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Does CEO duality worsen or fosters audit quality: evidence from Chinese firms?

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ABSTRACT

The objective of this study is to examine the role of CEO duality in audit quality of Chinese firms. To address the effect of CEO duality, this study considered four characteristics of CEO duality; corporate audit culture, audit committee independence, decision making through enormous power and single leadership. The indirect effect of audit committee decision is considered between CEO duality and audit quality. A questionnaire survey is carried out to collect primary data. A questionnaire was designed to collect data from Chinese firms. Respondents of the study were the CEO's and directors of Chinese firms; therefore, questionnaires were distributed among them by using online survey. 135 valid questionnaires were used in data analyses which is carried out by using Partial Least Square (PLS)-Structural Equation Modeling (SEM). Results of the study highlighted that; CEO duality has both positive and negative effect on audit quality. Due to the single leadership style and supportive corporate audit culture, the audit quality may be improved. However, CEO duality influences negatively on audit committee independence which has negative effect on audit committee decisions. Similarly, CEO duality allows to enjoy enormous power which may affect negatively on the decision making. Thus, decision-making through enormous power has negative effect on audit committee decisions. Finally, while making the strategies to enhance audit quality, the practitioners can consider the important points highlighted by the current study to promote audit quality.

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1. Introduction

CEO duality is a phenomenon where the chief executive officer (CEO) of a company occupies the chair of the company's board of directors, along with his/her regular management position (Oak & Iyengar, 2009; Voinea et al., 2022). This phenomenon is considered by the several previous studies. Several studies have examined the CEO duality among the business organizations through several aspects (Azhari et al., 2020; Voinea et al., 2022). Therefore, CEO duality remained the intention of the researchers

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as well as practitioners. The advantages and disadvantages are comprehensively discussed by the previous studies among different business organizations (Ramdani & Witteloostuijn, 2010). However, the phenomenon of CEO duality is still under discussion and its role among the organizations is not clear (Aghmiuni et al., 2020). The role of CEO duality among the companies is still unclear in the performance of organizations. Few studies show the positive effects of CEO duality, on the other hand, few studies highlighted the negative effects of CEO duality. Therefore, CEO duality is still a problematic area for the management of business organizations as well as academicians. In this way, the current study examined the role of CEO duality among Chinese firms. Particularly, this study is attempted to observe the role of CEO duality in audit quality among Chinese firms (Dhiman & Arora, 2020).

Literature addressed the relationship between CEO duality and audit practices through different ways (Abdullah et al., 2008; Arslan et al., 2014; Azhari et al., 2020), however, these studies used various secondary measures to examine the role of CEO duality on audit quality. Previous studies considered secondary data to measure this phenomenon in which already available data is used. However, it is very rare that any study used primary measures to examine the role of this phenomenon among the business organizations. In rare cases any study used various characteristics of CEO duality to examine the effect on audit quality (Saeidi et al., 2021). As the role of CEO duality in audit quality is still confusing, therefore, it is needed to address various other ways to measure this relationship. Hence, by following the gap in the literature, the current study considered various characteristics of CEO duality and studied the effect of characteristics on audit quality. In this direction, the current study used four characteristics; corporate audit culture, influence on audit committee independence, decision making through enormous power and single leadership (Zhang et al., 2021).

There is difference in audit culture among the firms having CEO duality and those firms do not have CEO duality. Therefore, different corporate audit culture (Gilbert & Zalik, 2019) may have influence on the audit quality (Griniuk, 2021). Furthermore, audit committee independence is one of the important essentials of audit practices which is extensively discussed among the earlier studies, however, how the CEO duality alter the audit committee independence is not discussed in the literature (Amar, 2014; Arismajayanti & Jati, 2017; Pomeroy & Thornton, 2008). Generally, CEO cannot influence the audit process, while in CEO duality, the CEO is also the part of management, in this way, it has major influence on the audit practices which can influence negatively on audit committee independence (Omer, 2021). Additionally, CEO duality provide dual power related to the daily operations of the company as well as management which can influence audit quality (Ruiz Estrada, 2020). Finally, this phenomenon allows single leadership as in CEO duality one person lead the management and daily operations of the company which may have influence on audit practices (Muller & de Klerk, 2020). These characteristics can influence the audit committee decisions which further lead to the positive or negative effect on audit quality (Goettel, 2021).

Finally, the objective of this study is to examine the role of CEO duality in audit quality of Chinese firms. While measuring CEO duality, the role of corporate audit culture, audit committee independence, decision making through enormous power and single leadership is considered in relation to the audit committee decision and

audit quality (Yang, 2021). To understand the connection between CEO duality and audit quality, this study proposed the mediating role of audit committee between CEO duality and audit quality (Mattayaphutron & Mahamat, 2021). To measure this proposed relationship, the present study preferred unique research method which is rarely used among previous studies and contributed significantly to the literature and practice (Martanto, 2021).

2. Literature review

2.1. Framework development

The dynamic roles of the CEO as well as board chairman in the firms are quite different (Doan, 2020). The CEO of the firm is accountable for handling and operating the firm operations, meanwhile the board chairman is in charge of board of directors and lead the directors. CEO duality takes place at the time when one person of the firm serves both positions as a CEO of the firm and chairman of the board. Generally, there are two major views related to CEO duality (Barszczewski, 2021). These viewpoints are drawn from the agency theory and stewardship theory. The agency theory and stewardship theory are different from each other's and point out to a different concept. Agency theory proposes that CEO duality can create influential CEO which can use power to influence decisions as well as supervision of the board of directors in right way (Klepek & Bauerová, 2020). Agency theory states that, the dual position of CEO and board chairman can effect the the firm performance (Jensen & Meckling, 1976). However, opposite to agency theory, stewardship theory contends that CEO duality creates strong leadership capability by a unity of command, consequently, the leader may make better as well as faster decisions. Thus, high autonomy will produce better outcomes (Bich & Thai, 2019; Donaldson & Davis, 1991). Several earlier studies did not consider the inconsistency in influence of powerful CEO on company performance regarding the life-cycle of the company. In this way, according to Cornett et al. (2008), the stewardship theory is more supportive and described that CEO duality frequently effect firm performance. However, Yang and Zhao (2014) supported the concept of stewardship theory and explained that CEO duality can run as well as supervise the company clearly along with consistency, therefore, firm performance can be enhanced to bring advantages for the shareholder (Adams et al., 2005; Cadbury & Cadbury, 2002).

