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Article

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ACCOUNTING, CORPORATE GOVERNANCE & BUSINESS ETHICS | RESEARCH ARTICLE

National culture and firm financial performance: A mediating role of firm financing decision

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Shamshair Khan⁴

Abstract: This study unfolds the role of national culture in determining the firm financial performance through channel of corporate financial policy. Sample size consists of 7623 non-financial sector firms from 13 Asian economies and fixed-effect model applies to estimates the regression. As the findings reveal, countries carrying high scores on power distance, individualism and long-term orientation face the low firm performance due to high transaction cost, agency cost, and problem of information asymmetric in their financing decision. In contrast, corporate firms from high masculine, high uncertainty avoidance and indulgence countries enjoy the better firm performance as these cultures indicate the effort assertive, resolving the uncertainties and co-operative behavior. In brief, the findings of study highlight the importance of national culture and give better insights into how cultural values determine the corporate financing policy which further



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PUBLIC INTEREST STATEMENT

This study mainly concerns with implications of national culture at firm-level decisions. National culture is an important factor which determines the corporate manager's behaviour regarding different business-level decisions. In line of these, we have explored the impact of national culture on corporate financial performance through the channel of financing decision. Findings first reveal the significant and dynamic impact of cultural dimensional on corporate performance. Further, it also evidenced from empirical findings that different dimensions of national culture have varying effect on financing decision which further impacts (both positive and negative) on financial efficiency. Mainly, this study impedes the understanding of readers how national cultural variation across the countries can determine the firm-level decisions.

affects the financial efficiency. It also provides the direct evidence on the effect of cultural values upon financial performance.

Subjects: Anthropology - Soc Sci; Finance; Business, Management and Accounting

Keywords: Hofstede's six national cultural dimensions; capital structure; firm performance; Asian economies

Jel: Z10; G32; G30

1. Introduction

Culture has crucial role in dynamic business decisions. Different management practices at corporate level adhered with cultural values which change the decision-making practices of corporate managers. The assessment of human behaviour relates to cultural values and this behaviour deviates as culture vary across the countries. In current dynamic business environment, the objective to achieve the maximum corporate financial efficiency not only connects with technological innovation or transparent functioning of business practices, but it also relates with country-level factors, i.e., national level culture. Better cultural values enhance the organizational performance and confirm the corporate sustainability. Prior studies have significantly suggested the impact of national culture on firm-level financial policies (Chang et al., 2012), but this study extends the analysis how change in financing decision due to national culture further determines the firm financial efficiency. Corporate financing decision has more relevance with firm financial performance instead of other financial decisions (Le Vy & Phan, 2017). This factor motivates to study the role of national culture in organizational performance when capital structure plays a mediating role.

Culture can be defined as “*the collective programming of mind that distinguishes the people of one country, region or group from people of other countries, regions or groups*” (Hofstede, 2001). In his recent research, Hofstede argues that there exist the six cultural dimensions that exemplify the culture of any country. These dimensions are power distance: low versus high, individualism versus collectivism, masculinity versus femininity, uncertainty avoidance: low versus high, long-term orientation vs. short-term orientation and indulgence versus self-restraints. The high-power distance culture shows the wide gap between upper and lower management. The high individualistic culture narrates that the individuals are over-confident about their skills and want to achieve their goals individually. High masculinity culture suggests the men domination in decision making, rigid behaviour of managers and willingness to do something extra-ordinary. Similarly, high uncertainty avoidance culture shows the non-myopic or non-flexible attitude toward uncertainties. Corporate managers resolve the ambiguities and make only those decisions which have low substantial risk. As moving forward, the firms or managers from long-term orientation culture think about sustainability or long-term validity of decisions. They are interested in long-term-oriented actions and strategies. The last dimension is indulgence which shows the socialistic attitude of any society. The managers from high indulgence countries become instantly social with colleagues. These are the six dimensions explain the culture of any country.

The most discussing area in the literature of finance is financing decision of firms. Despite the enormous research, the financing decision or capital structure is the most controversial topic in literature. Although, there exist number of finance theories that try to explain the efficient capital structure, but no theory generalizes this trend (Gill et al., 2011). The research of Modigliani (1958) intrigued this topic and noted the changing behaviour in firm financing cost as the ratio of debt and equity changes. There exist two sources through which a firm can fulfil its funding needs, i.e., internal and external. The internal source of financing consists of capital reserve or retained earnings set aside from total profit by the company to meet the consequences. The firms normally use it first and if these funds do not meet with required need of funds then firms move toward external financing. The external financing has further two options, i.e., debt financing and equity

financing. The capital structure theories such as trade-off theory, agency cost theory and pecking order theory talk about the structure of these two options of financing.

According to pecking order theory, the firms follow the hierarchy of funding options, i.e., capital reserve, debt financing, and equity financing relatively. But, according to trade-off theory, the firms prefer those types of financing which is more economical. The agency cost theory assumes the optimal capital structure which enhances the firm wealth by minimizing the conflicts between shareholder and managers of firms. The trade-off theory was intrigued by Modigliani (1963), agency cost theory by Jensen and Meckling (1976), and pecking order theory by Myers and Majluf (1984).

This study tries to unfold the role of national culture in firm financial performance through the channel of financing decision. It is interesting to note that how national culture affect the firm financial performance in the presence of capital structure. Prior research has proven that the national culture affect the financing decision and it was also evidenced from literature that the change in capital structure has strong effect on firm financial performance. Moreover, to some extent, the culture has also direct effect on firm financial performance because it changes the psychology of executives which alternatively affects the firm financial performance. In line of these assumptions, empirical findings of this study confirm the effect of national culture and financing pattern on financial performance. These results were robust even in individual effect.

This analysis has both practical significance and theoretical contribution. Practically, it provides the clear thoughts to corporate manager to consider the national culture in their decision-making strategies. Irrespective of thoughts as national culture is the non-firm specific or non-financial sector, they should consider it as an important determinant of firm-level financial decisions. Theoretically, it adds the new concept of national cultural role in determining the financial performance and robust the findings that in favour of significant influence of national culture on capital structure. It extends this literature to the effect of financial performance due to change in financing decision caused by national culture. No study was found on such arrangement of research model.

