial Performance

Firm performance is assessed against goals and objectives. Firm performance is reflected in two primary outcomes, namely nonfinancial and financial performance. Firms use nonfinancial performance measures in order to lead to indices of financial performance (Kaplan and Norton 2001). Nonfinancial performance measures provide managers with motivation to advance financial performance. In contrast, financial performance measures offers managers with incentives to enhance nonfinancial performance. Nonfinancial performance indicators are important value drivers for firms and predictors of financial performance. Many stakeholders, including creditors and investors, are interested in nonfinancial performance indicators, so firms should disclose some of them to the stakeholders. In the study on customer satisfaction and financial performance, Lambert (1998) implies that there is a relationship between customer satisfaction as a dimension of nonfinancial performance and financial performance. Likewise, Martins and Mergulhao (2006), when conducting the research on financial and nonfinancial performance, established the casual relationship between nonfinancial performance and financial performance with the Six Sigma procedure. They suggest that nonfinancial performance may lead to financial performance for firms. A study of Banker and Mashruwala (2007) reveals that nonfinancial performance (composed of the two items employee satisfaction and customer satisfaction) statistically predicts financial

performance. Furthermore, Zack et al. (2009), in their research on knowledge management and organizational performance, find out that nonfinancial performance is positively related to financial performance at the 0.01 significance level; whereas Devie and Widjaja (2012) use balance scorecard frame to examine the relationship between nonfinancial performance and financial performance, and propose that nonfinancial performance may positively affect financial performance. Grounded on the above discussions, we come to the following hypothesis.

H1: nonfinancial performance is positively associated with financial performance

Independence of Audit Committee

Numerous corporate failures are attributable to a lack of independent audit committee members, so the composition of the audit committee is considered as a very important issue in the pursuit of effective corporate governance. The independence of the audit committee facilitates effective monitoring on management activities, because the independent members of the audit committee are more likely to make objective decisions and need less negotiations and deliberations (Aldamen et al. (2012); whereas Ghabayen (2012) emphasizes the audit committee should be independent of the management board in order to fulfil the supervising function. He also maintains that firm performance is connected with the audit committee independence. Some countries such as Australia require firms to have an independent audit committee with a minimum three independent members. Audit committees often comprise both independent and dependent members. In addition, Klein (2002) indicates that the audit committee is viewed as highly independent if over 50% of its members are independent. He also argues the fact that at independent members account for the majority (more than 50%) in the audit committee will help firms reduce agency costs.

Furthermore, Erickson et al. (2005) emphasize that independent members in the board may minimize agency problems. This argument enables us to suggest that independent members in the audit committee can also mitigate agency problems, which hence results in the improved firm performance. In other words, it is expected that a positive link between the

independence of audit committee members and firm performance can exist. Also based on the agency theory, the independent members in the audit committee will help to monitor the activities of the directors and so diminish agency costs. As a result, firm performance will be enhanced. In addition, Yasser et al. (2011) propose a positive connection between the independence of the audit committee and firm performance. Similarly, Ghabayen M. A. (2012) also supposes that the independence of the audit committee is positively related to firm performance. Their suppositions are supported by the findings of Tornyeva and Wereko (2012), which indicate that the independence of audit committee has positive correlation with firm performance. In addition, Aldamen et al. (2012) argue that the characteristics of the audit committee such as the proportion of independent members in the audit committee will positively influence financial performance. A positive relationship of the independence of the audit committee members with financial performance is also conjectured (Al-Matari et al. 2012). These arguments are consistent with a study by Chang and Li (2008) who found out a positive association between the proportion of independent members in the audit committee and financial performance at the 0.01 level of statistical significance. The role of corporate governance including audit committee characteristics is important in providing stability in a firm that bring about the efficiency in product quality, operational cost and customer satisfaction, which are regarded as nonfinancial performance (Neuvo et al. 2001). Moreover, Zhang et al. (2011), when investigating the relationship between corporate governance and customer satisfaction, suggested an association between the proportion of independent members and customer satisfaction considered as a dimension of nonfinancial performance. While Belloc (2010) discusses the relationship between the various dimensions of corporate governance and firms' innovation performance and suggests that, a system of corporate governance shapes firm innovation activity; Akanbi (2012) explores the link between corporate governance and firm performance and provides evidence that corporate governance containing audit committee characteristics statistically predicts firm performance. Firm performance in the research by Akanbi (2012) is evaluated on both nonfinancial and financial performance. Based on the above arguments, the following hypotheses can be conjectured.

