

## **CAPITAL STRUCTURE IMPACT ON FINANCIAL PERFORMANCE OF SHARIA AND NON-SHARIA COMPLAINT COMPANIES OF PAKISTAN STOCK EXCHANGE**

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**ABSTRACT:** *For a firm to be profitable, it is necessary to create an optimal capital structure that contribute towards desired performance level. This study was conducted to explore the relationship between capital structure and financial performance of firms specifically with respect to shariah complaint and non shariah complaint companies. The analysis was conducted on panel data of 8 companies (3 shariah complaint and 5 non shariah complaint) listed under technology and communication sector of Pakistan Stock Exchange under the period 2009-2015. Financial Performance was the dependent variable measured by ROA and ROE while capital structure was independent variable measured by indicators, LTDR, STDR, SGR, NDTs and INSHOL. Multiple linear regression and correlation were used as statistical tools to run the model. On the basis key findings we concluded in Pakistan Shariah and non shariah companies have different patterns of capital structure. We further concluded that capital structure effect the performance of firm in case of non-shariah but do not significantly affect performance of shariah complaint.*

**KEYWORDS** Capital structure, Financial performance, Return on Asset, Return on Equity, Sharia complaint, Non- Sharia complaint, Technology and Communication, Pakistan.

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### **INTRODUCTION**

Capital structure is an important consideration that affects a firm's financing decisions. All firm's decisions are made to maximize wealth of the firm or boost firm's financial performance, but the firm should not be involved in business activities that are prohibited in Islam. Rather their business activities should be based on Quran and Sunnah, as Interest or Riba, and gambling is prohibited in Islam. The development of Islamic capital market is becoming an important concept with this intention SECP has formed Islamic Financial Development (IFD) in February, 2015. A four member Sharia Advisory Board (SAB) has been approved by SECP in May 2015 to give its opinion on matters of Islamic capital market e.g. laws, rules, regulations, agreements and documents and also advices SECP on various issues concerning the operations, auditing and reporting of Islamic mutual funds, pensions and insurance operations etc.

Capital structure is a combination of debt and equity that corporate firms used to finance their business operations and growth activities. Whether a business is newly born or is on-going it requires funds to carry out its activities (chechet and olayimuwola). A combination of debt based capital structure includes short term and long term debt. A firm manage the debt option for financing its activities by issuing bonds on a prescribed interest rate to the general public or by taking loan short term and long term loans from banks e.g. note payable. A firm take short term loans to fulfil working capital requirements, and long term loans to finance capital expenditures. Another option to finance firms operations is through equity. Equity mainly consist of common and preferred stock issued to the general public. According to Saleem (2013) "A firm defines capital structure as the various alternatives used by a firm to finance its assets". The immediate approach of determining the quality of any financial decision is to observe the impact of decision on the financial performance of a firm. The relationship between financial performance and capital structure has gained considerable attention in finance literature during the past few decades. Different theories have addressed the capital structure issue of a firm. The development of capital structure theories began from Modigliani & Miller's MM theory based on the concept that the capital structure decision of a firm is unimportant or irrelevant with respect to its performance. Latter they reshaped their theory by adding few assumptions. MM theory was followed by Trade-off Theory, Signalling Approach, Agency Theory and Pecking Order Theory. The trade- off theory says that up to a certain level it is favourable to have debt financing due to cheapness and tax benefits but there is risk of high bankruptcy cost with increase in leverage.

A company is said to be financially fit and strong, if it reflects low level of debt and relatively high level of equity. In case, a company has high level of debt it has to pay off loan from profit earned in a particular period of time frame while in case of high equity the pay-out is only inform of dividend. According to Mwambuli(2016) [28], "a capital structure choice is a pure financial decision of a firm, so the financial manager must take great care while deciding the mix of a debt and equity. According to (Mwangi 2014), financing decision result in a given capital structure and sub- optimal financial decision often lead to corporate failure The supervision and assistance of the Sharia Board enhances the integrity of the Islamic financial institutions and products. The SECP is aiming to reach the highest level of standards in order to be with international regulators for ensuring effective and efficient regulations of the Islamic capital market in Pakistan. Two indexes i.e. All Share Islamic Index and KMI 30 index has been established by the joint efforts of PSX and Meezan bank in order to gauge the performance of the sharia compliant segment of the international share market. The listed companies that meet sharia criteria are being entered in those indexes and are recognized on semi-annual basis to ensure sharia compliance. Therefore, we explore whether the effect of choice of capital structure on performance of sharia compliant and non-sharia compliant is the same or there is difference and of what extent. To determine a firm's financial performance, financial statements analysis is done. In financial analysis a firm's strengths and weaknesses are identified by establishing a proper relationship between the items of balance sheet and profit and loss account. Different kinds of ratios are used to measure financial performance and capital structure choice. In financial analysis a ratio is used as a benchmark for evaluating the financial position and performance of a firm. Ratios help to review large quantities of financial data and to make qualitative conclusions about the firm's financial performance. In past few years researchers are not speaking the same language about the association between corporate financial performance and capital structure because their experimental studies showed contradictory and diverse results. It is very important to determine the optimal structure of capital that can lead to optimal financial performance. Some researchers recognized that there is a positive relation between corporate financial performance and capital structure. While others predicted a

