INTRODUCTION

Journal of Accounting and Finance in Emerging Economies (ISSN: 2519-0318 & eISSN: 2518-8488) is a bi-annual open access research journal published by CSRC Publishing, Center for Sustainability Research and Consultancy Pakistan. The journal is independently managed by the advisory board and associate fellows of CSRC comprising of distinguished faculty at higher education institutions. The journal aims to cover topics and issues in various sub-areas of finance and accounting in context of emerging and developing economies. Purpose is to highlight the practical insights on the challenges faced by theorists and practitioners in these economies. The journal specially welcomes submissions which cover the topical areas related to sustainable accounting and financial policy.

SCOPE AND MISSION

Finance and accounting are seen as basic mechanics for achieving markets efficiency and also considered as catalysts for design and successful implementation of market-based financial decision making related to economic policies in emerging and developing economies. With this background JAFEE aims to be a forum for discussion of high impact research in emerging economies covering general areas of accounting and finance. The journal is open to both academicians and practitioners in its subject areas. The journal covers a wide range of areas in accounting and finance. It considers articles written in all areas of accounting in emerging economies including but not limited to accounting education, auditing, corporate social responsibility (including environmental accounting and disclosure) corporate governance, financial reporting, management accounting and performance measurement systems, not-for-profit organizations and public sector accounting, taxation, zakat and Islamic accounting. The journal also covers all areas of finance in emerging economies relating to banking, capital market, corporate finance, equity valuation and analysis, Islamic finance, microfinance, and venture capital.
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Mobile Commerce: A Rising Wave of Consumer Purchase Intention

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ARTICLE DETAILS

ABSTRACT

Because of the commonness and extensive usage of online technology these days, mobile commerce is an emerging area of attraction for marketing research. Although there is a dearth of studies exploring the factors that influence on mobile commerce embrace and adoption through mobile applications in general, particularly the impact of mobile commerce adoption attitude using Technology Acceptance Model (TAM) remains uncharted. The exploration of the technology acceptance factors is quite challenging and demanding primarily due to the reason that online population is widely dispersed and diversified in terms of their dynamics. Still this area remains a venture of curiosity to the marketers due to magnetism in its potential. Current research assist marketers by providing an insight into the factors that explains this scenario and the results could be used to capitalize the fast growing online market. Three hypothesis strongly validated the effect of perceived trust, perceived value and social influence on mobile commerce adoption while perceived self-efficacy was found to have a little impact on mobile commerce adoption. Predominantly, it was found that Technology Acceptance Model (TAM) remains most effective predictor to mobile commerce adoption. Current research could be used to comprehend and take advantage of key psychological attributes mentioned in the study to upsurge the volume of existing mobile commerce market.

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1. Introduction

1.1 Background of the study

Capital structure refers to the modes of financing through which the firm finances its operations. A firm usually adopts a mix arrangement of debt & equity in its capital structure. According to Akeem et al. (2014), capital structure can be said as an association of debt & equity and its effect on the firm’s performance seems to be very critical issue. From the tax perspective, debt seems to be less expensive when compared with the equity on the grounds that it usually provides tax relief as tax is levied on the income after interest payment. On the other hand,
when a company is unable to availing the tax relief then tax is deducted before the dividend payment is made. In order to decide how a company will receive finances is managed by both the managers of the organization and fund providers. If finances are arranged by utilizing the inaccurate sequence of debt & equity then it creates a negative impact on the performance and optimal working capacity of the firm. Therefore, for enhancing the value of firm, there lies a need that managers should decide capital structure carefully. Due to fluctuations in the use of leverage from one firm to another, it becomes complicated task to take appropriate decision. When a firm involves too much equity financing in its financing mix then there is more possibility of change in the ownership of the firm. Javed et al. (2014) express that when a firm heavily depends on the equity financing, it may damage the growth opportunities & liquidity concerns of the company. It is also essential for company managers to sustain minimum cost of capital as when cost of the capital becomes high; a company fails to take up new investment projects.

The concept of capital structure was primarily studied by the Modigliani & Miller (1958) and they stated in their study that in case of perfect competition in capital market then, under such circumstances the capital-structure decisions did not put influence on the value of the firm. Rather, they indicated that the firm’s value could be determined exclusively by its fundamental earning power.

According to Shahzad et al. (2015), Pakistan is a developing economy where majority of the organizations rely on bank credits to finance their venture’s requirements. It is a fact that the textile industry is thought to be the backbone of the Pakistani economy due to which it requires a large number of capitals for their smooth operations. This sector contributes 8.5% to the GDP of Pakistan. The textile industry is not only the biggest industrial sector of the economy, it also has fundamental linkage with its agriculture sector being bread earner of more than half of its population. This sector is also the major contributor to the exports of the country and thus our external account is very much affected by its performance. The textile sector of Pakistan is selected because it demands for the attention of textile firm’s management & the policy makers to pursue such policies that will facilitate in choosing optimal capital structure for achieving optimal allocation of resources and which will augment the performance of the firms.

This study therefore looks into the impact of capital structure on performance of textile firms of Pakistan which are listed on Pakistan stock exchange for the period of ten years i.e. 2007 to 2016. In this study, total debt to total assets (TDTA) and total debt to total equity (TDTE) are taken as proxies for capital structure as independent variables whereas return on assets (ROA), return on equity (ROE) and earnings per share (EPS) are performance measures, adopted as dependent variables. Moreover, liquidity is used as the moderator in the relation between capital structure and financial performance of the sample firms.