In this way, by following the agency theory and stewardship theory, the current study proposed the association between CEO duality and audit quality among the Chinese firms (Mohammad & Pan, 2021). By following the agency theory, this study proposed a negative role of CEO duality on audit quality. This negative effect is considered by introducing the negative effect of CEO duality on audit committee independence and decision-making through enormous power. The audit committee independence and decision-making through enormous power considered as independent variables (Myšková & Hájek, 2020). Furthermore, by considering the stewardship theory, the current study proposed the positive influence of single leadership and corporate audit culture on audit quality through audit committee decision. The single leadership and corporate audit culture also considered as mediating variable.

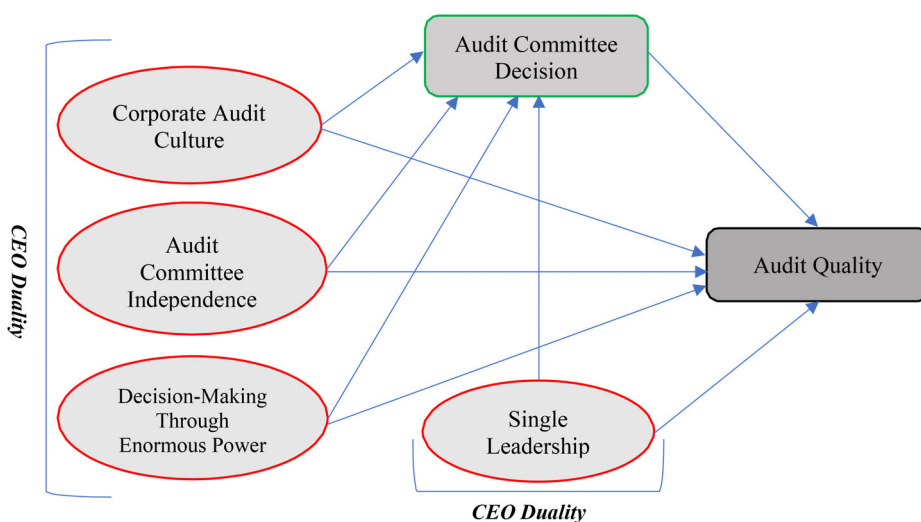


Figure 1. Theoretical framework of the study showing the relationship between corporate audit culture, audit committee independence, decision making through enormous power, single leadership, audit committee decision and audit quality. Source: The authors.

Hence, CEO duality is measured through; corporate audit culture, audit committee independence, decision making through enormous power and single leadership (Gudanowska et al., 2020). The relationship between CEO duality; corporate audit culture, audit committee independence, decision making through enormous power, single leadership, audit committee decision and audit quality is highlighted in Figure 1 as the theoretical framework of the study (Sokolov Mladenović et al., 2020).

2.2. Hypotheses development

Corporate culture denotes to the beliefs as well as behaviours (Y. S. Chen et al., 2020) that determine how an organization's employees as well as management interrelate and manage outside business transactions (Al Ruheili & Al Hajri, 2021). In the similar direction, the corporate audit culture denotes to the behavior as well as attitude of the employees with the audit team. Management of any company has significant relationship with auditors and audit team always requires support from the management as well as employees of the company (Kong & Nelson, 2021). Management of the organization is most important in audit activities (Gamayuni, 2018). The problem raised during the audit activities can be managed with the help of management of the company. Therefore, a supportive audit culture is most important among the organizations to carry out audit activities smoothly (Gee et al., 2021). The one man having the responsibility to handle the operations of the company and management of the directors can develop a good culture through the management of both directors along with the operations of company. In this direction, the current study proposed that corporate audit culture has influence on audit committee decisions which further lead to the audit quality. The supportive corporate audit culture has positive relationship with audit committee decision and audit quality.

Hypothesis 1. Corporate audit culture has positive effect on audit committee decision.

Hypothesis 2. Corporate audit culture has positive effect on audit quality.

The independence of audit committee in any organization has influential role in audit committee decisions and audit quality (Alderman & Jollineau, 2020; Amar, 2014; Arismajayanti & Jati, 2017). In case of CEO duality, audit committee independence effect adversely which can effect on the audit decision along with audit quality. In 2002, the Sarbanes-Oxley Act legislated (Gorshunov et al., 2020) as a reply to numerous larger corporate failures, set out solid regulations for business corporations, with an obligation that the audit committee contains of only external members of the board. Therefore, no member of management will sit in the audit committee (Ncube & Koloba, 2020). But due to the CEO duality, CEO has the right to sit in audit committee which effect

adversely on audit committee independence (Saritas Akyol & Karakaya, 2021). As the audit committee is a sub-group of various board of directors and reports to the chairman, having the CEO in the chairman role restricts the effectiveness of the committee. Sarbanes-Oxley explains that all the employees should report various fraudulent activities directly to the audit committee without the interference of management. However, in case of CEO duality, the involvement of management restricts the employees to report various fraudulent activities to the audit committee. Therefore, in this case of CEO duality, it has negative effect on audit committee decision and audit quality due to the limited audit committee independence.