More specifically, as for concern the clear contributions, this analysis attributes to enhance the empirical literature both on firm financial performance and financing decisions by adding the national culture. Some recent studies highlight the cultural role in moderating the behaviour of managers in dynamic business proceedings (T & Dularif, 2020), but no study directly explores such relationship. Literature is also abundant on routine determinants of financial efficiency and financing decision. However, to our best knowledge, no study has such arrangement of variables specifically in emerging economies which are more sensitive towards the cultural response. This study provides the new insights how cultural variation across the countries affects the financial performance through the channel of financing decision. It extends the existing literature on national culture and capital structure to financial performance and stratifies the findings of previous studies that predict the effect of national culture on financial decision.

The study organizes into five sections. The section 1 is of introduction, section 2 enlists the study background, empirical literature review and hypotheses development. In section 3, research designed has prescribed while section 4 explores the results of study and section. Similarly, section 7 concludes the whole study. The references which were used in body of study are placed at the end.

2. Background of study

There exists the vast literature discusses the inter-relationship between the national culture and variety of business decisions (Antonczyk Christian Ron, 2013; Chui, 2002; Chen, 2015; Chui, 2010). These studies focused on cultural variation and analyzed the role of national culture in business practices i.e. financing decision and cash holding practices. More specific, study conducted by

Zakaria and Ardalan (2016) has documented the cultural role in determining the firm performance. They have studied the culture of 39 emerging markets and found that national culture shows its strong impact in determining the firm performance. The literature also evidenced that the national culture may affect the financing decision of firms (Booth, 2001). The change in firm financing options further determined the firm financial performance both negatively and positively (Salim & Yadav, 2012). But literature is scarce on inter-relationship among national culture, financing decision, and firm financial output. This study try to fill this instant gap by exploring the mentioned relationship.

Culture has a strong impact on manager's way of thinking and their decisions vary as cultural values change across the nations. The major contribution in exploring the understanding of culture was made by Hofstede. He has studied the culture of different countries and presents the different cultural dimensions which account for the cultural trend of specific country. He has introduced six dimensions of national culture in his periodical researches arranged on different countries (Hofstede, 1984, 2001, 2010). These dimensions are power distance, individualism, masculinity, uncertainty distance, long-term orientation and indulgence. These dimensions affect economic outcomes of any country which further effect the different business practices (Beugelsdijk, 2011).

Similarly, an array of finance studies discussed the role of efficient management of capital structure in determining the firm performance. (Abdullah & Tursoy, 2019; Chadha & Sharma, 2015; Le Vy & Phan, 2017). An imbalance acquiring of debts or equity to finance the business operations can hamper the corporate efficiency by enhancing the business volatility (Gernát et al., 2020). More bank loans have extra burden of interest payments and also have negative impact on business stability. Capital structure closely related to managers perceptions about future outcomes (Naseem & Lin, 2020). They acquire more banks loans when bank lending rate is comparatively low then dividend payment rate. But sometime, corporate managers ignore the different-associated costs i.e. business volatility and opportunity cost etc. with debt financing and intuitively get more loans. This biased decision deteriorates the transparent functioning of business operations (Li et al., 2019). Similarly, corporate managers interested in more equity as to get the bonuses from shareholders. In this greed, they often ignore current business situations and issued more stock to acquire equity financing. More equity results in giving up control of business operations and more dividend payment. It also reduces the share price. Briefly, improper percentage of debt and equity in total financing impacts adversely on corporate financial efficiency.

2.1. Theoretical discussion

There are different firm-level decisions which alternatively affect the corporate financial performance i.e. financing decision, investment decision and dividend payout decision etc. But out of these business decisions, capital structure decision has major role in determining the firm performance (Nenu et al., 2018). The discussion on capital structure was intrigued first by Modigliani (1958) in which they have documented that the cost of financing changed as ratio of debt or equity change in accumulated financing. Later, they have also explored the topic of capital structure comprehensively and studied the different determinants which may affect the cost of financing (Modigliani, 1963). The famous capital structure theories i.e. pecking order theory, trade-off theory and agency cost theory widened the theoretical understanding on capital structure (Myers & Majluf, 1984).

Some corporate governance theories i.e. stewardship theory, resource dependency theory, and stakeholder theory better provide the insights on cultural impact on firm-level decisions (Afza & Nazir, 2014). Stewardship theory states the psychology of managers attributed to future outcomes in term of more bonuses and other financial benefits. They attentionally preferred more equity even it is costlier than debt as it gives more financial benefits. Likewise, culture has clear impact on manager's psychology. Thus, psychology of managers can deviate across the nations which significantly alter the financing pattern. Similarly, resource dependency theory focuses on the attitude of executives regarding the resource arrangements that firms needed for business

activities. This theory links the national culture with financing as more risk averse managers reluctant to acquire the external financing and rely more on internal funds which directly achieve the financial performance both positively and negatively.

Next, stakeholder theory incorporates the liability of managers towards stakeholder of company. They have to perform by moderating the interest of all stakeholders. According to this theory, a more bending culture creates the conflict of interest among stakeholders which alternatively hampers the business performance. For example, in more uncertainty avoidance culture, preference for equity financing dominates over debt financing either equity is more costly than debt in this economy. In this situation, corporate firms have low financial efficiency (Griffin et al., 2017).

There exists the voluminous literature which discussed the national culture as important determinant of different corporate decisions (Haq Mamiza, 2017; Shao Liang, 2010; Wang Daphne, 2014). Similarly, the literature has proven the effect of national culture on capital structure (Chui, 2010) which further affects the corporate performance (Chadha & Sharma, 2015). Some studies have also enlisted the role of corporate culture on firm-level decisions (Karim & Qamruzzaman, 2020; Srisathan et al., 2020). However, these studies limited to corporate level culture discussions. Moreover, limited studies were found in literature that explained the separate relationship among national culture, capital structure and firm performance. So, this study tries to fill this gap in following ways

- The study is innovative in a way that it takes the capital structure as mediating variable between the national culture and firm financial performance.
- It checks the combined effect of national culture and capital structure on firm performance. No study was found in literature on such relationship.