2. Literature Review

2.1 Capital structure and Firm Performance

According to Besley & Brigham, (2007), capital structure is the mixture of debt (long term and short term debt), equity, and the net-worth that a firm can use as mode of permanent financing. Islam & Khandaker, (2015) argued that the firms from mining sector seemed to be more conscious for their profitability whereas firms from non-mining sector had not any significant connection with profitability. They gave a view that every firm has different nature in conducting its business operations, which vary from industry to industry and for this reason the decision of how the capital structure affects the performance of a firm, rely on the industry categorization of the corporations. Kanwal et al., (2017) documented that short and long term debt adversely affects return-on-assets, return-on-equity & price-to-earnings ratio. Dependence of Pakistani firms on availing tax shield lowers down their performance because of high liquidation costs and in order to improve performance companies’ management intends to decrease their reliance on debt finance. Raghib et al., (2016) explored that a bank’s performance and its capital structure are positively and significantly related with each other. Basit & Hassan, (2017) studied capital structure taking debt-to-equity ratio of firms from different sectors of Pakistan and verified that performance proxies i.e. earnings per share (EPS), return-on-equity (ROE), and return-on-assets (ROA) were associated significantly to the debt-to-equity ratio. Kazempour & Aghaei, (2015) carried out a research to observing the impact of debt level on the firm’s Tobin's Q as a measure of performance. They argued that there occurred a significant and direct correlation between the capital structure and firm’s overall performance. Tan & Hamid, (2016) investigated the impact of capital structure (short and long-term debt ratio, total debt to total asset ratio & total debt to total equity ratio) on organizational performance (ROE, ROA, GMS, PE, and EPS) and reported that capital structure is significantly important for...
increasing the organizational performance in Malaysia. Rouf, (2015) found a significant negative effect of capital structure of a manufacturing firm on its performance measured by ROA and ROS proxies. In Pakistan, study of Siddik et al., (2017) exposed that all the elements of capital structure i.e. total debt to total assets (TDTA), long-term debt to total assets (LTDTA), and short term debt to total assets (STDTA) adversely influence the financial performance measuredby ROA, ROE & EPS. Besides, it was also perceived that growth opportunities, size and inflation associated positively whether liquidity & GDP negatively associated with the bank’s performance in the evolving economy of Bangladesh. Mahmood et al., (2017) conducted their research on 15 listed textile firms of Pakistan and suggested that the negative connection existed between debt (short-tenure & long-tenure) and firm’s performance variables (ROE and ROA). Moreover, debt to equity ratio is positively associated with performance. Khodavandloo et al., (2017) worked out correlation between capital structure and performance of Malaysian firms during periods of financial crises and found that the firm’s performance indicators (ROE, ROA, & GPM, EPS & PE) had been negatively linked with its capital structure. Farooq & Jibran, (2017) argued that when small firms take more debts to finance its operations its profitability is affected badly, though for larger size organizations, this negative effect is found to be minimal. Shahid et al., (2016) found a negative linkage between profitability of textile firms & their capital structure in Pakistan. Pandey & Sahu (2017) interpreted that the capital structure influenced significantly and negatively the accounting performance (return on asset & return on net-worth) of Indian manufacturing firms. It means that if these firms resort to higher leverage, their performance may decrease. Likewise, Awais et al., (2016) also showed that short-term & long-term debts caused decline in firms’ financial performance, whereas total debt ratio significantly associated with the firm performance. Ramadan & Ramadan, (2015) observed that the capital structure of Jordanian firms had significant and also negative effect on return on assets (ROA), the only measure of firms’ performance used in this study. Le & Bich,(2017) clarified that all debt ratios have altogether negatively association with the company performance. Jayiddin et al., (2017) investigated capital structure’s influence on the performance of Malaysian public listed companies which operate in the construction sector, within the time frame of 2010 to 2014. They witnessed that short-term debt ratios had significantly & negatively affected firm performance but long-term debt ratios did not.