Hypothesis 3. Audit committee independence has negative effect on audit committee decision.

Hypothesis 4. Audit committee independence has negative effect on audit quality.

The combined power of CEO and chairman may effect negatively on various decision making activities. The major role of the management of any business organization is to report as well as monitor the operation and confirm the smooth working in the organization (Haldorai et al., 2022; Latan et al., 2018; Singh et al., 2021). CEO is one of the most important persons to monitor all these operations, however, in case of CEO duality,

CEO also perform the role of chairman which allow him to use the power in their personal objective. According to the agency theory (Jensen & Meckling, 1976; Mubeen et al., 2020), CEO duality may lead to the misuse of position. The CEO duality give the enormous power to an individual which can be used in decision making process and it has the possibility to take various wrong decisions (Yenipinar, 2021). Therefore, the decision-making through enormous power has negative effect on the audit committee decision and audit quality (Corrás-Arias, 2020).

Hypothesis 5. Decision-making through enormous power has negative effect on audit committee decision.

Hypothesis 6. Decision-making through enormous power has negative effect on audit quality.

Moreover, leadership among the companies also has major influence on various activities including audit practices. Leadership can be designed as 'the action of

leading a group of people or an organization'. The leadership style of management always plays an influential role among the companies which is reported in previous studies (C. Chen et al., 2021; Munir et al., 2022; Phillips et al., 2019). Previous studies reported that, CEO leadership can also play an important role to manage various activities (Hartnell et al., 2016; Waldman et al., 2001). Similar with the CEO leadership, chairman leadership is also important to lead board of directors. However, two different leadership styles of CEO and chairman may do not lead the company towards one specific objective achievement. In case of CEO duality, one leadership style in the company can provide better outcomes which is also supported by stewardship theory. Therefore, along with the other activities of the company, the audit practices also require leadership (Szentés, 2021). A single leadership may provide better outcomes in case of audit quality (Wijaya & Sumiati, 2021).

Hypothesis 7. Single leadership has positive effect on audit committee decision.

Hypothesis 8. Single leadership has positive effect on audit quality.

Hypothesis 9. Audit committee decision has positive effect on audit quality.

Hypothesis 10. Audit committee decision mediates the relationship between corporate audit culture and audit quality.

Hypothesis 11. Audit committee decision mediates the relationship between audit committee independence and audit quality.

Hypothesis 12. Audit committee decision mediates the relationship between decision-making through enormous power and audit quality.

Hypothesis 13. Audit committee mediates the relationship between single leadership and audit quality.

3. Research methodology

3.1. Research design

To investigate the relationship between corporate audit culture, audit committee independence, decision making through enormous power, single leadership, audit committee decision and audit quality, the current study adopted quantitative research approach. While using quantitative research approach, this study carried out a questionnaire survey. Cross-sectional research design is used to collect data from respondents. This study considered questionnaire survey because number of previous studies on CEO duality have ignored the questionnaire survey. Therefore, this study avoided traditional approaches to measure the effect of CEO duality on companies and differential from earlier studies.

3.2. Questionnaire development and pre-test

The primary measures are used to develop a survey questionnaire. The questionnaires were based on two major parts in which the first section was based on the general information of respondents and the second section was based on the scale items related to key study variables; corporate audit culture, audit committee independence,

decision-making through enormous power, single leadership, audit committee decision and audit quality. The corporate audit culture is measured by using four scale items. The scale items were considered by preferring the role of CEO duality to create a supportive culture for audit practices. Audit committee independence is measured by using six scale items. These items measured the negative effect of CEO duality on audit committee independence. The involvement of CEO in audit decision making is considered while measuring the audit committee independence. Decision-making through enormous power is measured through three scale items. These scale items measured the influential power of CEO in decision-making process both in operations of the company as well as management of directors. Single leadership is measured by using five scale items and these items measured the leadership style of CEO in case of CEO duality. IN this case, both the leadership in daily operations of the company and leadership in case of board of directors is considered. Audit committee decision is measured through five scale items in which the influence of CEO duality is considered. Finally, audit quality is measured by using seven scale items. These items measured the quality of financial statements. All these scale items were designed on 7-point Likert scale in which 1 represent 'strongly disagree' and 7 represent 'strongly agree'. Before the distribution of questionnaire, face validity and content validity are considered. The questionnaire was sent to various experts and suggestions were incorporated to enhance the quality. Furthermore, 100 responses were collected to conduct pilot study. The pilot study results highlighted that the scale is reliable and valid.

3.2. Data collection

Population of the current study is the Chinese firms. The respondents of the study are based on the top management of Chinese companies including CEO's and directors. Therefore, questionnaires were distributed among them by using online survey. 500 questionnaires were distributed among the Chinese firms. Remainders were sent to the respondents. Only 135 valid responses were received. All these responses were used for data analysis. While data entry, the errors related to the missing value and outlier in the data is possible. Therefore, data screening was carried out to remove the errors in the data. Finally, data statistics are presented in [Table 1](#).

4. Findings

Data analysis of the current study is based on structural equation modelling (SEM). The role of CEO duality is considered in relation to the audit quality with the help of structural equation modeling. Structural equation modeling is carried out by using statistical tool namely; Partial Least Square (PLS). In the relationship between CEO duality and audit quality, it is also one of the most recommended data analysis techniques in social sciences research (Afthanorhan, 2013; Astrachan et al., 2014; Hair Jr et al., 2014; Zaman et al., 2019). This data analysis technique is based on two major steps. The first part is measurement model assessment and second part is structural modal assessment

Table 1. Data statistics.