negative relationship between them. Few researchers observed that there is no relationship between corporate financial performance and capital structure. Hence, a true and authentic relationship between corporate financial performance and capital structure is still a puzzle. So it is important to search for the optimum capital structure that best describe the firm's performance.

### **Significance of the Study**

Pakistan Stock Exchange is the indicator of financial health of the country's economic situation. Pakistan Stock Exchange has recently emerged by inclusion of the three stock markets of Pakistan, KSE, LSE and ISE. Recently, Pakistan's Stock Market has been included in emerging markets. In this respect this study is very much important as Pakistan's financial researcher paid less attention in this area of study that created a research gap. Since, the study is of great importance because in many countries researchers are only focused on the developed economies that are why there is still very little literature focused on developing economies. To comprehend our experiment we decided to recognize sector wise study because every sector has different requirements of capital. We selected the technology and communication sector because this sector has made rapid growth in the past few years especially in Pakistan. To the best of our knowledge, there is no such kind of empirical study on the relationship between corporate financial performance and capital structure covering this sector. This study is also helpful for those investors who are willing to invest in this sector. This paper is an attempt to contribute in the existing literature of finance.

### **Objective**

Our objective is to find out;

- Is there any relationship between a firm's financial performance and its capital structure?
- How much capital structure contributes towards the financial performance of a firm?
- Is there any difference between capital structure of shariah compliant and non-shariah complaint firms? And how these structures differently affect their performance?

## **LITERATURE**

### **Theories**

#### **Merton Miller & Modigliani (MM Theory)**

IN 1958 Merton Miller & Modigliani introduced "MM Theory" which was a great contribution into the business finance literature. The theory proclaims that any firm's value is not influenced by its capital structure choice decision. In order to prove their theory, Merton Miller & Modigliani assumed some restrictive perfect market assumptions (no agency cost, no transaction cost, no bankruptcy cost, no taxes and no effect of debt on the company's earnings before interest and tax. (Modigliani and Merton and Miller 1961) the company value is only determined by optimal investment in real assets. Though, in real life these assumptions do not hold. In 1963 Modigliani and Merton Miller modified their earlier theory pertinent to capital structure irrelevance and claimed that capital structure actually does matters in determination of firm's value. They argues that use of debt offer tax shield against profits. Since than many researcher have examined the practical application of theory. Many researchers applied this theory in their local and international capital market in order to validate this theory. (Maina and Kondongo, 2013) investigated the effect of MM theory on the firms listed at Nairobi Stock exchange and concluded that capital structure is relevant in determination of firms.

### **Trade-Off Theory**

Before going in depth of “Trade-off theory” firstly we should know about the term “Trade-off” what it actually states? If we explore the literature we can see that the word Trade-off is used to explain the interrelated theories of finance. The focus point of those theories is to describe the main ideas used by the firms to maximize the financial leverage by balancing the costs and benefits of the plans. It is also appropriate to say that the firms internal financing solution is maximizes by balancing the marginal costs and benefits. Now coming towards trade-off theory; according to Myers (2001) “the firm will borrow up to the point where the marginal value of tax shields on additional debt is just offset by the increase in the present value of possible cost of financial distress. The value of the firm will decrease because of financial distress” and financial distress is basically the cost of bankruptcy as well as the agency cost. Furthermore the trade-off theory holds the benefits of raising debts that is in the return of shielding cash flows from the taxes.