2.2 Liquidity and Firm performance

Shaba hang (2011) defined liquidity as the ability of assets to convert into the cash. Moreover, the more the frequency of asset conversion into cash in minimum times period, highly the liquid asset. Bibi & Amjad, (2017) measured company’s liquidity by utilizing cash-gap in days & current-ratio and after applying the correlation & regression analysis. Their study implied that there existed significantly negative influence of cash-gap on profitability i.e. return on asset whereas current ratio had significantly positive affiliation with the profitability. Research of Rehman et al., (2015) on the firms registered in Saudi Stock exchange explored that liquidity as the current ratio results in a beneficial outcome because it positively affects the firm’s productivity. Sheikhdon & Kavale, (2016) found that liquidity management elements positively influenced the financial performance of the commercial banks in Mogadishu Somalia. Kahyani et al., (2016) studied the affiliation between stock liquidity and the Tehran firm’s performance and depicted that the performance of the company significantly & directly influence its stock liquidity. Hakeem & Bambale, (2016) said that liquidity act as the good mediator amongst dividend payout & financial performance (return on asset, economic value added, return on equity & Tobin’s Q) of the Nigerian manufacturing companies. Banafa, (2016) anticipated that liquidity & firm’s size affects positively on the financial performance of non-financial organizations indexed at Nairobi securities exchange during 2009-2013. Odalo & Achoki, (2016) suggested that liquidity in the terms of liquidity-ratio influence positively & significantly on the financial performance (ROA and ROE) of agro-companies in Kenya. But liquidity ratio affects positively and insignificantly on the financial performance variable earnings per share. Safdar et al., (2016) argued that the liquidity was positively interrelated with the profitability (return on assets, return on capital employed and return on equity) of Pakistani sugar companies. That’s why the managers of sugar firms would increase the firm’s profitability & value of its shareholder if they invest liquid assets efficiently & effectively. Edem, (2017) exerted that there lies significant and positive connection amongst liquidity management variables i.e. (liquidity & cash reserve ratios) and the performance variable ROE of Nigerian banks. The author said that low or high level of liquidity creates problems for the bank operations and to avoid such problems bank must implement optimal liquidity level in its organization for attaining efficiency & effectiveness. Tuffour & Boateng, (2017) implied that the profitability performance of Ghana’s manufacturing firms was positively affected by the liquidity in the context of current ratio. It means that as more as the manufacturing firm has current assets to meet its current liabilities at the time of the need, the more it can able to earn high profit. Ahmad et al., (2015) detected that textile corporations ought to diminish such assets which can effortlessly releasable for the specific purpose to enhance its performance in terms of profitability. This means that when Textile Company keeps such assets in large quantity, it affects...
substantially & negatively their financial performance. Vintila & Nenu, (2016) identified the correlation between liquidity & Romanian company’s financial performance before & after the financial disaster i.e. from 2005 to 2014 and elaborated that decrease in the level of liquidity is not considered as the risk factor of Romanian firms. Hence there exists negative correlation between liquidity & company’s financial performance. Marozva, (2015) recognized that there lied negative significant correlation among marginal net interest, risk and liquidity. However, net interest margin seemed to be insignificantly related with the two determinants of liquidity. Yakubu et al., (2017) examined the connection amongst capital structure & the performance of Ghana’s commercial banks in the presence of control variables like liquidity and firm’s size and concluded that liquidity effects insignificantly & negatively on the bank’s performance.

Hence, by studying all the previous literatures regarding capital structure and firm performance, it can be said that many authors found positive effect of capital structure on firm’s performance (Basit & Hassan, 2017; Kazempour & Aghaei, 2015; Tan & Hamid, 2016). While, some studies found negative relationship of capital structure & firm’s performance (Ahmad et al., 2015; Khodavandloo et al., 2017; Rouf, 2015; Siddik et al., 2017). Also, some studies provide evidence of no correlation among capital structure & firm’s performance (Al-Taani, 2013; Chaudhuri et al., 2016; Chhapra & Asim, 2012).

On the other hand, some literature regarding liquidity and firm’s performance showed their positive impact on each other (Edem, 2017; Odalo & Achoki, 2016; Sheikhdon & Kavale, 2016; Tuffour & Boateng, 2017). Whereas, some authors observed negative relation among liquidity & firm’s performance (Ahmad et al., 2015; Njimanted et al., 2017; Vintila & Nenu, 2016).

2.3 Research Gap
After reviewing literature on the relationship between capital structure and firm’s performance it has been noted that studies like Muigai & Muriithi, (2017) and Salam et al., (2016) used firm size as a moderator to determine the performance of the firm but none of the study used liquidity as the moderator. In order to analyze the strength of relationship between capital structure and performance of textile firms in Pakistan, current study uses liquidity as a moderator. Previously, Mahmood et al., (2017) studied 15 textile firms of Faisalabad for the period of five years i.e. 2011-2015 but this study has analyzed 30 textile firms listed on the Pakistan stock exchange for the period of ten years i.e. 2007-2016.

3. Conceptual Framework
3.1 Conceptual Frame Work

![Conceptual Frame Work Diagram](image)

Note: Fig 3.1 shows Capital structure variables are taken as independent variables and firm performance variables as dependent variables. Liquidity is moderator variable of the current study.
3.2 Empirical Model
Based on the previous literature we use the following empirical models:

\[ \text{ROA}_t = \alpha_0 + \beta_1 \text{TDTA}_t + \beta_2 \text{TDTE}_t + \varepsilon_t \]
\[ \text{ROA}_t = \alpha_0 + \beta_1 \text{TDTA}_t \times \text{LQDTY}_t + \beta_2 \text{TDTE}_t \times \text{LQDTY}_t + \varepsilon_t \]
\[ \text{ROA}_t = \alpha_0 + \beta_1 \text{TDTA}_t + \beta_2 \text{TDTE}_t + \varepsilon_t \]
\[ \text{ROE}_t = \alpha_0 + \beta_1 \text{TDTA}_t \times \text{LQDTY}_t + \beta_2 \text{TDTE}_t \times \text{LQDTY}_t + \varepsilon_t \]
\[ \text{EPS}_t = \alpha_0 + \beta_1 \text{TDTA}_t + \beta_2 \text{TDTE}_t + \varepsilon_t \]
\[ \text{EPS}_t = \alpha_0 + \beta_1 \text{TDTA}_t \times \text{LQDTY}_t + \beta_2 \text{TDTE}_t \times \text{LQDTY}_t + \varepsilon_t \]