	No.	Missing	Mean	Median	Min	Max	SD	Kurtosis	Skewness
CAC1	1	0	3.484	3	1	7	2.032	-1.062	0.291
CAC2	2	0	2.954	3	1	7	1.782	-0.611	1.271
CAC3	3	0	3.092	3	1	7	1.491	-0.158	0.581
CAC4	4	0	3.212	3	1	7	2.03	1.014	0.888
ACI1	5	0	2.94	3	1	7	1.462	0.698	0.889
ACI2	6	0	3.194	3	1	7	1.453	0.435	1.767
ACI3	7	0	3.143	3	1	7	0.995	1.461	0.665
ACI4	8	0	3.249	3	1	7	1.504	0.299	0.691
ACI5	9	0	2.971	3	1	7	1.467	0.463	1.832
ACI6	10	0	3.055	3	1	7	1.42	-1.014	0.427
DMEP1	11	0	3.212	3	1	7	1.372	0.414	0.648
DMEP2	12	0	3.152	3	1	7	1.44	0.156	1.636
DMEP3	13	0	2.924	3	1	7	1.493	1.152	0.689
SL1	14	0	3.263	3	1	7	1.401	-0.146	0.515
SL2	15	0	3.194	3	1	7	0.951	0.29	0.592
SL3	16	0	3.069	3	1	7	1.347	-0.215	1.522
SL4	17	0	3.171	3	1	7	1.307	0.31	0.628
SL5	18	0	2.998	3	1	7	1.417	-0.075	0.685
ACD1	19	0	3.212	3	1	7	1.418	0.151	0.675
ACD2	20	0	3.23	3	1	7	1.335	0.258	1.684
ACD3	21	0	3.355	4	1	7	1.583	-0.543	0.167
ACD4	22	0	3.309	4	1	7	1.728	-0.698	0.297
ACD5	23	0	3.369	3	1	7	1.925	-0.868	0.368
AQ1	24	0	3.35	3	1	7	2.011	-1.052	0.402
AQ2	25	0	3.226	3	1	7	2.099	-1.005	0.505
AQ3	26	0	3.281	3	1	7	1.972	-0.9	0.471
AQ4	27	0	3.369	3	1	7	1.702	-0.599	0.388
AQ5	28	0	3.323	3	1	7	1.919	-0.852	0.4
AQ6	29	0	3.355	3	1	7	1.871	-0.859	0.406
AQ7	30	0	3.336	3	1	7	1.904	-0.843	0.369

Note: CAC = Corporate Audit Culture; ACI = Audit Committee Independence; DMEP = Decision Making through Enormous Power; SL = Single Leadership; ACD = Audit Committee Decision; AQ = Audit Quality.

Source: The authors.

4.1. Measurement model assessment

Measurement model is based on the confirmatory factor analysis (CFA) which is carried out in the current study. CFA is carried out to examine the reliability along with the validity. To check the reliability as well as validity of the questionnaire, this study carried out data analysis to check factor loadings. Number of studies recommended various criteria to accept or reject the items. In this study 0.7 is considered as the minimum threshold level to retain the items. All the scale items are presented in Table 2 which indicated that the factor loading of audit quality is between 0.887 and 0.939. Furthermore, the factor loading of audit committee decision is between 0.84 and 0.879. The factor loading of corporate audit culture is between 0.83 and 0.866. The factor loading of decision making through enormous power is between 0.902 and 0.919. It is also observed that the factor loading of single leadership is between 0.881 and 0.929. Thus, it is found that all the items of all the variables have factor loading above 0.7. Therefore, all the items are retained in the current study. The factor loading of all the items is not sufficient to check the overall level of reliability. In this way, the current study considered composite liability (CR) which must be above 0.7. It is given in Table 2 that all the scale items having composite reliability (CR) above 0.7. Along with the composite reliability (CR), it is also important to examine average variance extracted (AVE) which must be above 0.5. In the current study, it is

Table 2. Factor loadings.

Variables	Items	Loadings	Alpha	CR	AVE
Audit Committee Decision	ACD1	0.814	0.905	0.929	0.725
	ACD2	0.827			
	ACD3	0.849			
	ACD4	0.879			
	ACD5	0.885			
Audit Committee Independence	ACI1	0.901	0.947	0.949	0.825
	ACI2	0.896			
	ACI3	0.914			
	ACI4	0.924			
	ACI5	0.937			
	ACI6	0.876			
Audit Quality	AQ1	0.925	0.939	0.955	0.847
	AQ2	0.939			
	AQ3	0.929			
	AQ4	0.887			
	AQ5	0.92			
	AQ6	0.921			
	AQ7	0.921			
Corporate Audit Culture	CAC1	0.838	0.869	0.91	0.717
	CAC2	0.83			
	CAC3	0.852			
	CAC4	0.866			
Decision-Making Through Enormous Power	DMEP1	0.909	0.896	0.935	0.828
	DMEP2	0.919			
	DMEP3	0.902			
Single Leadership	SL1	0.91	0.945	0.959	0.826
	SL2	0.881			
	SL3	0.905			
	SL4	0.918			
	SL5	0.929			

Note: CAC = Corporate Audit Culture; ACI = Audit Committee Independence; DMEP = Decision Making through Enormous Power; SL = Single Leadership; ACD = Audit Committee Decision; AQ = Audit Quality.
Source: The authors.

highlighted in Table 2 that all the variables namely; audit quality decision making through enormous power, single leadership and corporate audit culture along with audit committee independence has AVE higher than 0.5. The achievement of minimum value of composite liability (CR) and AVE confirmed the convergent validity which is also important to achieve in PLS measurement model.