### **Agency theory**

It is about the relationship between the agent and the principal. In case of firm managers are the agent of the shareholders. Managers act on behalf of the shareholders for maximization of shareholders wealth. Problem arise when the managers and shareholders point of interest conflicts. Managers work for personal interest rather than for maximizing shareholders wealth. In 1932, Berle & Means developed agency theory according to them a firm ownership and control is separated because of continuous reduction in equity ownership of large firms, due to which managers get a chance to work for their personal interest (Akeem et al., 2014) [5]. Two problems arose in case of agency relationship. The first one lies with the principal when he does not monitor sufficiently the agent’s actions to be in line with said instructions. Second problem is about the risk distribution when the agent’s and the principal’s perception towards risk is different (Hasan Ahmed AL-TALLY, 2014) [7]. According to Pinegar and Wilbruch (1989) firm level of debt can be increased in contrast to equity for the reduction in agency problem. As a result, increase in debt level managers will make profitable investment in shareholders’ interest. Moreover, unprofitable investment by the manager results in firm liquidation by the forcing power of the debt holders due to non-payment of interest by managers. The managers will also get out from their employment opportunity. Thus, according to different researchers carrying research in different years i.e. Kochhar, 1996, Aghion [1], Dewatripont and Rey, 1999, Akintoye, 2008 [6], Onaolapo and Kajola in 2010 [29], agency cost is reduced by higher leverage, and the firm move towards efficiency and effectiveness.

Zeitun and Tian, (2007) [40] Research has found that capital structure and firm performance behave negatively in terms of the agency view point. Mojumder and Chiber (2004) and Rao, and Syed (2007)[32] also found a negative relationship between firms financial leverage and its performance. (Pratheepkanth 2011) [33] says that high debt in firm is supported by agency theory and it confirms output maximization hypothesis.

### **Capital Structure**

Financing is considered to an important and fundamental area in any organization or financial entity. Damodaran (2001) have stated in his research that a financing manager is concentrated with purpose of getting best financing mix and mixture of debts and equity for his organization. According to Riahi-Belkaoui, (1999), Capital structure has the ability to justify the needs of multiple stake holders at the same time. Capital structure is the percentage of money which is working in the company (Kennon 2010).Form of capita is debt and equity capital. According to (Alfred 2007) “the total capital structure is

based of debt and equity which is invested in the entity”. The difference of capital structure and financial structure is that when different ways are used to increase the fund of company is financial structure and capital structure of the company based on LTD and equity of that firm is explained by (Pandey 1999). According to (Inanga and Ajayi) 1999 capital structure does not based on short term debt it is based only on long term debt through different means. Organization raise its fund by issuing preferred and common stock to meet their financial requirement. In defining capital structure the firm has to consider the important factor which are business risk, tax situation, Management reaction or assertiveness. Decision related to capital structure is very important not for only to increase return but also the ability how to compete with its challengers. Capital structure is most important for the success of any firm. There are different theories used to explain the importance which are Miller-Modigliani Theory in 1963, Trade off Theory, Agency Theory of Jensen & Meckling in 1976 and many more. Capital structure is focused on the long term capital sources for the progress and the growth of the market value of company.

### **Long Term Debt Ratio (LTDR)**

The amount of money which is owned for the period of more than one year. According to EBaid 2009 the relationship between LTD and ROA is not significant. LTD is considered very important for the companies who want to expand their business. European Commission 2008 report reveal that when large financial entities decrease their long term borrowing due to that they are trying to reduce the opportunities for growth and for the improvement for financial performance. According to Pelham 2000 [30] “in comparison with small and large volume companies the small companies take more advantages form Long term debt than of large companies. Results reveal that in small companies they show the direct and positive relationship between LTD and performance. Explaining that the SME’s are positively affected by the Long term debt like GP, sale effectiveness and growth or share.

### **Short Term Debt Ratio (STDR)**

Short term debt are those debt which have to pay or which are due within the period of one year. According to Peavler, 2014 “Short term debt is used by the company to meet their short or instant need of funding without the use of long term obligation.” (Ebaid 2009) create relationship between debt and financial performance of the listed companies on Egyptian stock exchange. The result shows the negative effect of STD and ROA. According to (Teruel and Solane 2008) “found that if the organization have huge amount of short term debt than due to that those organization have greater cash levels”. Garcia-Terul and Martinez-Solano, 2007 said “positive correlation between STD and growth opportunities of entity”.