2.2. Empirical literature and hypotheses development

The vast literature on national culture confirms their relationship with financing decision which further affects the corporate financial performance. The study arranged by Haq Mamiza (2017) has documented that the countries from high-power distance culture preferred more equity for financing purpose and literature also vowed that the firms which have more equity have better performance (Omondi, 2013; Umer, 2014). The second dimension of national culture is individualism which suggests that the firms in high individualistic countries tend to achieve their goals on individual basis and do not want to adhere with others (Hofstede, 2010). However, the firms in high individualistic culture bear the high cost of information asymmetric in case of equity which causes the more cost of financing and compel the firms toward more debt financing (Chui, 2010). Trade-off theory indicated the negative impact of leverage on firm performance and this notion was also supported by Gleason (2000).

Next, countries with high masculine culture carry the rigidity and non-flexible attitude. Managers from high masculine culture show the more efforts assertive behaviour for organizational wealth. They preferred more equity because equity financing provides more chances to increase the organizational wealth (Zheng, 2012). This notion was later strengthened by Wang and Esqueda (2014). Zeitun and Tian (2007) exemplified that the firms which preferred the more equity has positive relationship with corporate financial performance. Fourth dimension is uncertainty avoidance which shows the risk avoidance behaviour of managers. The study of Arosa (2014) noted the negative relationship between leverage and uncertainty avoidance. They have explained the manager's behaviour as they found safe path instead of fixed liability in high uncertainty avoidance culture and thus they show the offensive attitude toward debt financing. The low preference for debt financing has positive effect on firm performance (Gill et al., 2011).

Long-term orientation shows the non-myopic behaviour of firms. The long-term-oriented firms had focussed on long-term benefits and formulate the strategies which valid for long duration of

time (Hofstede, 2010). In support of this notion, the study of Zheng (2012) revealed that the managers from long-term-oriented culture have more forward-looking behaviour. They have suggested the negative relationship between long-term orientation and leverage. The low preference for debt shows the positive impact on firm performance. The last dimension argued by Hofstede in 2010 is indulgence. Corporate managers in high indulgence culture made decisions deliberatively while self-restraint societies impose the strict regulations on their inhabitants (Hofstede, 2010). In high indulgence societies, managers have leisure attitude and do not pay attention to management of equity and preferred more debt.

The review of previous studies shows the dynamic relationship of national culture with capital structure and firm financial performance. Based on empirical findings of previous studies, following relationship can be supposed

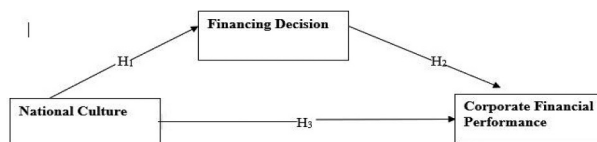
H₁: There exists significant relationship between the national culture and capital structure.

H₂: There is significant relationship between capital structure and firm financial performance.

H₃: The national culture affects the firm financial performance significantly.

This study tested the outcomes which previous studies have suggested as shown in Figure 1 Theoretical Framework.

Figure 1. Theoretical framework.



3. Research design

Data of firm-specific variables were obtained from *Thomson Reuters Data Stream*.¹ The information regarding the Hofstede, s cultural dimensions has obtained from his official data site titled *Hofstede insights*.² Ten years data ranging from 2007 to 2016 were used for regression analysis. The research size consists of 7623 firms from non-financial sector of 13 Asian countries. A corporate firm, which has less than 5 years observation for specific variable was excluded from sample because it may create the outlier in data. Table A.1 exhibits detail of countries and number of selected companies.

Fixed effect model apply to estimates the regression between dependent and independent variables. It is obvious that fixed effect model can eradicate the cross-sectional dependencies and problem of heteroscedasticity. We start our analysis by employing the pooled ordinary least square (POLS) model, but the results of Hausmann test suggest the cross-section fixed effect model is more appropriate. Moreover, the firms were selected from different sectors and different countries, so it was necessary to fix the cross section and to eradicate the problem of cross-sectional dependency.

3.1. Regression equations

The general equation is as

$$Y_{it} = \beta^{\circ} + \beta_1 X_{it} + \beta_2 X_i + \varepsilon_{it} \quad (1)$$

Our main mediation analysis based upon proposed model of Baron and Kenny (1986). They have developed the distinction model to study the behaviour of moderator and mediator in social sciences research. They have argued the following equations to study the role of mediator in

Table 3. Panel summary statistics

	Mean	Median	Maximum	Minimum	Std. Dev.	Prob.
ROA	0.058	0.052	0.712	-0.457	0.064	0.000
ROE	0.125	0.110	0.910	-0.964	0.144	0.000
NPM	0.061	0.054	0.986	-0.971	0.106	0.000
TQ	0.904	0.741	3.879	0.011	0.569	0.000
FS	2.465	2.412	4.817	0.012	0.760	0.000
FG	0.075	0.059	0.998	-0.956	0.229	0.000
TTA	0.373	0.357	0.982	0.010	0.186	0.000
DTE	0.601	0.533	1.658	0.011	0.384	0.000
DTA	0.253	0.252	0.643	0.010	0.121	0.000
LTE	0.293	0.219	1.539	0.011	0.252	0.000
LTA	0.124	0.103	0.537	0.010	0.090	0.000
PD	365.445	360.000	1000.000	54.000	204.563	0.000
IND	180.0479	144.000	480.0000	14.000	126.396	0.000
MSCL	363.461	315.000	950.0000	34.000	236.512	0.000
UND	361.812	288.000	920.000	8.000	248.558	0.000
LTO	424.842	372.000	1000.000	0.000	255.642	0.000
IDG	209.265	196.000	570.000	0.000	127.777	0.000