Moreover, along with the reliability as well as convergent validity, to carry out the data analysis for further step, it is also important to examine discriminant validity. There are several techniques to check the discriminant validity. However, this study selected two important techniques. This study selected heterotrait-monotrait ratio of correlations (HTMT) and cross loading to check the discriminant validity. To check the discriminant validity through $HTMT_{0.9}$, all the values must be less than 0.9. As shown in Table 3 the values have not exceeded 0.9. Furthermore, cross loading also examined to check the discriminant validity which are given and Table 4.

4.2. Structural model assessment

Structural model is important to check the relationship between variables which is also recommended in numerous previous studies in relation to PLS (Afthanorhan, 2013; Hair et al., 2017; Khan et al., 2019). In this type of data analysis, the

Table 3. HTMT_{0.9}.

	Audit Committee Decision	Audit Committee Independence	Audit Quality	Corporate Audit Culture	Decision-Making Through Enormous Power	Single Leadership
Audit Committee Decision						
Audit Committee Independence	0.805					
Audit Quality	0.728	0.676				
Corporate Audit Culture	0.88	0.738	0.69			
Decision-Making Through Enormous Power	0.739	0.764	0.713	0.898		
Single Leadership	0.885	0.761	0.638	0.628	0.765	

Source: The authors.

Table 4. Cross-loadings.

	Audit Committee Decision	Audit Committee Independence	Audit Quality	Corporate Audit Culture	Decision-Making Through Enormous Power	Single Leadership
ACD1	0.894	0.858	0.601	0.796	0.829	0.856
ACD2	0.887	0.53	0.627	0.772	0.827	0.843
ACD3	0.849	0.656	0.795	0.603	0.677	0.612
ACD4	0.879	0.594	0.829	0.58	0.629	0.585
ACD5	0.885	0.622	0.847	0.619	0.637	0.591
ACI1	0.768	0.901	0.561	0.784	0.81	0.852
ACI2	0.755	0.896	0.581	0.795	0.832	0.841
ACI3	0.789	0.914	0.621	0.796	0.811	0.816
ACI4	0.768	0.924	0.611	0.782	0.839	0.831
ACI5	0.789	0.937	0.603	0.807	0.82	0.861
ACI6	0.717	0.876	0.571	0.779	0.753	0.781
AQ1	0.772	0.552	0.925	0.574	0.562	0.523
AQ2	0.831	0.625	0.939	0.61	0.635	0.585
AQ3	0.795	0.584	0.929	0.589	0.611	0.538
AQ4	0.793	0.64	0.887	0.598	0.645	0.604
AQ5	0.814	0.591	0.92	0.581	0.599	0.559
AQ6	0.783	0.575	0.921	0.566	0.601	0.548
AQ7	0.813	0.631	0.921	0.588	0.631	0.585
CAC1	0.563	0.608	0.51	0.838	0.54	0.572
CAC2	0.577	0.608	0.494	0.83	0.555	0.587
CAC3	0.755	0.823	0.576	0.852	0.784	0.848
CAC4	0.751	0.861	0.566	0.866	0.808	0.848
DMEP1	0.785	0.813	0.621	0.742	0.909	0.808
DMEP2	0.741	0.786	0.593	0.715	0.919	0.807
DMEP3	0.781	0.838	0.601	0.748	0.902	0.813
SL1	0.762	0.82	0.588	0.769	0.834	0.91
SL2	0.728	0.808	0.567	0.755	0.786	0.881
SL3	0.735	0.841	0.541	0.785	0.808	0.905
SL4	0.739	0.844	0.535	0.784	0.792	0.918
SL5	0.759	0.843	0.546	0.811	0.821	0.929

Source: The authors.

relationship between corporate audit culture, audit committee independence, decision making through enormous power, single leadership, audit committee decision and adult quality is considered. The data analysis of the study checked the effect of corporate audit culture, audit committee independence and decision making through enormous power is examined on audit committee decision and audit quality. Furthermore, the effect of single leadership is also considered in relation to the audit

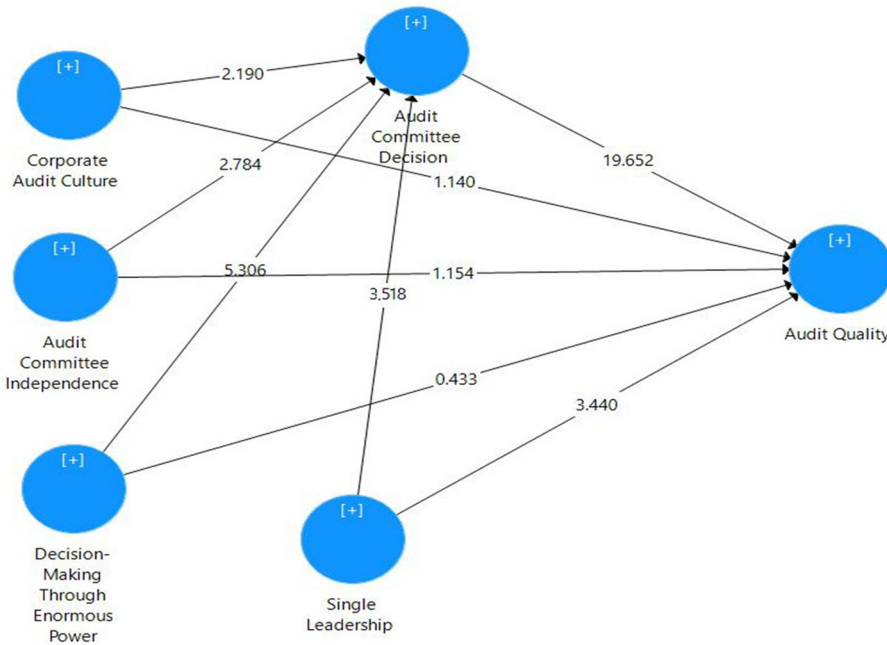


Figure 2. Structural model.
Source: The authors.