### **Non-Debt Tax Shields (NDTS)**

According to (Deangelo and Masulis 1980 ) [13] “Non debt shield have negative effect on debt level of the firms. Explaining reason is that the non-debt tax shield decrease the tax benefit of the firm”. Companies’ capital structure include less debt if they have large non debt tax shield. (Bowen, Daley, and Huber 1982) [11] and (DeAngelo and Masulis 1980) [13] conclude that in cross industry their capital structure is affected by non-debt tax shield. (Boquist and Moore) 1984 [10] perform the same test on firm level and the result are different from industry level results. (Fama and French) 2000 [18], take depreciation to calculate non debt tax shield and (Berger et al.) 1997 [8] take Investment tax credit to calculate non debt tax shield and they are divided by TA(total asset). (Wolfgang Drobetz and Roger Fix) 2003 [14] use non debt tax shield in his study. “there is positive relationship between leverage and non-debt tax shield” (Bradley, Jarrell and Kim 1984) [12]. (Attaullah Shah, Safiullah Khan) 2007 also take non debt tax shield variable to explain the capital structure determinants of non-financial firm listed in KSE. The results are



insignificant. Tax has very important effect on capital structure of the companies. In Trade-off Theory firms gets advantage by using more debt who have higher tax rate. Some researcher are opposed to that view like according to (Fama and French) 1998[17] “there is no tax benefit related to debt”. (MacKie-Mason) 1990 also conclude that there is little support is given that the firms take advantages of tax rates.

### **Sale Growth Ratio**

According to (William C. House , Michael E. Benefield) 1995 “ Sale growth is important and significant variable to measure financial performance. He conclude that there is negative and positive effect of sale growth in durable and non-durable industry”. Charles Kiprotich Yegon , Kirui Joseph Kiprono , Chepkutto Willy , (2014) conclude in their paper that there is positive and significant effect of sale growth, size of firm and financial leverage of the companies on the financial performance. Mohamed M. Tailab ,(2014)[39] “stated that there is negative effect of inventory, growth and age of the company on Return on Asset and size in relation to sale positively affect the financial performance”.

### **Insider Holding (INHOL)**

According to Jensen and Meckling, (1976) [20], the principle – agent theory argues that the interest of shareholders and managers are mostly in conflict with each other. Due to information asymmetry managers are able to fulfil their own interests instead of the shareholder’s rights and interest. The theory states that the agency problem can be solved only when shareholders interest is aligned with that of managers and it is only possible by increasing management ownership. In order to mitigate the principle agent problem a firms mostly or partly owned by their managers do not need massive debt financing. This argument is supported by fact that individual investors are normally risk averse so a large debit is less attractive to manager’s ownership than to managers because managers do not have a stake in the company. Therefore, insider holding and financial leverage are negatively related to each other.

### **Financial Performance**

If the financial position is strengthen than that is known as financial performance. In financial performance we see the strength and weakness by evaluating the profit & loss and balance sheet of the organization. Financial performance of the organization is measured by the financial ratios. “Ratio is the relationship between two number indicating how many times the first number contain the second”. (Berger and Patti), 2002 [8]. Ratios can be calculated through Statements of company’s operations like balance sheet and income statement to know the betterment of shareholder at the start and at the end of the period. Main purpose of shareholder is to increase their wealth so the ratios are used to measure the firm performance over a specific period of time.

### **ROA & ROE**

Return on asset is also known as return on investment which tells that how company efficiently utilize its assets to generate revenue. It is calculated through NP/TA. (Mahdi), 2009 TA tells us the total investment. If ROA ratio is high than it is considered good for the success and growth. ROE is also known as return on net worth.it is used to measure the profitability. ROE tells us that how much the firm have earn after investing the shareholder equity. It is calculated by NP/Shareholder equity. Mahdi, (2009).if this ratio is high that’s means that the company have good capacity of generating cash internally (Mahdi, 2009). According to Mojtaba Akbarpour, Shahoo Aghabeygzadeh 2011 [4] “conclude that Capital structure and ROA has significant relationship between capital structure and ROE is not significant” another researcher has found the same result (Cyril 2016) [13]. The relationship between capital structure and financial

performance is weak (Framarzi Khosrovshahi 2007). Another research by (Asghari and et al) 2009 study the relationship of capital structure and financial performance between strategic and non-strategic industries. The result indicate weak relationship between them. (Fosberg and Ghosh) 2006 had done research on US and New York stock exchanges. The result revealed that there is negative relationship between financial structure and financial performance. According to (Mujahid and Akhtar 2014)[27]“ positive relationship is there between capital structure and financial performance and shareholder wealth by taking Ratios of ROA and ROE”. Capital structure have significant relationship with return on equity and insignificant relationship with return on asset (Leon 2013)[24]. According to Saeedi and Mahmoodi (2011)[33] “there is positive relationship between capital structure and financial performance in TSE and also significant relationship with capital structure but there is no relationship with ROE”.