Note: ROA: return on assets, ROE: return on equity, NPM: net profit margin, TQ: Tobin, s q, FS: firm size, FG: firm growth, TTA: tangibility of total assets, DTE: debt to equity ratio, DTA: debt to asset ratio, LTE: long-term debt to equity, LTA: long-term debt to asset ratio, PD: power distance, IND: individualism, MSCL: masculinity, UND: uncertainty avoidance, LTO: long-term orientation, IDG: indulgence

overall analysis. The relationship between national culture and firm financial performance is expressed in equation 2

$$FFP_{it} = \beta^{\circ} + \beta_1 \sum_{i=1}^{n=6} NC_i + \beta_2 \sum_{i=1}^{n=4} CV_{it} + \varepsilon_i \quad (2)$$

Equation 3 shows the regression between national culture and financing decision

$$CS_{it} = \beta^{\circ} + \beta_1 \sum_{i=1}^{n=6} NC_i + \beta_2 \sum_{i=1}^{n=4} CV_{it} + \varepsilon_{it} \quad (3)$$

Regression between financial decision and firm financial performance is shown in equation 4

$$FFP_{it} = \beta^{\circ} + \beta_1 \sum_{i=1}^{n=4} CS_{it} + \beta_2 \sum_{i=1}^{n=4} CV_{it} + \varepsilon_{it} \quad (4)$$

The equation 5 represents the econometric relationship when capital structure plays as mediating role between national culture and firm financial performance.

$$FFP_{it} = \beta^{\circ} + \beta_1 \sum_{i=1}^{n=6} NC_i + \beta_2 \sum_{i=1}^{n=4} CS_{it} + \beta_3 \sum_{i=1}^{n=4} CV_{it} + \varepsilon_{it} \quad (5)$$

Where

CS = capital structure, NC = national culture, FFP = firm financial performance, CV = control variable

Table 4. Correlation coefficients among the variables

	ROA	ROE	NPM	TQ	FS	FG	TTA	DTE	DTA	LTE	LTA	PD	IND	MSCL	UND	LTO	IDG
ROA	1.000																
ROE	0.921	1.000															
NPM	0.658	0.560	1.000														
TQ	0.312	0.263	0.193	1.000													
FS	0.054	0.093	0.103	0.055	1.000												
FG	0.319	0.335	0.206	0.158	0.051	1.000											
TTA	0.029	0.002	-0.014	0.043	-0.093	0.011	1.000										
DTE	-0.102	0.093	-0.149	0.022	0.035	0.057	0.131	1.000									
DTA	-0.091	0.033	-0.118	0.091	-0.069	0.037	0.234	0.903	1.000								
LTE	-0.035	0.108	-0.004	0.048	0.118	0.058	0.239	0.728	0.671	1.000							
LTA	-0.013	0.064	0.051	0.096	0.059	0.044	0.316	0.574	0.651	0.931	1.000						
PD	0.017	0.010	0.006	0.039	-0.004	-0.219	-0.009	0.007	0.021	0.011	0.017	1.000					
IND	-0.078	-0.079	-0.008	-0.137	0.086	-0.226	-0.070	-0.090	-0.129	-0.030	-0.043	0.597	1.000				
MSCL	-0.169	-0.175	-0.008	-0.108	0.193	-0.239	-0.112	-0.113	-0.152	-0.057	-0.069	0.621	0.893	1.000			
UND	-0.188	-0.214	-0.074	-0.132	0.149	-0.256	-0.088	-0.140	-0.152	-0.104	-0.100	0.464	0.728	0.813	1.000		
LTO	-0.179	-0.189	-0.069	-0.032	0.171	-0.242	-0.100	-0.060	-0.065	-0.074	-0.078	0.644	0.601	0.796	0.823	1.000	
IDG	-0.143	-0.172	-0.049	-0.083	0.053	-0.274	-0.083	-0.117	-0.105	-0.064	0.045	0.745	0.635	0.715	0.750	0.729	1.000

Note: This table shows the association among the variables of study **Source:** Author's own calculation by using EViews

Table 5. Impact of national culture on firm financial performance

Variable	ROA	ROE	NPM	TQ
C	-0.038 [-6.008] (0.000***)	-0.106 [-8.114] (0.000***)	-0.003 [-0.289] (0.772)	1.063 [25.328] (0.000***)
PD	-0.0006 [-13.879] (0.000***)	-0.0002 [-15.476] (0.000***)	-0.0009 [-8.889] (0.000***)	0.0001 [3.818] (0.000***)
IND	-0.0002 [-1.530] (0.125)	-0.0001 [-5.593] (0.000***)	-0.0009 [-3.998] (0.000***)	0.0005 [5.191] (0.000***)
MSCL	0.0005 [6.195] (0.000***)	0.0001 [9.354] (0.000***)	0.0005 [3.673] (0.000***)	-0.0005 [-9.669] (0.000***)
UND	0.0005 [6.735] (0.000***)	0.0001 [6.686] (0.000***)	0.000 [9.088] (0.000***)	0.0007 [14.544] (0.000***)
LTO	-0.0005 [-8.126] (0.000***)	-0.000 [-9.738] (0.000***)	-0.0008 [-7.102] (0.000***)	-0.0004 [-10.013] (0.000***)
IDG	0.0005 [7.327] (0.000***)	0.0002 [10.031] (0.000***)	0.0001 [5.572] (0.000***)	0.0008 [1.135] (0.256)
FS	0.056 [21.480] (0.000***)	0.125 [23.349] (0.000***)	0.051 [11.931] (0.000***)	-0.057 [-3.374] (0.000***)
FG	0.055 [34.026] (0.000***)	0.121 [36.952] (0.000***)	0.063 [24.211] (0.000***)	0.217 [20.717] (0.000***)
TTA	-0.109 [-22.569] (0.000***)	-0.188 [-19.137] (0.000***)	-0.173 [-22.153] (0.000***)	-0.177 [-5.634] (0.000***)
R-square	0.539	0.574	0.517	0.678
Adj. R-square	0.479	0.521	0.454	0.639
S.E regression	0.051	0.104	0.081	0.338
Prob. F-stat	0.000	0.000	0.000	0.000

Note = Notes: ***Significant at 0.01 level; **significant at 0.05 level; *significant at 0.10 level. **Description:** Values in [] show the t-values while values in () show the p-value or probability value. However, statistics without brackets are coefficient values.