Where:
- \text{TDTA} = Total Debt to assets
- \text{TDTE} = Total Debt to equity
- \text{LQDTY} = Liquidity
- \text{ROA} = Return on Assets
- \text{ROE} = Return on Equity
- \text{EPS} = Earnings per share
- \beta = Regression coefficient of independent variables
- \alpha_0 = Constant
- \varepsilon_t = The error term

3.3 Hypothesis Development

**H1a:** total debt to total assets ratio has significant impact on return on assets (ROA).

**H1b:** total debt to total assets ratio has significant impact on return on equity (ROE).

**H1c:** total debt to total assets ratio has significant impact on earnings per share (EPS).

**H1d:** total debt to total equity ratio has significant impact on return on assets (ROA).

**H1e:** total debt to total equity ratio has significant impact on return on equity (ROE).

**H1f:** total debt to total equity ratio has significant impact on earnings per share (EPS).

**H2a:** liquidity acts as the moderator in the relationship between total debt to total assets (TDTA) ratio and return on assets (ROA).

**H2b:** liquidity acts as the moderator in the relationship between total debt to total assets (TDTA) ratio and return on equity (ROE).

**H2c:** liquidity acts as the moderator in the relationship between total debt to total assets (TDTA) ratio and earnings per share (EPS).

**H2d:** liquidity acts as the moderator in the relationship between total debt to equity (TDTE) ratio and return on assets (ROA).
H2e: liquidity acts as the moderator in the relationship between total debt to total equity (TDTE) ratio and return on equity (ROE).

H2f: liquidity acts as the moderator in the relationship between total debt to total equity ratio (TDTE) and earnings per share (EPS).

4. Research Methodology
4.1 Data Collection Method
The data used in this study is secondary type taken from the audited financial statements of 30 textile firms that are listed in Pakistan stock exchange for a period of ten years (2007-2016). The data for all the variables was organized in the panels because Baltagi et al., (2005) suggested that the panel data is suitable for longitudinal analysis as it facilitates analysis of cross-sectional data and time series data both. Moreover, this data was analyzed by applying Unit root test, Hausman test, regression analysis, multi-collinearity test and descriptive statistics through the software E-views 7.0.

4.2 Measurement of the study Variables
4.2.1 Dependent variable
The dependent variable of the study is the firm’s performance. In order to measure firm’s performance, three proxy variables are used ROA (return on assets), ROE (return on equity) and EPS (earnings per share) which were previously used by (Khodavandloo et al., 2017; Siddik et al., 2017).

\[
\text{Return on asset (ROA)} = \frac{\text{Net profit (before taxes)}}{\text{Total assets}}
\]

\[
\text{Return on equity (ROE)} = \frac{\text{Net profit (before taxes)}}{\text{Equity}}
\]

\[
\text{Earnings per share (EPS)} = \frac{\text{Net income/number of outstanding shares}}{}
\]

4.2.2 Independent Variables
Capital structure variables i.e. TDTA (total debt to total assets) and TDTE (total debt to total equity) are taken as the independent variables which were used previously by (Raghib et al., 2016; Salteh et al., 2012).

\[
\text{Total debt to assets (TDTA)} = \frac{\text{Total debt}}{\text{Total asset}}
\]

\[
\text{Total debt to equity (TDTE)} = \frac{\text{Total debt}}{\text{Shareholder’s equity}}
\]

4.2.3 Moderating variable
This study uses Liquidity as a moderator which is measured by using the following formula i.e. Liquidity (LQDTY) = Current asset / Current liabilities. Such measure has been used recently by Siddik et al., 2017.

5. Results and Discussions
5.1 Descriptive statistics
Table 1: Results of Descriptive statistics

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<th>ROA</th>
<th>ROE</th>
<th>EPS</th>
<th>TDTA</th>
<th>TDTE</th>
<th>LQDTY</th>
</tr>
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<tr>
<td>Mean</td>
<td>-3.223</td>
<td>-1.935</td>
<td>1.735</td>
<td>-3.188</td>
<td>0.742</td>
<td>-2.075</td>
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<tr>
<td>Maximum</td>
<td>2.612</td>
<td>2.987</td>
<td>6.742</td>
<td>1.308</td>
<td>5.694</td>
<td>1.719</td>
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<tr>
<td>Std. Dev.</td>
<td>1.840</td>
<td>1.395</td>
<td>1.728</td>
<td>1.341</td>
<td>0.969</td>
<td>1.413</td>
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<td>Skewness</td>
<td>-0.931</td>
<td>-0.214</td>
<td>-0.113</td>
<td>-0.497</td>
<td>0.821</td>
<td>-0.077</td>
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<td>Kurtosis</td>
<td>8.214</td>
<td>5.144</td>
<td>3.436</td>
<td>4.553</td>
<td>5.962</td>
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<tr>
<td>Probability</td>
<td>0.000</td>
<td>0.000</td>
<td>0.221</td>
<td>0.000</td>
<td>0.000</td>
<td>0.092</td>
</tr>
<tr>
<td>Observations</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
</tr>
</tbody>
</table>

Source: E-views 7

Descriptive statistics make use of both numerical & graphical techniques for interpreting the data set patterns. It summarizes the information about a data set and represents this information in an easy and understanding way. This study depicts descriptive statistics of thirty textile companies in table-1 for all variables that are used in this study.