## **METHODOLOGY**

### **Population & Sample**

All companies listed in Pakistan stock exchange are taken as our research population. From population we choose Technology and Communication sector as our sample. No prior research has been conducted in this sector before. The sector consist of 10 companies from which we selected 7 companies on basis of convenience sampling of which data was easily available .We further classify selected sector into 3 as Sharia complaint and 4 as non-Sharia complaint companies. The data for the variables was collected for period of 7 years from year 2009 to 2015.

### **Data Sources:**

Secondary data was taken from annual reports and balance sheet analysis by State Bank of Pakistan for selected time duration (2009 to 2015).

### **Statistical Tools**

The collected data was analysed in SPSS 21 software using tools of correlation and Ordinary Least Square Regression. Regression assumptions of normality, multicollinearity, hetroscedacity, linearity were checked before going for results. The dependent variable i.e. performance is measured by ROE and ROA. Whereas independent variable i.e. capital structure is measured by LTDR, STDR, SGR, NDTs, INHOL. The formulas used for their calculation along with their reference are shown below.

**Table 1. Formulas**

Variables	Measurement	Abbreviation
<b>Dependent variables</b>		
Return On Equity	Net Profit/ Total Equity	ROE
Return On Assets	Net Profit/ Total Assets	ROA
<b>Independent Variable</b>		
Short Term Debt Ratio	STD/Total Assets	STDR
Long Term Debt Ratio	LTD/ Total Assets	LTDR
Sales Growth Ratio	(Current Year Sale – Last Year Sale)/Last Year Sale	SGR
Non-Debt Tax Shield	Depreciation Expenses/ Total Assets	NDTS
Insider Holding	% of total share outstanding held by insiders	INHOL
Measurement scales were taken from (Tailab 2014) [40], Nadeem Ahmed Sheikh [2] et. Al.(2011), Roshan Boodhoo(2009) [9] and (Mwambuli 2016) [29].		

**Model**

The following four regression models were run to test our hypothesis:

$$\text{Model 1. } ROE (SC) = \alpha + \beta_1 LTDR + \beta_2 STDR + \beta_3 SGR + \beta_4 NDTS + \beta_5 INHOL + \varepsilon_i$$

$$\text{Model 2. } ROA (SC) = \alpha + \beta_1 LTDR + \beta_2 STDR + \beta_3 SGR + \beta_4 NDTS + \beta_5 INHOL + \varepsilon_i$$

$$\text{Model 3. } ROE (NSC) = \alpha + \beta_1 LTDR + \beta_2 STDR + \beta_3 SGR + \beta_4 NDTS + \beta_5 INHOL + \varepsilon_i$$

$$\text{Model 4. } ROA (NSC) = \alpha + \beta_1 LTDR + \beta_2 STDR + \beta_3 SGR + \beta_4 NDTS + \beta_5 INHOL + \varepsilon_i$$

Where:

$\alpha$ : constant term

$\beta$ :  $\beta_1, \dots, \beta_5$ ... the slope which shows how much change in dependent variable is explained by independent variable.

**ROE**: Return On Equity

**ROA**: Return On Asset

**LTDR**: Long Term Debt Ratio

**STDR**: Short Term Debt Ratio

**SGR**: Sales Growth Ratio

**NDTS**: Non Debt Tax Shield

**INHOL**: Insider Holding



$\varepsilon_i$ : Error term

### Hypothesis

**H0a:** Capital structure has no significant impact on financial performance of sharia compliance

**H1a:** Capital structure has significant impact on financial performance of sharia compliance

**H0b:** Capital structure has no significant impact on financial performance of sharia compliance

**H1a:** Capital structure has significant impact on financial performance of non-sharia compliance

## RESULTS

**Table 2. DESCRIPTIVE STATISTICS**

	ROE	ROA	LTDR	STDR	SGR	NDTS	INHOL
<b>Sharia complaint</b>							
<b>Mean</b>	1.1838	6.7843	19.3208	21.6712	-.2319	.0673	2.5290
<b>Min</b>	-38.87	-22.99	.55	2.81	-.87	.03	0.00
<b>Max</b>	12.85	61.54	42.24	40.49	.60	.10	9.09
<b>Variance</b>	147.894	470.004	205.590	104.613	.175	.000	15.914
<b>Std. dev.</b>	12.16116	21.67956	14.33842	10.22806	.41864	.01919	3.98919
<b>Non Sharia complaint</b>							
<b>Mean</b>	.1766	-11.0192	10.8106	41.6520	-.3113	.0487	8.5819
<b>Min</b>	-30.42	-55.25	.09	10.89	-1.00	.01	0.00
<b>Max</b>	44.72	3.37	30.79	87.87	1.72	.14	52.23
<b>Variance</b>	231.255	302.621	82.001	450.649	.421	.001	292.333
<b>Std. dev.</b>	15.20706	17.39602	9.05543	21.22849	.64915	.02929	17.09774