3.2. Variables of study

In this study, national culture uses as independent variable and measures with six dimensions as defined by Hofstede. These dimensions have widely used in previous studies to capture the effect of national culture (Bhaird Mac Ciaran, 2014; A. T. Chui, 2010; Wang Daphne, 2014). Table A.2 presents the cultural score on these six dimensions for specific country. Firm performance included as dependent variable and measure with four proxies i.e. return on assets (EBIT/total assets), return on equity (EBIT/total shareholder equity), net profit margin (Net income/sales), and Tobin, s Q (market capital + total debt/total assets). These variables have also used repeatedly in previous studies as proxy variables of corporate performance (Chadha & Sharma, 2015; Salim & Yadav, 2012; Le Vy & Phan, 2017). Corporate financing decision considers as mediating variable and measures with four proxies i.e. debt to equity ratio (total debt/total shareholder equity), debt to asset ratio (total debt/total assets), long-term debt to equity ratio (long term debt/total shareholder equity), and long term debt to assets ratio (long term debt/total assets ratio). The measurement of these variables was retrieved from previous studies published on same theme (Chakraborty, 2010; Farooq et al., 2018; Kayo, 2011).

Table 6. Effect of national culture on capital structure

Variables	DTE	DTA	LTE	LTA
C	-0.023 [-0.784] (0.432)	0.127 [14.002] (0.000***)	0.017 [0.764] (0.444)	0.065 [8.501] (0.000***)
PD	0.00006 [1.915] (0.055**)	0.0005 [0.058] (0.953)	0.0002 [0.901] (0.367)	-0.0007 [-0.909] (0.363)
IND	-0.0001 [-2.269] (0.023**)	-0.0001 [-0.8999] (0.368)	-0.0006 [-12.510] (0.000***)	-0.0002 [-13.774] (0.000***)
MSCL	-0.0002 [-5.266] (0.000***)	-0.0006 [-4.727] (0.000***)	0.0002 [6.599] (0.000***)	0.0009 [8.749] (0.000***)
UND	0.0002 [0.706] (0.479)	-0.0001 [-1.356] (0.174)	0.0001 [0.443] (0.657)	0.0001 [1.788] (0.073*)
LTO	0.0006 [1.908] (0.056**)	0.0003 [3.362] (0.000***)	-0.0004 [-1.843] (0.065*)	-0.0001 [-2.242] (0.024**)
IDG	0.0002 [0.510] (0.609)	0.0001 [1.038] (0.299)	0.0001 [3.512] (0.000***)	0.0005 [3.937] (0.000***)
FS	0.204 [17.038] (0.000***)	0.032 [8.831] (0.000***)	0.649 [6.950] (0.000***)	0.0003 [1.086] (0.277)
FG	-0.038 [-5.303] (0.000***)	-0.019 [-8.319] (0.000***)	-0.007 [-1.405] (0.159)	-0.0005 [-0.302] (0.762)
TTA	0.468 [21.102] (0.000***)	0.183 [26.541] (0.000***)	0.406 [23.632] (0.000*)	0.156 [27.200] (0.000***)
R-squared	0.694	0.718	0.636	0.659
Adj. R-squared	0.655	0.685	0.590	0.616
S.E regression	0.229	0.074	0.177	0.059
Prob. F-stat	0.000	0.000	0.000	0.000

. Note = ***Significant at 0.01 level; **significant at 0.05 level; *significant at 0.10 level **Description:** Values in [] show the t-values while values in () show the p-value or probability value. However, statistics without brackets are coefficient values.

In addition to these variables, some other firm-specific variables i.e. firm size (log of total sales), firm growth (annual increment in growth), and assets tangibility (fixed assets/total assets) were included as control variable. These variables were also extracted from previous studies (Salim & Yadav, 2012; Le Vy & Phan, 2017).

4. Empirical results and discussion

4.1. Descriptive statistics

Table 3 exemplifies the overall trend of responses of respondent firms in the form of mean median and standard deviation etc. The mean value of ROA is 0.058 which shows that the on average firms have 5.8% returns on their assets which are quite low. The percentage of return which these firms earn by utilizing their assets is only 5.8%. The median value is 0.052 or 5.2%. This figure shows the trend of overall firms in terms of return on assets. The maximum value is 0.712 and minimum value is -0.457. These statics show the span between upper end and lower end. There exists a firm in sample which have return on their assets as 71.2% and a firm which has loss as 45.7%. The

Table 7. Impact of capital structure on firm financial performance

Variable	ROA	ROE	NPM	TQ
C	0.036 [5.943] (0.000***)	0.042 [3.424] (0.000***)	0.087 [8.501] (0.000***)	1.099 [25.869] (0.000***)
DTE	-0.032 [-5.600] (0.000***)	-0.038 [-3.388] (0.000***)	-0.050 [-5.239] (0.000***)	-0.200 [-5.143] (0.000***)
DTA	-0.109 [-6.570] (0.000***)	-0.176 [-5.324] (0.000***)	-0.104 [-3.743] (0.000***)	0.157 [1.384] (0.166)
LTE	-0.010 [-1.069] (0.284)	0.053 [2.709] (0.006**)	-0.019 [-1.173] (0.240)	-0.030 [-0.447] (0.654)
LTA	0.065 [2.597] (0.009***)	-0.011 [-0.237] (0.812)	0.108 [2.570] (0.010**)	0.211 [1.223] (0.221)
FS	0.034 [15.309] (0.000***)	0.070 [15.432] (0.000***)	0.025 [6.667] (0.000***)	-0.046 [-2.928] (0.003**)
FG	0.063 [43.209] (0.000***)	0.141 [48.517] (0.000***)	0.071 [29.646] (0.000***)	0.212 [21.098] (0.000***)
TTA	-0.072 [-14.688] (0.000***)	-0.143 [-14.431] (0.000***)	-0.123 [-15.099] (0.000***)	-0.144 [-4.220] (0.000***)
R-square	0.588	0.609	0.547	0.687
Adj. R-square	0.529	0.555	0.482	0.644
S.E regression	0.046	0.095	0.077	0.331
Prob. F-stat	0.000	0.000	0.000	0.000

Note = Notes: ***Significant at 0.01 level; **significant at 0.05 level; *significant at 0.10 level **Description:** Values in [] show the t-values while values in () show the p-value or probability value. However, statistics without brackets are coefficient values.

standard deviation which measures the degree of dispersion of responses from mean value is 0.064 or 6.4%. This value is quite small which is good because small value of standard deviation represents the line trend of firms. The probability value of all the variables is 0.000 which shows the high level of significance.