5.2 Correlation Matrix

Table 2: Correlation Coefficient Matrix

<table>
<thead>
<tr>
<th></th>
<th>ROA</th>
<th>ROE</th>
<th>EPS</th>
<th>TDTA</th>
<th>TDTE</th>
<th>LQDTY</th>
<th>TDTA*LQDTY</th>
<th>TDTE*LQTDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>1</td>
<td>0.024</td>
<td>-0.030</td>
<td>0.008</td>
<td>-0.041</td>
<td>0.193</td>
<td>-0.116</td>
<td>0.130</td>
</tr>
<tr>
<td>ROE</td>
<td>0.024</td>
<td>1</td>
<td>0.174</td>
<td>0.039</td>
<td>0.145</td>
<td>0.093</td>
<td>-0.089</td>
<td>-0.030</td>
</tr>
<tr>
<td>EPS</td>
<td>-0.030</td>
<td>0.174</td>
<td>1</td>
<td>-0.070</td>
<td>-0.260</td>
<td>0.148</td>
<td>-0.083</td>
<td>0.181</td>
</tr>
<tr>
<td>TDTA</td>
<td>0.008</td>
<td>0.039</td>
<td>-0.070</td>
<td>1</td>
<td>0.058</td>
<td>0.064</td>
<td>-0.565</td>
<td>-0.007</td>
</tr>
<tr>
<td>TDTE</td>
<td>-0.041</td>
<td>0.145</td>
<td>-0.260</td>
<td>0.058</td>
<td>1</td>
<td>-0.153</td>
<td>0.097</td>
<td>-0.761</td>
</tr>
<tr>
<td>LQDTY</td>
<td>0.193</td>
<td>0.093</td>
<td>0.148</td>
<td>0.064</td>
<td>-0.153</td>
<td>1</td>
<td>-0.790</td>
<td>0.509</td>
</tr>
<tr>
<td>TDTA*LQDTY</td>
<td>-0.116</td>
<td>-0.089</td>
<td>-0.083</td>
<td>-0.565</td>
<td>0.097</td>
<td>-0.790</td>
<td>1</td>
<td>-0.411</td>
</tr>
<tr>
<td>TDTE*LQTDY</td>
<td>0.130</td>
<td>-0.030</td>
<td>0.181</td>
<td>-0.007</td>
<td>-0.761</td>
<td>0.509</td>
<td>-0.412</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: E-views 7

Table 2 shows the matrix of correlation coefficients for all the dependent, independent & moderating variables. As per Wooldridge (2015), multi-collinearity occurs when the coefficient of correlation is higher than 0.7. Therefore, results of the above table indicate that there lies no high level of correlation among all the variables which signifies that multi-collinearity is not serious issue in the estimations of this study.

5.3 Test of Non-Stationarity

We perform non-stationarity test before running the ordinary least square regression. According to Muigai &Muriithi, (2017) panel unit root test should be applied on all the variables for determining whether the panel data was stationary or not. Augmented Dickey-Fuller (ADF) test has also been conducted in this study in order to assess the existence of non-stationarity on all the variables including ROA, ROE, EPS, TDTA, TDTE and Liquidity. ADF
is the form of unit root test that mostly use for the larger & more complex set of time series models (Zubairi, 2010).

Table 3: ADF unit root test

<table>
<thead>
<tr>
<th>Variables</th>
<th>ADF (at level)</th>
<th>ADF (1st difference)</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>D(ROA)</td>
<td>-</td>
<td>123.752</td>
<td>0.0000</td>
</tr>
<tr>
<td>D(TDTA)</td>
<td>-</td>
<td>105.102</td>
<td>0.0003</td>
</tr>
<tr>
<td>D(Liquidity)</td>
<td>-</td>
<td>97.9604</td>
<td>0.0014</td>
</tr>
<tr>
<td>ROE</td>
<td>98.7185</td>
<td>-</td>
<td>0.0012</td>
</tr>
<tr>
<td>EPS</td>
<td>85.1520</td>
<td>-</td>
<td>0.0181</td>
</tr>
<tr>
<td>TDTE</td>
<td>81.9762</td>
<td>-</td>
<td>0.0313</td>
</tr>
</tbody>
</table>

Hence, as per the results of unit root test variables like Earnings per share (EPS), total debt to equity (TDTE) and return on equity (ROE) becomes significant at level which means that no stationarity exists. Whereas, variables i.e. return on assets (ROA), liquidity (LQDTY) and total debt to assets (TDTA) is significant at 1st difference. So, these variables are transformed on 1st difference. After log transformation of these variables conducted in order to handle the normality issues of panel data, this transformed variable are used in further analysis.

5.4 Hausman Test

Table 4: Results of Hausman Test (ROA as Dependent Variable)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-3.103154</td>
<td>0.294256</td>
<td>-10.54577</td>
<td>0.0000</td>
</tr>
<tr>
<td>TDTA</td>
<td>0.018483</td>
<td>0.080463</td>
<td>0.229712</td>
<td>0.8185</td>
</tr>
<tr>
<td>TDTE</td>
<td>-0.082167</td>
<td>0.113424</td>
<td>-0.724426</td>
<td>0.4694</td>
</tr>
<tr>
<td>TDTA*LQDTY</td>
<td>-0.025450</td>
<td>0.019823</td>
<td>-1.283824</td>
<td>0.2002</td>
</tr>
<tr>
<td>TDTE*LQDTY</td>
<td>0.073738</td>
<td>0.047695</td>
<td>1.546033</td>
<td>0.1232</td>
</tr>
</tbody>
</table>

In order to decide that which panel effects (between fixed and random) provide better results, we carried out Hausman test for the specified panel regression model. Therefore, results of the Hausman test are as follows.