Table.2 indicates the comparison of descriptive statistics of both sharia compliant and non-sharia compliant companies for the considered variables. On average ROE for sharia and non-sharia compliant is 118.38% and 17.66% and ROA for sharia compliant companies is 6.7843 and -11.0192 of non-compliant companies which shows a huge gap between the performances of both type of companies during the period under study. The mean value LTDR of sharia compliant companies 19.32% and for STDR is 21.67% overall debt ratio is 40.99 % which means that capital structure of these companies consist almost 41% debt and 59% on equity. The LTDR of non-sharia compliant companies is 10.81% and STDR is 41.65% while total debt ratio is 52.46% which means that capital structure of non-sharia compliant companies consist 52.46 on debt and 47.54 on equity. These findings indicate the fact that sharia compliant companies and non-sharia compliant companies have different patterns of capital structure Non-

debt tax shield for sharia and non- sharia is .0673 and .0487 respectively which means that sharia compliant companies hold more fixed assets than non-sharia compliant companies. On average insider holding for sharia compliant is 2.5290 and for non-sharia is 8.5819 which is more than the previous. Sales growth ratios for sharia compliant and non-compliant companies are showing negative values this shows on average the whole sector is showing negative growth trend. Wan Shahzinda Shah Bt Shahar (2015)[34] confirms the same results.

**Table3. CORRELATION**

<b>Shariah Compliant companies</b>							
	<u>ROE</u>	<u>ROA</u>	<u>LTDR</u>	<u>STDR</u>	<u>SGR</u>	<u>NDTS</u>	<u>INHOL</u>
<b>ROE</b>	1						
<b>ROA</b>	.109	1					
<b>LTDR</b>	.043	-.047	1				
<b>STDR</b>	.071	.377	.590**	1			
<b>SGR</b>	.070	-.050	.712**	.444*	1		
<b>NDTS</b>	.454*	.300	-.252	-.067	.030	1	
<b>INHOL</b>	-.021	.000	.788**	.551**	.279	-.401	1
<b>NON-Shariah Compliant companies</b>							
	<u>ROE</u>	<u>ROA</u>	<u>LTDR</u>	<u>STDR</u>	<u>SGR</u>	<u>NDTS</u>	<u>INHOL</u>
<b>ROE</b>	1						
<b>ROA</b>	.673**	1					
<b>LTDR</b>	-.299	.091	1				
<b>STDR</b>	-.558**	-.805**	-.028	1			
<b>SGR</b>	-.505**	-.427*	.527**	.174	1		
<b>NDTS</b>	-.182	.356*	.487**	-.024	-.091	1	
<b>INHOL</b>	.769**	.331	-.429*	-.299	-.426*	-.405*	1

Analysis of correlation is done to check the strength and direction of relationship among the capital structure and financial performance. Analysis of correlation is done to check the positive and negative relationship among the variables. While doing correlation analysis we ignore the signs of the value to check strength of relationship.

In Table 3 we provide the correlations between the model variables. The correlation table offers a first insight into all hypothesized and non-hypothesized relationships among the concepts. In the table we can see that all of our values are less than .7 which shows the existence of multi-linearity among the variables (Wan Shahzinda Shah Bt Shahara , Wan Shahdila Shah Bt Shahr, 2015) [34]. As far as the significance of the variables is concerned in Shariah Complaint Short term debt ratio have positive correlation with long term debt ratio. Sale growth ratio has positive and significant relationship with long term debt ratio and short term debt ratio. Non debt tax shield have positive and significant relationship with Return on Equity. Insider holding have positive and significant relationship with long term debt ratio and short term debt ratio. Return on equity, return on asset and long term debt ratio don't have any significant relationship with other variables. Return on equity and return on asset don't have any significant relationship with other variables. Non-Sariah Complaint Return on asset has positive and significant relationship with return on equity. Short term debt ratio have significant and negative relationship with return on equity and return on assets. Sale growth ratio has negative relationship with return on equity, return on asset and long term debt ratio. Non debt tax shield has positive relationship with return on asset and long term debt ratio. Insider holding has positive relationship with return on equity and negative relationship with long term debt ratio, sale growth ratio and non-debt tax shield.