H2: the independence of the audit committee is likely to improve financial performance
H3: the independence of the audit committee may also enhance nonfinancial performance

Mediating role of nonfinancial Performance

Relationships between variables in research models are usually more complicated than the simple bivariate relationship between an explanatory variable and an explained variable. Rather, other third variables in the research model may mediate these relationships. Hence, it is necessary to explore the mediation effects where the data presents mediating relationships. Baron and Kenny (1986) introduce the mediation model, where a variable may be regarded as an intermediary variable to the degree to which it carries the effect of a given explanatory variable to a given explained variable. Mediation can be deemed to exist when the following three conditions occur. First, the explanatory variable has statistically significant influence on the intermediary. Second, the explanatory variable significantly impacts on the explained variable in the absence of the intermediary. Third, the intermediary imposes a significant unique influence on the explained variable. In addition, the addition of the intermediary to the research model should reduce the impact of the explanatory variable on the explained variable. Baron and Kenny (1986) utilize these criteria to suggest the possible presence of the mediation effect, but they do not offer methods to test the statistical significance for this mediation relationship. Fortunately, Sobel (1982) provides procedures to investigate whether an intermediary significantly carries the effect of an explanatory variable to an explained variable. In order words, these procedures are employed to test whether the indirect effect of the explanatory variable on the explained variable through the intermediary is statistically significant or not. Sobel's technique is based on the two equations, namely "$M = \beta_1 + aX + e_1$" and "$Y = \beta_2 + bM + cX + e_2$", in which X= the explanatory variable, Y= the explained variable, and M= the intermediary variable. A t-test is applied to investigate the indirect influence, where t-statistics is a ratio of the indirect estimate to its standard error (tindirect = ρindirect/sindirect). The indirect estimate ρindirect = a*b and the standard error sindirect = sqrt(a2sb2+ b2sa2).

In the previous parts, we hypothesize that, the independence of the audit committee may enhance nonfinancial performance, the independence of the audit committee is likely to improve financial performance and nonfinancial performance is positively associated with financial performance. The three hypotheses satisfy the three criteria stipulated by Baron and Kenny (1986). Hence, concurring with Baron and Kenny (1986), we reach the mediation hypothesis below.

H4: nonfinancial performance mediates the relationship between the independence of the audit committee and financial performance.

The casual relationships among nonfinancial performance, the independence of the audit committee and financial performance as well as the mediating effect of nonfinancial performance inferred from the above hypotheses allow us to come to the research model as illustrated in Fig. 1. Having built the research model, we will offer the methodology, which helps facilitate the data analysis and guide the data collection in the next part.

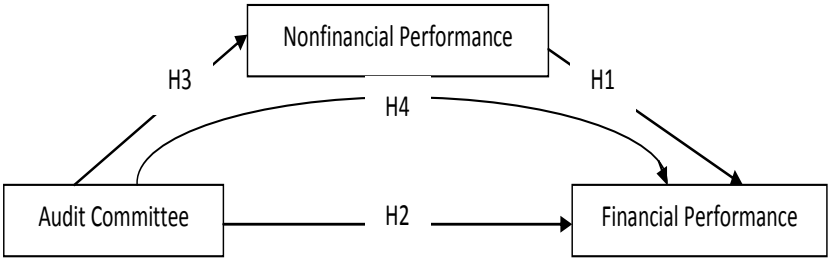

Fig. 1: Research Model

Methodology

Data Selection

The data for this paper was collected from the 705 Vietnamese firms, which are publicly listed in the two only Vietnamese Stock Exchanges (the 308

firms listed on Ho Chi Minh Stock Exchange and the other 397 firms on Ha Noi Stock Exchange). The initial solicitations were sent to key informers involved in corporate governance in order to take responses from them. We conducted the questionnaire with a relevant manager for each targeted firm. The questionnaires were delivered to 475 firms by email and face-to-face interviewed with managers in the 230 others. Of 475 questionnaires emailed, 243 were returned. Nevertheless, 97 questionnaires did not provide enough information as required. As a result, only 146 questionnaires are sufficiently offered. Of the 230 interviews planned to be face-to-face carried out, only 180 offered the good results for our questionnaire. Finally, we obtain a sample of 326 good responses with adequately required information.