Table 4 shows that ‘p’ value for all independent variables i.e. TDTA, TDTE and the moderator variables i.e. TDTA*LQDTY and TDTE*LQDTY came to be insignificant that is greater than 0.05 which means null hypothesis is not rejected, which means that random effect model is appropriate. Wecan say that random effects model is suitable for conducting panel regression between dependent, independent and its moderating variables.

Table 5: Results of Hausman Test (ROE as Dependent Variable)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-1.951</td>
<td>0.209</td>
<td>-9.318</td>
<td>0.000</td>
</tr>
<tr>
<td>TDTA</td>
<td>0.057</td>
<td>0.057</td>
<td>0.991</td>
<td>0.323</td>
</tr>
<tr>
<td>TDTE</td>
<td>0.266</td>
<td>0.081</td>
<td>3.293</td>
<td>0.001</td>
</tr>
<tr>
<td>TDTA*LQDTY</td>
<td>-0.027</td>
<td>0.014</td>
<td>-1.900</td>
<td>0.058</td>
</tr>
</tbody>
</table>
Table 5 shows that ‘p’ value for independent variable TDTA and the moderator variables i.e. TDTA*LQDTY and TDTE*LQDTY came to be insignificant that is greater than 0.05 which means null hypothesis is not rejected her as well. Hence, random effects model is appropriate for conducting panel regression.

Table 6: Results of Hausman Test (EPS as Dependent Variable)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>1.897</td>
<td>0.256</td>
<td>7.426</td>
<td>0.000</td>
</tr>
<tr>
<td>TDTA</td>
<td>-0.043</td>
<td>0.069</td>
<td>-0.615</td>
<td>0.539</td>
</tr>
<tr>
<td>TDTE</td>
<td>-0.404</td>
<td>0.099</td>
<td>-4.098</td>
<td>0.0001</td>
</tr>
<tr>
<td>TDTA*LQDTY</td>
<td>-0.002</td>
<td>0.018</td>
<td>-0.080</td>
<td>0.936</td>
</tr>
<tr>
<td>TDTE*LQDTY</td>
<td>0.098</td>
<td>0.043</td>
<td>2.307</td>
<td>0.022</td>
</tr>
</tbody>
</table>

Source: Calculated by using E-views

Table 6 shows that ‘p’ value for independent variable i.e. TDTA and its moderating variable i.e. TDTA*LQDTY came to be insignificant that is greater than 0.05 which means null hypothesis is not rejected and random effects model is appropriate.

5.5 Ordinary Least square Regression

In order to measure the impact of capital structure on firm performance this study used ordinary panel -least-squares regression method for the analysis of panel data through E-views 7 software.

Table 7: Results of OLS Regression

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Coefficient</th>
<th>t-statistics</th>
<th>Prob.</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a: TDTA ratio has significant impact on ROA.</td>
<td>0.011</td>
<td>0.141</td>
<td>0.888</td>
<td>Reject</td>
</tr>
<tr>
<td>H1b: TDTA ratio has significant impact on ROE.</td>
<td>0.058</td>
<td>0.998</td>
<td>0.319</td>
<td>Reject</td>
</tr>
<tr>
<td>H1c: TDTA ratio has significant impact on EPS.</td>
<td>-0.069</td>
<td>-0.962</td>
<td>0.337</td>
<td>Reject</td>
</tr>
<tr>
<td>H1d: TDTE ratio has significant impact on ROA.</td>
<td>-0.079</td>
<td>-0.722</td>
<td>0.471</td>
<td>Reject</td>
</tr>
<tr>
<td>H1e: TDTE ratio has significant impact on ROE.</td>
<td>0.270</td>
<td>3.352</td>
<td>0.001</td>
<td>Accept</td>
</tr>
<tr>
<td>H1f: TDTE has significant impact on EPS.</td>
<td>-0.407</td>
<td>-4.142</td>
<td>0.000</td>
<td>Accept</td>
</tr>
<tr>
<td>H2a: Liquidity acts as the moderator in the relationship between TDTA and ROA.</td>
<td>-0.036</td>
<td>-2.015</td>
<td>0.045</td>
<td>Accept</td>
</tr>
<tr>
<td>H2b: Liquidity acts as the moderator in the relationship between TDTA and ROE.</td>
<td>-0.018</td>
<td>-1.340</td>
<td>0.181</td>
<td>Reject</td>
</tr>
<tr>
<td>H2c: Liquidity acts as the moderator in the relationship between TDTA and ROE.</td>
<td>-0.019</td>
<td>-1.195</td>
<td>0.233</td>
<td>Reject</td>
</tr>
<tr>
<td>H2d: Liquidity acts as the moderator in the relationship between TDTE ratio and ROA.</td>
<td>0.096</td>
<td>2.257</td>
<td>0.025</td>
<td>Accept</td>
</tr>
<tr>
<td>H2e: Liquidity acts as the moderator in the relationship between TDTE ratio and ROE.</td>
<td>-0.032</td>
<td>-1.019</td>
<td>0.309</td>
<td>Reject</td>
</tr>
<tr>
<td>H2f: Liquidity acts as the moderator in the relationship between TDTE and EPS.</td>
<td>0.099</td>
<td>2.559</td>
<td>0.011</td>
<td>Accept</td>
</tr>
</tbody>
</table>