### Regression

Regression is an important statistical tool that helps researchers to check the dependency and strength of the relationship between dependent variable (Firm Performance) and independent variable (Capital Structure). The results of the regression analysis are presented below :

**Table4. REGRESSION MODEL SUMMARY**

	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
<b>SHARIAH</b>						
<b>ROE</b>	1	.614 <sup>a</sup>	.377	.169	11.08522	1.829
<b>ROA</b>	2	.579 <sup>a</sup>	.335	.114	20.41047	2.490
<b>NON SHARIAH</b>						
<b>ROE</b>	3	.863 <sup>a</sup>	.744	.700	8.32620	1.056
<b>ROA</b>	4	.929 <sup>a</sup>	.863	.840	6.96344	2.129

According to model summary, our regression model in case of Sharia complaint companies is explaining 37.7% variation in ROE as performance determinant. While model contributes 33.5% towards determining ROA. The other 62.3% in ROE and 66.5% in ROA is explained by factors other than independent variable. The explained variation by R<sup>2</sup> is more in case of non-sharia complaint companies.

74.4% variation in ROE and 86.3% variation in ROA is explained by independent variables LTDR, STDR, SGR, NDTs, INHOL and the remaining variation of 25.6% and 13.7% in ROE and ROA respectively remained unexplained by model or. Overall we can say that according to results of  $R^2$  more variation is explained by our model in case of non-sharia companies as compared to sharia listed companies. Durbin Watson values for both sharia and non-sharia companies lies within range of 1.5-2.5 which means no problem of autocorrelation exists in the model.

**Table5. ANNOVA**

<b>SHARIAH</b>		
	<b>F-STAT</b>	<b>SIG</b>
<b>ROE</b>	1.814	.171
<b>ROA</b>	1.513	.244
<b>NON SHARIAH</b>		
<b>ROE</b>	16.883	.000
<b>ROA</b>	36.639	.000

The ANOVA tells us whether our regression models explain a statistically significant proportion of the variance. We are 95% confident that our models are significant in case of non-sharia listed companies sample case while models are insignificant in case of sharia listed companies. First two models were run on shariah companies and as per results there exist no statistical significant relation between capital structure and ROE and ROA of sharia complaint companies. The values of F-Statistic and Significance shows the validity of the overall model as value of f-stat much low as per required value of 4 while quality and significance of estimation (.171)  $>$   $\alpha$  (.005). So we fail to reject the null hypothesis that there is no statistically significant relationship between capital structure and ROE of shariah compliance. Model 2 also showed same results where value of f-state is low and significance level is (.244)  $>$   $\alpha$  (.005) so we accept the null hypothesis that there is no statistically significant relationship between capital structure and ROA of shariah compliance. While in case of non-sharia in model 3 value of f-stat is 16.883 which is much more than required level of 4, also the of value is (.000)  $<$   $\alpha$  (.005) here we reject the null hypothesis that there is no statistically significant relationship between capital structure and ROE of non- shariah compliance. Model 4 also showed significant results so we reject the null hypothesis that there is no statistically significant relationship between capital structure and ROA on non- shariah compliance. Our results are consistent with (Wan Shahdila Shah Bt Shahar, 2015). Who found same results of model significance in case of non-sharia and insignificant results in case of sharia with same measures of firm performance ROE and ROA.

**Table6. COEFFICIENT**

<b>Shariah</b>		<b>LTDR</b>	<b>STDR</b>	<b>SGR</b>	<b>NDTS</b>	<b>INHOL</b>
<b>ROE</b>	<b>Coefficient</b>	.535	.210	-.103	.493	-.377
	<b>t-value</b>	.895	.791	-.263	2.158	-.810
	<b>p-value</b>	.385	.441	.796	.048	.430
<b>ROA</b>	<b>Coefficient</b>	-.427	.541	.213	.223	.257
	<b>t-value</b>	-.692	1.972	.526	.944	.535
	<b>p-value</b>	.500	.067	.607	.360	.601
<b>Non shariah</b>		<b>LTDR</b>	<b>STDR</b>	<b>SGR</b>	<b>NDTS</b>	<b>INHOL</b>
<b>ROE</b>	<b>Coefficient</b>	.069	-.337	-.228	-.001	.601
	<b>t-value</b>	.478	-3.326	-1.625	-.007	4.817
	<b>p-value</b>	.636	.002	.115	.994	.000
<b>ROA</b>	<b>Coefficient</b>	.135	-.686	-.259	.334	.209
	<b>t-value</b>	1.272	-9.270	-2.533	3.385	2.287
	<b>p-value</b>	.214	.000	.017	.002	.030