Similarly, the mean, median, and standard deviation values of other variables of study i.e. ROE, NPM, TQ, FS, FG and TTA etc. presents the responses of firms in their specific form. Table 4 shows the summary statistics of overall 13 countries. The next section is of correlation which shows the strength of association among the variables.

4.2. Correlation analysis

The output of correlation analysis among the variables has presented in Table 4. The statics represents the degree of association of a specific variable with other variables of study. The first proxy of firm financial performance i.e. ROA has correlation statics with other proxies of capital structure (ROE, NPM, TQ) as 0.921, 0.658 and 0.312. These values are bit high which strengthen the concept of best proxies explaining the single variable i.e. firm financial performance. As shown in column 2, all proxies of capital structure (DTE, DTA, LTE, and LTA) have negative association with ROA. It shows that more debt has negative effect on firm financial performance. The proxies of national culture (PD, IND, MSCL, UND, LTO and IDG) have both positive and negative coefficient values. This is the indication that cultural variation has dynamic effect on firm financial performance. These proxies have numerical

Table 8. Mediating effect of capital structure

Variable	ROA	ROE	NPM	TQ
C	-0.031 [-4.807] (0.000***)	-0.110 [-8.330] (0.000***)	0.004 [0.379] (0.704)	0.977 [21.309] (0.000***)
PD	-0.0001 [-15.160] (0.000***)	-0.0002 [-17.080] (0.000***)	-0.0001 [-9.205] (0.000***)	0.0001 [2.789] (0.005**)
IND	-0.0004 [-0.279] (0.779)	-0.0008 [-2.857] (0.004**)	-0.0006 [-2.434] (0.014***)	0.0005 [4.705] (0.000***)
MSCL	0.0003 [3.880] (0.000***)	0.0004 [7.138] (0.000***)	0.0001 [1.109] (0.267)	-0.0006 [-9.567] (0.000***)
UND	0.0003 [4.713] (0.000***)	0.0006 [4.125] (0.000***)	0.0009 [7.8190] (0.000***)	0.0007 [13.844] (0.000***)
LTO	-0.0004 [-5.877] (0.000***)	-0.0001 [-7.521] (0.000***)	-0.0006 [-5.391] (0.000***)	-0.0004 [-9.538] (0.000***)
IDG	0.0009 [8.294] (0.000***)	0.0002 [10.721] (0.000***)	0.0001 [6.025] (0.000***)	0.0001 [1.843] (0.065*)
DTE	-0.032 [-5.830] (0.000***)	-0.039 [-3.573] (0.000***)	-0.051 [-5.352] (0.000***)	-0.179 [-4.630] (0.000***)
DTA	-0.105 [-6.458] (0.000***)	-0.166 [-5.115] (0.000***)	-0.099 [-3.592] (0.000***)	0.078 [0.697] (0.485)
LTE	-0.007 [-0.748] (0.454)	0.060 [3.155] (0.001***)	-0.015 [-0.969] (0.332)	-0.048 [-0.723] (0.469)
LTA	0.051 [2.083] (0.037**)	-0.048 [-0.972] (0.330)	0.089 [2.133] (0.032**)	0.292 [1.701] (0.088*)
FS	0.067 [25.614] (0.000***)	0.144 [27.274] (0.000***)	0.064 [14.303] (0.000***)	-0.001 [-0.063] (0.949)
FG	0.049 [31.182] (0.000***)	0.111 [35.167] (0.000***)	0.056 [21.140] (0.000***)	0.200 [18.360] (0.000***)
TTA	-0.074 [-15.392] (0.000***)	-0.149 [-15.250] (0.000***)	-0.124 [-15.233] (0.000***)	-0.123 [-3.648] (0.000***)
R-square	0.601	0.624	0.556	0.693
Adj. R-square	0.544	0.572	0.491	0.652
S.E regression	0.046	0.093	0.076	0.327
Prob. F-stat	0.000	0.000	0.000	0.000

Note = ***Significant at 0.01 level; **significant at 0.05 level; *significant at 0.10 level **Description:** Values in [] show the t-values while values in () show the p-value or probability value. However, statistics without brackets are coefficient values.

values as 0.017, -0.078, -0.169, -0.188, -0.179 and -0.143, respectively. These values are small due to non-financial or non-firm specific nature of national culture.

As further, the relationship between DTE and other variables of study has presented in column 9. The notable factor in this column is that DTE has positive relationship only with power distance (PD) but have negative relationship with all other proxies of national culture (IND, MSCL, and UND

etc.). Their correlation values are 0.007, -0.090, -0.113, -0.140, -0.060 and -0.117, respectively. These values represent the financing trend in different culture or cultural contribution in structuring the financing decision. Similarly, the other variables of study have specific value with a specific sign which suggests the nature of association i.e. negative and positive and degree of association with other variables. The next section is representation of regression analysis.

4.3. Regression analysis

There are four econometric models which were used in this study. The results of model 1 are presented in Table 5, model two in Table 6, model three in Table 7 and outputs of model 4 reported in Table 8.