Definition of Variables

There are three main variables used in this paper, which are nonfinancial performance, financial performance and the independence of the audit committee. Each of them is evaluated on various items with different scales.
Nonfinancial performance (NPF) is any indicator of firm's performance that is not stated in monetary units. Previous research has measured nonfinancial performance with different items such as innovation in products, customer satisfaction and efficiency in operating costs (Zack et al. 2009). This paper utilizes a five-point scale from no growth, a little growth, average growth, fast growth to very fast growth in order to assess the variable "nonfinancial performance", which consists of innovation in products- NPF1, customer satisfaction- NPF2 and efficiency in operating costs- NPF3. A comparison to the firm average during the last three years was made.

Financial performance (FPF) is any mathematical indicator used to assess how efficiently a firm utilizes its resources to generate income over a specified period. Financial performance is often evaluated on various indicators such as the growth in returns on asset (ROA), returns on equity (ROE) and profit (Zack et al. 2009). The variable "financial performance" in this paper is measured by using a five-point scale from no growth, a little growth, average growth, fast growth to very fast growth. We make a comparison to the industry-average during the last three years for the following three items, namely returns on asset- FPF1, returns on equity- FPF2 and profit- FPF3.

The independence of the audit committee (ACI) is evaluated on the composition of the audit committee. If the audit committee contains the majority of independent members, then the independence of the audit committee is high. Al-Matari et al. (2012) measure the independence of the audit committee as the proportion of independent members in the audit committee. Following them, we measure the variable "the independence of the audit committee" with a dummy scale (a two-point scale), in which we code the independence of the audit committee as 1, if independent members account for more than 50% of the committee, and as 0 otherwise.

Statistical Analysis

We employ the regression analyses to investigate the casual relationships among the three variables in the research model. In order to test the statistical significance for the mediating role of nonfinancial performance in the connection between the audit committee independence and financial performance, we utilize the procedure introduced by Sobel (1982). Then, we produce the interactive term by multiplying the audit committee independence with nonfinancial performance, and enter it into the research model in order to examine the moderating effect of the audit committee independence on the relationship between nonfinancial performance and financial performance.

Statistical Results

The statistical results are presented and explained as follows. There are three variables used for analyses. The independence of the audit committee is a simple variable relating to the proportion of independent members in the audit committee. However, the two other variables, which are nonfinancial performance and financial performance, comprise several items for each. As a result, it is necessary to apply the procedure of reliability analysis to test the internal consistency within each scale of these two variables . The procedure of reliability analysis helps examine the degree to which a scale generates consistent outcomes. Table 1 provides the results achieved from the procedure of reliability analysis. All of the six items belonging to the two main variables gain their item-total correlations of more than 0.5, the lowest

level stipulated by Nunnally (1978). Both the variables also obtain the Cronbach's alphas over 0.7, the smallest acceptable value proposed by Nunnally (1978). The above findings suggest the sufficient internal reliability in our scales. Consequently, they are both reasonably used as composite variables for next analyses.

This paper employs multiple regression analyses to investigate the hypotheses in the research model. However, the multiple regression analyses often suffer the problem of multicollinearity. Multicollinearity occurs when one or more of the explanatory variables are highly correlated with one or more of the other explanatory variables. Furthermore, multicollinearity is a serious problem, because it causes our estimates to become less precise. As a result, we find it essential to perform the correlation procedure in order to test the problem of multicollinearity for our data. Table 2 displays the results for multicollinearity. All the correlations among the independence of the audit committee (ACI), financial performance (FPF) and nonfinancial performance (NPF) achieve the value of much smaller than 0.8, the greatest level suggested by Kennedy (1992). These results imply that our data does not suffer the problem of multicollinearity.