6. Conclusion And Recommendations

This study empirically examined the impact of capital structure’s choice on the performance of textile firms that are operating in the Pakistan moderated by liquidity. By conducting the Ordinary least square (OLS) regression, it is concluded that capital structure variables (TDTA and TDTE) have insignificant effect on return on assets (ROA), which is consistent with the Akeem et al., (2014); Nassar, (2016) and FRED, (2015). Capital structure variable TDTA has insignificant effect on ROE & EPS, which is compatible with the studies of Tan& Hamid (2016) as well as of Hassan et al., (2014). Capital structure variable TDTE has significant effect on return on equity (ROE) which is compatible with the results of Tan & Hamid (2016) and Basit & Hassan (2017). Whereas, capital structure variable TDTE has significant negative effect on earnings per share (EPS) which is in accordance with the study of Tan & Hamid, (2016).

A few previous literature on liquidity showed that as an independent variable, it had a significant and positive effect on the firm performance’s measures ROA, ROE & EPS (Banafa, 2016; Edem, 2017; Kahyani et al., 2016; Odalo & Achoki, 2016). Some studies depicted negative relationship of liquidity and firm’s performance (Ahmad et al., 2015; Njimanted et al., 2017; Vintila & Nenu, 2016). Hakeem & Bambale, (2016) used liquidity as the mediator and depicted that it acted as a mediator amongst dividend payout & financial performance of registered manufacturing companies of Nigeria. In this study, the liquidity is taken as the moderator and it is found that liquidity does not act as a moderator between capital structure variable total debt to total assets (TDTA) ratio and firm’s performance variables, return on equity (ROE) & earnings per share (EPS), while liquidity acts as a moderator between the capital structure variable total debt to assets (TDTA) ratio & firm performance variables return on assets (ROA). Moreover, liquidity acts as a moderator between the capital structure variable total debt to equity (TDTE) ratio and firm’s performance variables return on assets (ROA) & earnings per share (EPS), whereas liquidity does not act as the amoderator between capital structure variable total debt to equity (TDTE) and return on equity (ROE).

This study used only textile sector of Pakistan whereas future researchers may use other sectors of economy and a larger data set with different time period in order to get further insights.

References


Effect of Trade Credit on Firms Growth: A Case Study of Pakistani Non-financial Firms

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ARTICLE DETAILS

| History | Purpose: Most of the businesses move from traditional business transactions to automated and sophisticated credit transaction methods. As large firms have better access to financial institutions and markets but still, they are interested to seek firm growth by adopting the trade credit policies. Finally, the non-financial listed firms of Pakistan can achieve their growth targets by adopting trade credit policies |
| Keywords | Design/Methodology/Approach: This study collects information from non-financial firms of Pakistan. Panel data is used to explore the impact of trade credit on firm’s growth. The data collected from the year 2001-2015 of 257 non-financial firms of Pakistan. A technique of panel data analysis, generalized method of moment used to analyze the data. |
| JEL Classification: F13,F19,F43,F49 | Findings: The results suggest that trade credit and GDP have a positive significant impact on firms’ growth. Moreover, the Firm’s age, its size and inflation in the economy have also impacted the firm’s growth but in a negative direction. |
| | Implications/Originality/Value: As trade credit is a source of Firms Growth So, for better growth of firms management must be taken step for better trade credit policies. |

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1. Introduction
Firms have to clearly monitor financial performances to enhance their growth. Nowadays financing is a big task and considered as lifeblood for firms. There are decisions for capital budgeting which consists of making the best choices among the available resources. Another most important decision is about the management of working capital because it deals with current assets and current liabilities (Raheman & Nasr, 2007) and hence directly
affects the liquidity and profitability position of the companies. So, working capital should be properly managed and monitor to overcome the short-term finances requirement of the companies. One of the major sources of working capital is trade credit. Trade credit is the relationship between buyer and supplier and it has become an integral part of today’s business. Trade credit arises whenever a buyer defers payments to the suppliers. In the beginning when goods and services provided by the producer to its customer no payment is made. The price of goods and services is made on an agreed near future date according to the agreement done among the parties. So, it is the most important source of short-term external finance, which companies get directly from their suppliers (Petersen & Rajan, 1997).

According to (Marotta, 1997) the importance of the use of trade credit varies from country to country. Trade credit is extensively used nowadays in many sorts of businesses, especially financially distressed firms prefer to take the trade credit option. These companies decide to efficiently utilize the capital structure to achieve many business objectives. Mostly trade-credit users are the industrial sectors of the country because they require the investments or goods on a daily basis. According to the survey held in Finland (1996), the receivables are, on average 9.7 percent and payables are 6.1 percent as per balance sheet items. In the United States, trade credit has a major source of capital for many companies. According to the major utilizer of trade credit the world’s largest mart, the Wal-Mart has the largest source of transactions in their accounts as of trade credit transactions. It is very easy for these large-sized marts to get bank loans, but however, Wal-Mart prefers trade credit over bank borrowings. In developed countries like France, Germany and Italy the worth of trade credit assets is almost a quarter of total corporate assets. Trade credit is important for those economies where firms get limited help from banking services and other financial sectors. One example of such economies are China as argued by (Ge & Qiu, 2007).