Table 5 presents the output of regression model which responds the research question that how national culture effect the corporate financial performance. The PD has negative and significant t-stat value with ROA (-13.879), ROE (-15.476) and NPM (-8.889). These values suggest that in high-power distance countries, firms perform badly. There exists the high span between the upper management and low management which results in ambiguities (Hofstede, 2001) and thus firms perform badly. The PD has also positive t-stat with TQ (3.818) which predicts that in some cases, high-power distance is beneficial for firms. The high-power distance lay down the more responsibility's on low-level managers due to authority span and thus line managers try their best to achieve the high financial outcomes. The individualism has inverse relationship with ROE (-5.593) and NPM (-8.889) which reveals that the firms in high individualistic culture do not co-operate with others which results in increment of transaction cost and decrease in firm financial performance. But individualism has positive relationship with TQ (5.191). The Chui (2010) suggested that the managers in high individualistic culture are confident about their skills and do work hard to increase the wealth of firm which alternatively enhances the firm value. The MSCL has a positive effect on firm financial performance. The masculine culture predicts the more effort assertive behaviour of managers (Chui, 2002) for firm value which causes the better financial performance. The UND has also positive relationship with firm financial performance. In high UND culture, managers are high risk averse and do not bear any ambiguity (Li, 2013) which causes the better financial performance.

The long-term orientation has inverse and significant relationship with firm financial performance. The firms in long-term-oriented culture make their strategies for long duration and do not change according to current business requirements (Hofstede, 2010; Zheng, 2012) but in current dynamic environment, it needed to revisit these strategies periodically. Thus, long-term orientation has negative effect on firm financial performance. The indulgence (IDG) has positive and significant regression with firm financial performance. The Hofstede (2010) posits that high indulgence societies allow the free gratification of expression. It can be linked with manager's behaviour to act and made the decision freely which has positive effect on firm performance. The other three control variables i.e. firm size (FS), firm growth (FG) and asset tangibility (TTA) have same regression as in previous model of capital structure and firm performance. The value of adjusted R-square is better good in all the models which shows the good association of dependent and independent variables. The probability of F-stat states the significance of all the models

Table 6 shows the results of fixed effect model for estimating the regression between national culture and capital structure. The power distance has significant and positive t-statics value with DTE (1.915) but have insignificant relationship with DTA (0.058), LTE (0.901) and LTA (-0.909). The firms in high-power distance countries prefer the more debt due to non-consultative behaviour with stockholders and high information asymmetric which causes the more cost of equity. The pecking order theory also suggests the more debt preference in high-power distance countries due to high information asymmetric cost in case of equity financing (Myers, 1984). The individualism has negative t-statics values which suggest that in high individualistic culture, firms prefer more equity. The study of Bhaird Mac Ciaran (2014) documented the negative relationship because managers did not accept the fixed burden of debt and want to explore their personnel skills to

professionally manage the funds and enhance the shareholder wealth. The MSCL has negative and significant relationship with DTE (-5.266) and DTA (-4.727) but positive relationship with LTE (6.599) and LTA (8.749). The literature evidenced in both type of relationship. The study of Zheng (2012) documented the positive relationship due to more risk bear attitude in case of debt but Wang and Esqueda (2014) has suggested the negative relationship because managers want to assert more efforts to manage the funds and preferred more equity.

The next dimension is uncertainty avoidance (UND) which has significant and positive regression with LTA (1.788). The firms may prefer more banks financing because it is safer source of financing while equity financing is more speculative (Chang et al., 2012; Kwok & Tadesse, 2006). The long-term orientation (LTO) has significant and positive relationship with DTE and DTA because managers can equip the debt for long duration but equity is more volatile nature of financing (Antonczyk Christian Ron, 2013) but it has negative and significant relationship with LTE (-1.843) and LTA (-2.242). The firms may prefer more equity because it may hedge the funds for long duration in the form of equity financing (Lievenbrück, 2014). The indulgence has positive and significant relationship with LTE (3.512) and LTA (3.937). The managers may employ the more debt financing due to freedom behaviour. In the case of equity financing, the managers have responded to shareholders, but debt financing required no such type of restrictions.

The firm size has positive and significant t-static values which suggest that bigger firms prefer more debt financing due to low transaction cost (De Jong, 2008). The trade-off theory also suggests positive relationship. The firm growth has inverse relationship with debt financing because higher debt increases the firm volatility and firms feel hesitation in growth (Huynh, 2010). The tangibility of total assets which shows the firm stability has significant and positive t-statics values with all proxies of capital structure. The firms with more tangible assets may prefer more debt because these firms may offer their assets as collateral to banks (Bartholdy Jan, 2008). The values of adjusted R-squared i.e. 65.5, 68.5, 59 and 61.6% relatively show the strong association of national culture with capital structure decision. It measures the strength of relationship. The probability of F-statistic is less than 0.05 which shows the overall significance of all models.

Table 7 shows the statistics which answered the question that “*what is the impact of capital structure on firm performance?*” The four proxies of capital structure i.e. DTE, DTA, LTE and LTA have negative and significant t values in most of the cases. The firms which have more debt have low financial performance in the form of return on assets (ROA), return on equity (ROE), net profit margin (NPM) and Tobin, s q (TQ). The firms which have more debt have fixed burden of interest and investors hesitate to invest in the firms which alternatively affect the financial performance. It may enhance the financial distress cost. The abundant literature favoured this notion (Chadha & Sharma, 2015; Salim & Yadav, 2012; Zakaria & Ardan, 2016). In some cases, debt has significant and positive relationship with firm performance such as LTA has t-statistics value 2.597 and 2.570 with ROA and NPM relatively. The LTE has also positive and significant t-statistics with ROE (2.709). The trade-off theory suggests that more debt has a positive effect on firm performance because it saves the tax and reduces the agency cost in case of equity (Gill et al., 2011). The firm size has a positive and significant effect on firm financial performance. The biggest firms earn the more profit because they achieve the economies of scale which reduces the multiple costs (Babalola & Abiodun, 2013). The firm size has negative and significant t-statistics (-2.928) with TQ which implies that the bigger firms may have adverse effect on firm performance due to resilient behaviour for change (Yang, 2009).

The firm growth has significant and positive effect on firm financial performance. The firms which have more growth consistently increase their sale volume which causes the more profit (ÇOBAN, 2014). The firm's tangibility has negative relationship which predicts that the firms which bound their investment in more tangible assets and do not make the active investment may reduce their profits and this finding is consistent with (Kodongo et al., 2015). The adjusted

R-square is high in all the models, which is a good sign of strong relationship between dependent and independent variables and probability of F-stat indicates the overall significance of models.