Table 1: Summary for Reliability Analysis

Item	Item-Total Correlations		Cronbach's Alpha	N of Items
	NPF	FPF		
NPF1	0.662			
NPF2	0.709		0.823	3
NPF3	0.665			
FPF1		0.564		
FPF2		0.560	0.765	3
FPF3		0.672		

Table 2: Results for Multicollinearity

	ACI	FPF	NPF
ACI	1.000	0.472***	0.407***
FPF		1.000	0.491***
NPF			1.000

(Significance Level: ***= 0.01).

Having conducted the analyses of reliability and correlation to ensure that the variables used in this paper are reasonably suitable for further analyses, we utilize multiple regressions to examine our hypotheses. The results are shown in Table 3, which indicate that the independence of the audit committee positively affects nonfinancial performance at the 0.01 significance level with a coefficient of 0.706. Rather, audit committees with the majority of independent members (more than 50%) bring about more 0.706 units in nonfinancial performance than the ones with the minority of independent members (less than 50%). In addition, both the independence of the audit committee and nonfinancial performance improve financial performance at the statistical significance level of 0.01 with coefficients of 0.446 and 0.282 respectively, which implies that the independence of the audit committee is more important than nonfinancial performance in leading to enhanced financial performance (0.446 versus 0.282). These findings point out that our hypotheses H1, H2 and H3, which state that nonfinancial performance is positively associated with financial performance and with the independence of the audit committee, which in turn positively influence nonfinancial performance, are statistically supported.

The three casual relationships in this paper have been just investigated. The results provide statistically significant evidence on these relationships. Nonetheless, the above procedures have not explored the mediating effect of nonfinancial performance on the association between the independence of the audit committee and financial performance. Now, we employ the suggestions of Baron and Kenny (1986) and analyses of Sobel (1982) to examine the mediating role of nonfinancial performance. First, multiple regressions are performed to determine the hypothesis of mediation based on the suggestions of Baron and Kenny (1986), which yield the outcomes presented in Table 4.

Table 3: Results for Multiple Regressions

Explained Variables	Explanatory Variables	Coef.	Std. Err.	$t_{statistics}$	P_{value}
NPF	Constant	3.278	.063	51.690	0.000
	ACI	0.706	.088	8.016	0.000
F = 64.261, Prob > F = 0.0000, R^2 = 0.166					
FPF	Constant	2.764	.136	20.266	0.000
	ACI	0.446	.068	6.538	0.000
	NPF	0.282	.039	7.185	0.000
F = 79.443, Prob > F = 0.0000, R^2 = 0.330					

Table 4: Multiple Regression Results for Mediation

Explained Variable	Explanatory Variables	Coeff.	Std. Err.	$t_{statistics}$	P_{value}
FPF	ACI	.645	.067	9.632	.000
NPF	ACI	.706	.088	8.016	.000
FPF	ACI	.446	.068	6.538	.000
	NPF	.282	.039	7.185	.000

The findings in Table 4 demonstrate that the audit committee independence positively impacts on nonfinancial performance at the 0.01 significance level with an estimate of 0.706 and also on financial performance at the 0.01 level with a coefficient of 0.645. In addition, nonfinancial performance statistically improves financial performance with a coefficient of 0.282 at the 0.01 level. Furthermore, the inclusion of nonfinancial performance into the research model reduces the effect of the audit committee independence on financial performance from 0.645 to 0.446. These results satisfy the criteria suggested by Baron and Kenny (1986). Accordingly, we can hypothesize that nonfinancial performance intervenes in the association between the independence of the audit committee and financial performance.

Table 5: Sobel Results for Mediation

Intermediary	Relationship	$t_{indirect}$	P_{value}
NFP	ACI and FPF	5.371	0.000

In order to test the statistical significance for this mediation relationship, we apply procedures recommended by Sobel (1982), which produce the results shown in Table 5. According to Table 5, nonfinancial performance interferes with the effect of the audit committee independence on financial performance at the 0.01 significance level. This finding statistically supports our hypothesis H4 that nonfinancial performance mediates the relationship between the independence of the audit committee and financial performance. In order words, the addition of nonfinancial performance to the research model will decrease the connection between the independence of the audit committee and financial performance.