Table 5. Direct effect results.

	Beta	Mean	SD	T Statistics	P Values	Decision
Audit Committee Decision -> Audit Quality	0.413	0.411	0.021	19.652	0	Supported
Audit Committee Independence -> Audit Committee Decision	-0.272	-0.274	0.098	2.784	0.003	Supported
Audit Committee Independence -> Audit Quality	-0.113	-0.114	0.032	3.518	0	Supported
Corporate Audit Culture -> Audit Committee Decision	0.178	0.173	0.081	2.19	0.014	Supported
Corporate Audit Culture -> Audit Quality	0.085	0.09	0.075	1.14	0.127	Not Supported
Decision-Making Through Enormous Power -> Audit Committee Decision	-0.418	-0.416	0.079	5.306	0	Supported
Decision-Making Through Enormous Power -> Audit Quality	-0.035	-0.033	0.081	0.433	0.333	Not Supported
Single Leadership -> Audit Committee Decision	0.045	0.051	0.107	0.421	0.337	Not Supported
Single Leadership -> Audit Quality	0.263	0.264	0.076	3.44	0	Supported

Source: The authors.

committee decision and audit quality. To check all the related hypotheses, this study examined t-value 1.64 and beta value. The t-value is considered to check the significance of the hypotheses and beta value is considered to check the direction of the hypotheses. The significance through t-value is highlighted in Figure 2 which is the structural model. The results of these direct effects are present in Table 5. Result shows that corporate audit culture has significant influence on audit committee decision through t-value 2.190. Audit committee independence also has significant effect on audit committee decision with the t-value 2.784. It is found that decision making through enormous power has significant relationship with audit decision with value t-value 5.306. Furthermore, few of these variables also have significant effect on audit quality directly. It is identified that single leadership has significant effect on audit

Table 6. Indirect effect results.

	Beta	Mean	SD	T Statistics	P Values	Decision
Corporate Audit Culture -> Audit Committee Decision -> Audit Quality	0.203	0.196	0.091	2.246	0.013	Supported
Audit Committee Independence -> Audit Committee Decision -> Audit Quality	-0.311	-0.312	0.114	2.735	0.003	Supported
Decision-Making Through Enormous Power -> Audit Committee Decision -> Audit Quality	-0.478	-0.474	0.094	5.069	0	Supported
Single Leadership -> Audit Committee Decision -> Audit Quality	0.052	0.06	0.124	0.415	0.339	Not Supported

Source: The authors.

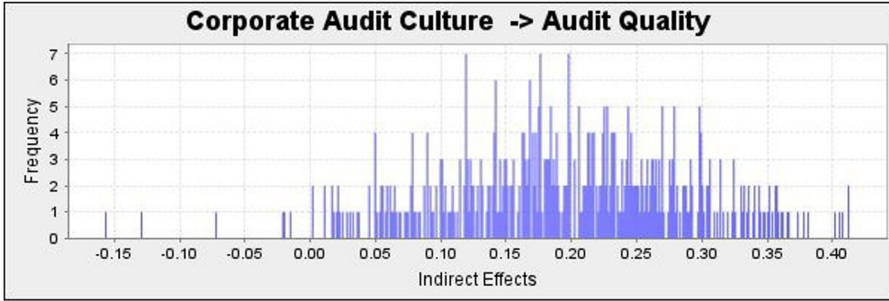


Figure 3. The indirect effect histogram between corporate audit culture and audit quality.

Source: The authors.

quality with the t-value 3.440. However, corporate audit culture, audit committee independence and enamours decision-waking power has not direct effect on audit quality. Finally, while examining the direct effect it is found that audit committee decision has significant effect on audit quality with t value 19.652.

Table 5 shows all the direct effects of various independent variables on dependent variable and mediating variable effect is given in Table 6. It is evident that few of the variables has direct effect on audit quality however, few of the variables has no effect on audit quality but these variables have indirect effect through audit committee decision. The indirect effect of audit committee decision is proved in Table 6 which indicated the mediation effect of audit committee decision is considered between corporate audit culture and audit quality. Second mediation effect of audit committee decision is considered between audit committee independence and audit quality. The third mediation effect of audit committee decision is considered between decision making through enormous power and audit quality. Final and fourth mediation effect of audit committee decision is considered between single leadership and audit quality. Results of these hypotheses are also examined by considering the significance level of t-value in Table 6. It is evident that the mediation effect of audit committee decision between corporate audit culture and audit quality is significant with the t-value 2.246. The other mediation effect of audit committee decision between audit committee independence and quality is also significant with t-value 2.735. Furthermore, the mediation effect of audit committee decision between decision making through enormous power and audit quality is also significant with t-value 5.069. The mediation effect between single leadership and adult quality is not significant. The histogram of indirect effect between

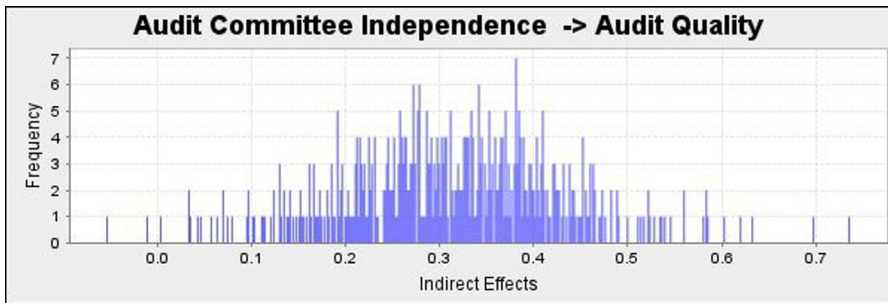


Figure 4. The indirect effect histogram between audit committee independence and audit quality. Source: The authors.