The coefficient or beta value explains change in dependent variable with one unit change in independent variable. As per our findings, on average LTDR of Sharia compliant companies are insignificantly affecting ROE in positive but ROA in a negative way. The beta value of STDR is positive and insignificant both in case of ROE and ROA. The companies are probably relying more on long term debt and may be facing default risk or compliance risk because of working under Sharia Board. The LTDR of non-sharia compliant companies is showing positive but insignificant results for ROE and ROA which point out that LTDR do not contribute towards their performance. The reason behind is the fact that non-sharia complaint companies avoid taking long term loans due to many reasons. STDR for both ROE and ROA is showing negative but significantly related to these companies performance these findings confirms previous results that non-sharia companies take more STDR and pay huge interest expenses that reduce net profit and put negative impact on ROE and ROA . The result of sales growth ratio of sharia complaint companies point out insignificant relation with negative beta with ROE and positive with ROA. While non-sharia compliant companies are also negatively but insignificantly related to ROE nevertheless



it show totally opposite results in relation with ROA. These results indicate that SGR do not properly explain dependent

Variables or this is a poor indicator of capital structure. The results of INSHOL of sharia Complaint indicate that insider holding effect performance both positively and negatively but insignificantly. But it shows completely opposite results in case of non- sharia compliant companies as insider holding have significant positive effect on performance indicators. This difference support the agency theory. According to Roshan Boodhoo(2009)[9] ,”firms do not need massive debts financing because owners-managers are mostly risk averse as compared to mangers.” NDTS shows contradictory results for both type of companies which prove it a poor indicator.it is significant only in case of ROA of non- sharia companies.

## FINDINGS

The study was conducted to explore the relation between capital structure of sharia complaint and non-sharia complaint with their financial performance. The determinants for capital structure used in the study are LTDR, STDR, SGR, NDTS, INHOL and ROA and ROE for measuring financial performance. The findings of the study are in case of sharia complaint companies only NDTS have positive and significant effect with ROE only the all other determinants are insignificantly related to performance measures moreover model is insignificant as shown from f-test.  $R^2$  in this case is only 37.7%and 33.5% with ROE and ROA this small  $R^2$  does not mean that these factors does not effect at all rather the effect is minor one and other factors beyond this study are more important determinant of capital structure that effect their performance. The other case of non- sharia complaint companies results conclude that STDR and INHOL are significant with both measures of performance ROE and ROA, STDR negatively and INHOL positively. The other two NDTS and SGR are showing significant results only with ROA, NDTS positively and SGR negatively. LTDR is showing positive and insignificant results with both performance measures ROA and ROE. The  $R^2$  of non-sharia model explains 74% and 86% variation in ROE and ROA variable respectively. Overall model is significant at 95% confidence level. . These findings also reveal that sharia compliant companies count more on long term debt and less on short term debt while non-compliant companies follow totally opposite trend by depending more on short term debt. The possible reason behind this is that sharia compliant companies run their business under the guidelines provided and supervised by Sharia Board and obtain loan under the strict sharia rules of limited interest and risk sharing. While on the other hand non-sharia compliant companies pay more interest and take more loan but they emphasize on short term debt to meet their working capital requirement because of the small and under developed local bond market or due to high cost on long term loans.

## CONCLUSION

The conclusion can be drawn that shariah and non shariah compliance companies follow different capital structure patterns. There is both positive and negative, significant and insignificant relationship between capital structure and financial performance of firms listed under technology and communication sector of Pakistan Stock Exchange. We further concluded that Capital structure decision effect financial performance of non-shariah complaint companies where model is significant that means determinants we used for capital structure measurement does effect the performance of firm in case of non-shariah so reject

the null hypotheses that “Capital structure has no statistically significant impact on of non- shariah compliance”. While for shariah complaint companies these determinants do not effect significantly which shows that there are some other factors for shariah companies that have more contribution towards their performance. So we fail to reject the null hypotheses that “Capital structure has no statistically significant impact on shariah compliance”.

## LIMITATIONS & RECOMMENDATIONS

The small sample size effect results due which we can't generalize our findings to population. Moreover, not all companies data was available for selected duration therefore we did convenient sampling. Other factors should be considered that affect the capital structure of sharia complaint companies. In future same research can be conducted on some other sector having large sample size and long-time duration with various other capital structure determinants.

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