Table 6: Summary for Regression with ACI = 0 or 1

Explained Variable	Explanatory Variable	Coef.	Std. Err.	$t_{statistics}$	P_{value}
FPF	Constant	2.972	.214	13.856	.000
	NPF	.219	.063	3.459	.001
ACI = 0, F = 11.965, Prob > F = 0.001, R^2 = 0.072					
FPF	Constant	2.896	.181	15.976	.000
	NPF	.361	.045	8.072	.000
ACI = 1, F = 65.159, Prob > F = 0.000, R^2 = 0.281					

As discussed above, the independence of the audit committee results in improved nonfinancial performance, which in turn enhances financial performance. Rather, firms with the majority of the independent audit committee members yield both higher nonfinancial performance and higher financial performance. The higher independence of the audit committee helps facilitate business activities (Aldamen et al. (2012). Therefore, it is supposed that the independent members in the audit committee help a firm effectively transmit nonfinancial performance into financial performance. These arguments lead to the suggestion that the independence level of the audit committee may put different effects on the relationship between nonfinancial performance and financial performance. In order to discover this possible distinction, we separately investigate the impact of nonfinancial performance on financial performance at the two different levels of the audit committee independence (the levels of majority and minority). The results are provided in Table 6. The findings indicate

that nonfinancial performance statistically affects financial performance for both the settings (the low independence- ACI=0 versus the high independence- ACI=1) at the 0.01 significance level. When independent members make up the majority in the audit committee, the correlation coefficient between nonfinancial performance and financial performance is 0.361, compared to 0.219 when the independent audit committee members are in the minority. In order words, the higher independence level of the audit committee will reinforce the relationship between nonfinancial performance and financial performance.

Table 7: Summary for Regression with or without ACI*NPF

Explained Variable	Explanatory Variables	Coeff.	Std. Err.	$t_{statistics}$	P_{value}
	Constant	2.945	.142	20.691	.000
FPF	NPF	.227	.043	5.305	.000
	ACI*NPF	.123	.018	6.809	.000
F = 81.828, Prob > F = 0.000, R^2 = 0.336					

In addition, we also would like to re-explore the influence of the audit committee independence on the association between nonfinancial performance and financial performance by creating the interactive term "the audit committee independence times nonfinancial performance (ACI*NPF)" and including it into the relationship between nonfinancial performance and financial performance. Then we run the regression for this interactive term and nonfinancial performance on financial performance. The results obtained are displayed in Table 7. The findings reveal that the interactive term "the audit committee independence times nonfinancial performance (ACI*NPF)" has a statistically significant influence on financial performance at the 0.01 level. Hence, it can be concluded that the independence level of the audit committee moderates the effect of nonfinancial performance on financial performance. At the higher independence level of the audit committee (ACI=1), 1 unit of nonfinancial performance will lead to 0.123 unit larger in financial performance than at the lower independence level of the audit committee (ACI=0). Overall, the empirical evidence on the moderating role of the audit committee independence in the relationship between

nonfinancial performance and financial performance is robust across both the methods (as in Table 6 and Table 7).

Conclusions

We attempt to explore the intervenient role of nonfinancial performance in the influence of the audit committee independence on financial performance. In addition, we also investigate the moderating effect of the audit committee independence on the correlation between nonfinancial performance and financial performance. The findings reveal that nonfinancial performance plays an important mediating role in the relationship between the audit committee independence and financial performance. When included into the research model, nonfinancial performance will diminish the direct association between the audit committee independence and financial performance. The findings also report that the audit committee independence moderates the influence of nonfinancial performance on financial performance. When the audit committee is more independent, the effect of nonfinancial performance on financial performance will become stronger.

This paper is the first to divide firm performance into two separate components that are nonfinancial performance and financial performance. Then it examines the complicated relationships among the audit committee independence, nonfinancial performance and financial performance in an integrated model. Furthermore, this is also the first paper to deliver statistical evidence on the mediating role of nonfinancial performance in the link between the audit committee independence and financial performance as well as the moderating impact of the audit committee independence on the relationship between nonfinancial performance and financial performance. In addition, this paper provides managers with better understanding of the complex relationships among the audit committee independence, nonfinancial performance and financial performance. Consequently, they make better decisions on the proportion of independent members in the audit committee, so that they can achieve more improved firm performance.

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