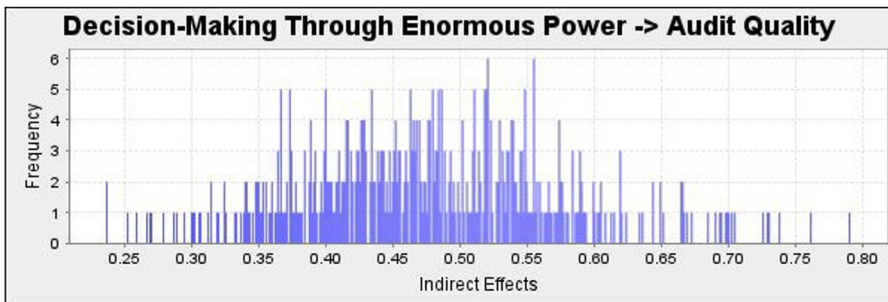


Figure 5. The indirect effect histogram between decision-making through enormous power and audit quality. Source: The authors.

corporate audit culture and audit quality is given in Figure 3. Furthermore, the histogram of indirect effect between audit committee independence and audit quality is given in Figure 4. Finally, the indirect effect histogram between decision making through enormous power and audit quality is given in Figure 5. These results indicated that audit committee decision has the potential to transfer the effect of corporate audit culture, audit committee independence and decision-making through enormous power on audit quality.

Finally, the current study considered predictive relevance (Q^2) to check the quality of the model. It is one of the important parts of structural equation modeling by using PLS. It is highlighted in Figure 6 and Table 7. According to the previous studies, predictive relevance (Q^2) can be confirmed by using blindfolding technique in PLS. It can generate predictive relevance (Q^2) of dependent variable which must be higher than zero. This study shows that the predictive relevance (Q^2) of audit quality is 0.664 and predictive relevance (Q^2) of audit committee decision is 0.543 which is acceptable. It highlighted that the current study model has achieved a certain level of quality. The process of predictive relevance (Q^2) is given in Figure 6.

Finally, the variance explained in the endogenous latent variable is most important in structural equation modeling. The variance explained is considered with the help of r-square value. The r-square value in the current study is 0.789 for audit quality. It indicates that all the variables namely; corporate audit culture, audit committee independence, decision making through enormous power, single leadership and audit

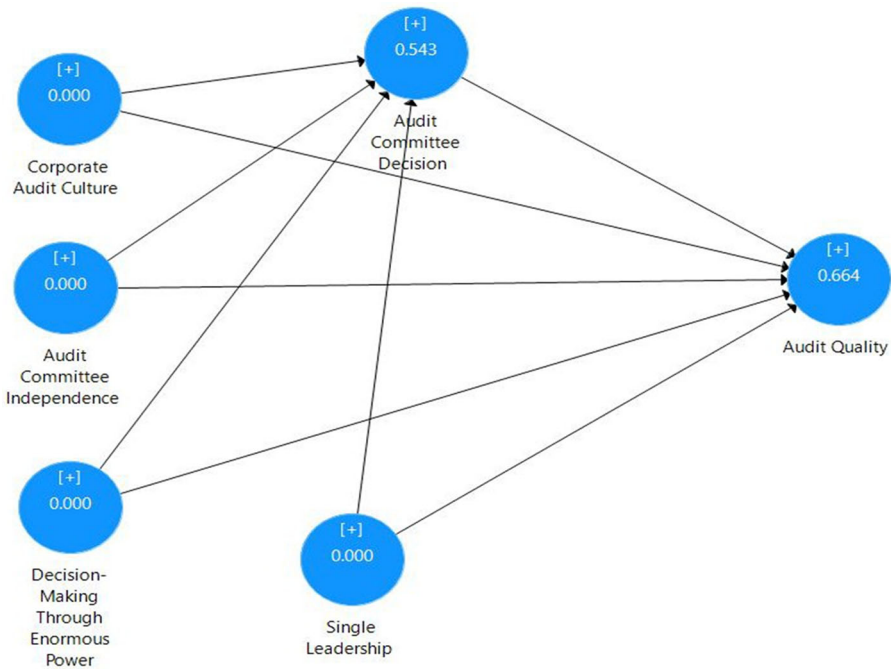


Figure 6. Predictive relevance (Q^2).
Source: The authors.

Table 7. Predictive relevance (Q^2).

	SSO	SSE	$Q^2 (=1- SSE/SSO)$
Audit Committee Decision	1085	495.622	0.543
Audit Committee Independence	1302	1302	
Audit Quality	1519	510.184	0.664
Corporate Audit Culture	868	868	
Decision-Making Through Enormous Power	651	651	
Single Leadership	1085	1085	

Source: The authors.

committee decision has the potential to bring 78.9% change in audit quality which is considered as strong. Furthermore, the change in auditcommittee decision is 76.1% due to the corporate audit culture, audit committee independence and decision-waking through enormous power and single leadership.

5. Discussion and conclusion

The objective of this study was to observe the role of CEO duality in audit quality among the Chinese firms. Therefore, the current study carried out a survey among the Chinese firms and data analysis is carried out by using statistical tool. To achieve the study objective, the current study proposed various direct effects and indirect effect hypotheses. In this way, this study proposed 9 direct hypotheses and four indirect hypotheses based on audit committee decision. The results of the study fulfilled the objective of the present study and clearly highlights the effect of CEO duality on audit quality among Chinese firms.