Table 8 shows the results of model when capital structure plays a mediating role between national culture and firm financial performance. The power distance (PD) has significant and negative relationship with ROA (-15.160), ROE (-17.080) and NPM (-9.205). According to pecking order theory, firms in high-power distance countries prefer the more debt (Myers, 1984) and debt has a negative impact on firm financial performance (Le Vy & Phan, 2017). The individualism has a negative and significant relationship with ROE (-2.857) and NPM (-2.434) but has positive relationship with TQ (4.705). Some studies suggest the positive relationship with debt financing (Antonczyk Christian Ron, 2013) but others suggest the negative relationship (Bhaird Mac Ciaran, 2014). More debt has negative impact while lower debt has positive effect on profitability. The masculinity has significant and positive relationship with ROA and ROE but have a negative impact on TQ (-9.567). The study of Chang et al. (2012) documented that firms in high masculine culture preferred more equity due to more hardworking behaviour but the study of Bhaird Mac Ciaran (2014) asserted the positive relationship with debt financing because high masculine firms prefer more risky financing. The most studies are in the favour that the more debt has negative impact on firm financial performance (Chadha & Sharma, 2015; Le Vy & Phan, 2017). The uncertainty avoidance has a positive impact on firm financial performance because it reduces the possibility of immature decisions of managers. Moreover, UND has negative relationship with debt financing (Arosa, 2014).

The long-term orientation has negative while indulgence has positive effect on firm performance. The long-term-oriented firms did not change their strategies according to need of hour which adversely effects the firm performance while firms in high indulgence countries have socialistic views which enhances the chances of organizational success. The regression results with four proxies of capital structure show that firm performance has inverse relationship in most of the cases but also have a positive effect. The firms with more debt ratio do not perform well due to non-confident behaviour of managers. But, sometime, more debt has significant effect because it saves the tax and reduces the agency conflicts which arise between managers and equity holders. The firm size and firm growth has a positive effect. The bigger size firm achieves the economies of scale and higher growth firms may increase their profit by more sales. The tangibility of total assets has negative effect on firm financial performance. The firms which bound their cash more in fixed assets and do not make the active investment bear the more chances of business failure. Moreover, the return which has to come from active investment do not come to incase of more investment in fixed assets. The adjusted R-square signals the strength of relationship which is better in all models. The probability of F-stat is also less than benchmark 0.05 in all models which support the conjecture of significance of overall model.

5. Summary and conclusion

The study aims to find out the impact of national culture on firm financial performance and test the assumption whether national culture affects the firm financing and financial performance? The results of the study suggest that all three alternate hypotheses accepted, and national culture has a strong effect on firm financial performance. More specifically, in high-power distance and indulgence culture, corporate firms prefer more debt financing while high masculine culture has controversial relationship. Similarly, other cultural dimensions i.e. individualism, long-term orientation, and uncertainty avoidance have dynamic and significant relationship with different proxies of financing decision. More preference for specific type of financing option further determines the corporate financial efficiency. Briefly, it can be concluded that national culture has significant impact on firm financial efficiency even through the channel of financing decisions.

The analysis provides the better understanding on national culture and their prospective role in determining the corporate financial performance through the channel of financing decision,

However the study left some gap that it considers the combined financing decision of all the sectors of a specific country but research has approved that each sector i.e. manufacturing, service and transportation etc. have different financing decision according to nature of business. The future research can be conducted to addressing this issue and separately consider the financing decision of each sector. This will explore the more ground evidence that how national culture changes the financing decision of different sectors which further affects the firm financial performance.

5.1. Implications

The findings of the study recommend policy to corporate managers that irrespective of routine determinants of firm-level decisions, they should also consider the national cultural traits. In a specific cultural setting, corporate managers can boost the financial efficiency of firms by adopting the specific financing patterns. Corporate managers specifically fund managers performing their duties in specific culture can consider the findings of this study to module their financing decision, which improves financial efficiency. Briefly, findings suggest that good cultural traits have favourable effect on financial performance of corporate firms.

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Notes

1. (DataStream, 2019)

2. <https://www.hofstede-insights.com/product/compare-countries/>

Data availability statement

Firm-specific financial data that have been used in this study retrieved from Thomson Reuter Data Stream while national cultural scores obtained from Hofstede, s *Insights*<http://datastream.thomsonreuters.com/dsws/1.0/dslogon.aspx?persisttoken=true&appgroup=DSExtranet&srcapp=Extranet&srcappver=1.0&prepopulate=&env=&redirect=https%3a%2f%2finfobase.thomsonreuters.com%2finfobase%2f>

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Appendix

Table A1. Detail of selected firms from specific Country

Sr. No.	Country Name	No. of selected firms	Percentage of contribution
1	China	1503	0.19%
2	India	1147	0.15%
3	Indonesia	192	0.02%
4	Japan	1961	0.25%
5	Malaysia	367	0.04%
6	Pakistan	113	0.014%
7	Philippine	56	0.007%
8	Singapore	172	0.022%
9	South Korea	822	0.107%
10	Taiwan	914	0.11%
11	Thailand	257	0.03%
12	Turkey	111	0.014%
13	U.A.E.	8	0.001%
	Total	7623	100%

Table A2. National cultural score of 13 countries

Sr. no.	Country	Power distance	Individualism	Masculinity	Uncertainty avoidance	Long-term orientation	Indulgence
1	China	80	20	66	30	87	24
2	India	77	48	56	40	51	26
3	Indonesia	78	14	46	48	62	38
4	Japan	54	46	95	92	88	42
5	Malaysia	100	26	50	36	41	57
6	Pakistan	55	14	50	70	50	0
7	Philippine	94	32	64	44	27	42
8	Singapore	74	20	48	8	72	46
9	South Korea	60	18	39	85	100	29
10	Taiwan	58	17	45	69	93	49
11	Thailand	64	20	34	64	32	45
12	Turkey	66	37	45	85	46	49
13	U.A.E.	90	25	50	80	N/A	N/A

Source: <https://www.hofstede-insights.com/product/compare-countries/>



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