The direct hypothesis 1 is considered between corporate audit culture and audit committee decision. This hypothesis shows the positive effect of corporate audit culture on audit committee decision. It indicates that if the CEO duality exist among the Chinese companies, it can promote corporate audit culture which can enhance the audit committee decisions. Therefore, in this way the audit quality has significant positive role in audit practices. However, the effect of corporate audit culture on audit quality is not significant. There is no effect of corporate audit culture on audit quality. In this way, the audit quality is influenced by indirect way from corporate audit culture, however, the corporate audit culture has not direct effect on audit committee decision. The effect of corporate audit culture on audit quality is considered in hypothesis 2. The hypothesis 3 highlighted the connection between audit committee independence and audit committee decision. Outcomes of this study highlighted that audit committee independence has positive effect on audit committee decision. It indicates that CEO duality in form of audit committee independence has effect on audit committee decisions. However, this relationship is not positive which indicates that audit committee independence has negative effect on audit committee decisions. All the previous studies have highlighted that audit committee independence has positive effect on audit practices (Alderman & Jollineau, 2020; Cohen et al., 2008; Toumeh et al., 2020), however, results are not consistent with previous studies. In relation to the CEO duality, CEO is also the member of board of directors committee and it has direct role in audit practices which causes to decrease the audit effectiveness. In this way, independence of auditor may effect which causes to have negative effect on decision making linked to the audit committee. On the other hand, hypotheses 4 shows the direct influence of audit committee independence on audit quality which is not significant. Thus, audit committee independence has no influence on audit quality directly but it has affect on audit quality through audit committee decisions. Hypostasis 5 indicated the relationship between decision making through enormous power and audit committee decisions. In this case, CEO duality is considered as CEO has dual power as he or she is a chairman of the directors as well as CEO of the company which gives him the highest decision-making power. The highest power may lead to the negative decisions and having negative effect on audit committee decisions. In this way, this study also proved that decision making through enormous power has negative effect on audit committee decisions. However, as shown in hypothesis 6, similar with corporate audit culture and audit committee independence, decision-making through enormous power has not direct effect on audit quality but it has effect through audit committee decisions. The hypothesis 7 indicated the effect of single leadership on audit committee decision. The characteristics of CEO duality as single leadership has positive effect on audit committee decisions. Increase in the leadership as single leader can increase the decisions of audit. Furthermore, it is also evident that single leadership has positive influence on audit quality which is given in hypotheses 8 and single leadership has positive role to audit committee decisions. Finally, while considering the direct effect it is found that audit committee decision has positive influence on audit quality as shown in Hypothesis 9. Therefore, improvement in audit committee decisions can improve the audit quality.

Along with the direct effect of these variables on audit quality, the current study also considered the indirect effect of audit committee decisions on audit quality. The four indirect affects proposed in hypothesis 10, hypothesis 11, hypothesis 12 and hypothesis 13. These hypotheses indicated that the indirect effect of audit committee decisions has the potential to transfer the effect of corporate audit culture, audit committee independence and decision-making through enormous power on audit quality. It shows that audit committee decision transfer the negative effect of audit committee independence in case of CEO duality on audit quality. It also transfers the positive effect of corporate audit culture on audit quality. In addition to this, audit committee decision has a potential to transfer the negative role of decision-making through enormous power on audit quality.

Finally, it is concluded that CEO duality has various advantages as well as disadvantages for the Chinese companies. Various characteristics of CEO duality has influential role to increase or decrease the audit quality. Among Chinese companies, the current study proved that CEO duality has both positive as well as negative effect on audit quality. CEO duality elements such as corporate audit culture, and single leadership has positive influence to enhance audit quality. Elements namely; decision making through enormous power and audit committee independence has negative effect on audit quality.

6. Implications of the study

6.1. Theoretical implications

Theoretically, this study has valuable implications for the literature. As this study addressed unique relationship between CEO duality and audit quality. This study proposed corporate audit culture, audit committee independence, decision-making through enormous power and single leadership which were not considered by the previous studies. Although, these elements of CEO duality are mentioned in the literature, however, these elements are not formally documented in relation to the audit quality among Chinese firms. Other studies carried out research on secondary measures of CEO duality along with various other variables. Most of the studies compare and contrast the companies having CEO duality and companies do not have CEO duality and proposed the results. However, the current study addressed the actual influence of CEO duality on the audit quality with the help of survey approach. In this way, the current study contributed to the literature by providing a unique method to examine the effect of CEO duality on audit quality which is not addressed by the other studies. Furthermore, the use of Partial Least Square (PLS) to measure the influence of CEO duality on audit quality is not addressed in literature. Hence, this study also used a different statistical tool which has valuable addition to the literature. Additionally, this study proved audit committee decisions as mediating variable between CEO duality and audit quality which is not addressed in the literature among earlier studies.

6.2. Practical implications

Practically, the current study provided several insights for the practitioners to enhance audit quality and provided several recommendations in relation to the CEO duality. This study proposed various elements of CEO duality which can increase or decrease the audit quality. Therefore, the management of Chinese companies can improve the audit quality by avoiding various factors having negative effect on audit quality and by promoting the factors having positive role to improve audit quality. First, corporate audit culture through CEO duality can be promoted to enhance audit committee decisions because it has positive influence on audit decisions. Second, audit committee independence in relation to the CEO duality has negative effect on audit committee decisions, therefore, the companies should discourage the negative effect of CEO duality on audit committee independence. Third, in CEO duality, decision-making through enormous power has negative role in audit committee decision, therefore, this element of CEO duality should be avoided. Four, single leadership should be promoted among the companies to enhance audit committee decision and audit quality. Thus, while making the strategies to enhance audit quality, the practitioners can consider the important points highlighted by the current study to promote audit quality.

Disclosure statement

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