Although bank financing is considered as a major source of financing by firms but at the same time financing through trade credit is very important due to many advantages attached to it. Trade credit mostly becomes a source of capital to the Firms that are unable to raise capital through traditional channels. The trade held on credit terms not only generates the expansion of businesses but also builds a long-term relation between buyers and suppliers. Suppliers provide the capital to the buyers to expand their own business. In comparison with the financial institutions, the suppliers are well aware of the market conditions for the products which provide an edge to the suppliers better than banks and other financial institutions. Suppliers use and implement the information of monitoring and controlling for the purpose of repayment in many different ways which are helpful for the buyers. Therefore, the terms and conditions for trade credit differ from buyer to buyer. Suppliers as being fully aware of the markets have abilities to resell the products for generating the credit. Suppliers have full knowledge as well as expertise as compared to the financial institutions held which is necessary for the control of risk faced by the buyers. The transaction cost also reduced because trade credit doesn’t require any transaction charges between the two parties, just the contract letter is enough to fulfill the agreement. Trade credit serves as the best mean for the detection of quality of goods because suppliers don’t want to lose precious or regular buyers and also to maintain a healthy business relationship is necessary for the future prospects of businesses. According to (Berger & Udell, 1995) small and medium-sized firms faced many sorts of difficulties in achieving the external source of financing like bank loans. But in case of trade credit as there are no such formalities attached to trade credit as required in bank financing So, small scale firms also get trade credit easily (Storey, 2016). Trade credit is also a major source when credit from financial institutions is not available or there is a shortage of liquid funds then small firms rely more on trade credit (Elliehausen & Wolken, 1993).

Another benefit is that firms get short term debt easily without involving in lengthy formalities to achieve loans because the formal bank loan issued after a prolonged and complicated procedure. This indicates that one can only receive a bank loan after going through many difficult and time-consuming terms and conditions which itself is not a simple scenario. For this reason, the new market entered firms and small-scaled firms may not be able to get bank

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1 The earning capacity of short-term assets is less than the long-term assets. Therefore, when firm put more on current assets then it profits earning decrease. On the other hand, when firm have more current liabilities over current assets then liquidity problem may exist.

2 Wal-Mart uses the trade credit as it is beneficial for the delayed payments and to achieve purchases timely and without loss of time. As per the annual report of Wal-Mart in 2006, a high rate and standardized large buyer has account payables of short-term funding three quarters of its total debt.
credits easily as they did not meet the formal bank requirements (Storey, 2016). According to the survey held in 2005 in Spain, Firms who are suffering from credit constraints rely on trade credit as a source of funding. The financial institutions also gain the signal that these small and medium-sized firms are well established and can be able to achieve bank loan after some time. It will happen mostly in underdeveloped countries where financial institutions are not much regularized or countries financial sector is not in a stage to give loans to all loans requiring firms, so in these countries, trade credit usage is quite high (Ge & Qiu, 2007). In underdeveloped economies like Pakistan and India's firms financed more from the supplier and the economies with well-developed financial markets, Firms financed less by suppliers (Breig, 1996). Trade credit also allows firms to reduce the transaction cost related to the process of paying invoices and the verification of the quality of products before paying. As the customer is more concerned to verify the products before paying for it. Therefore, for low-quality product supplier knew that if the products are not according to the customer demand then the customer may refuse to pay for the product. So, the supplier gives more focus on customer demand to get timely payments (Ferris, 1981).

According to Jaleel, Hui, Virk, & Abdullah, (2015) firms that focused more on quality products are able to obtain a huge amount of trade credit as compare to the firms which are not very much quality conscious. So, in this scenario trade credit could be seen as a firm's goodwill accelerator. At the same time, it also increases the sale of firms. As many new customers are also attached to firms that are not able to purchase products on a cash basis on the spot. In these way Firms sales increases gradually. Finally, in trade credit, there is an early payment discount term present which makes it cheaper. This means if the customer pays before the due date then the supplier gives it a rebate in price. So, if a customer pays before the due date then the supplier firm gets less amount. Therefore, if there is a long-term relationship between customer and supplier then supplier firms less trade credit due to its rebate cost. As in the case of bank credit, the interest rate cost is fixed so there is no chance that the bank will face any increase in its credit cost, but in trade, credit cost may increase lately due to rebate policy of trade credit supplying firms. In case of trade credit, the payment paid after the contracted date increased the real cost of trade credit, however, the suppliers mostly not charge late payment fees. However, the late payment issue of the trade credit transactions differs across countries to countries and industries to industries. This feature shows an extra degree of flexibility when the issue of repayment arises. Suppliers have the right to act legally against the buyers if the buyer does not repay at the stated maturity. Suppliers often decide to give buyers extra time for repayment. As late payment is concerned it is crucial to understand the long-term relationship between buyer and seller. The supplier has usually been more concerned about the late payment as compared to that of buyers, as the supplier is more focused on the buyer as well as his retention in the business.

Buyers have the ability, to control the quality of the product with the trade credit agreement. As buyers can sell the product in the market and can monitor the quality of the product which is purchased by the customers. This leads to an increase in product demand. The product itself has a security for the seller as if the buyer is unable to sell, the seller himself can sell the product at any time. Therefore, trade credit has the real source of increasing revenue. The supplier provides totally an illiquid input on the other hand bank provides cash which is a totally liquid input. The trade-credit transaction is for all firms despite of their sizes, however it is more efficient for small-sized industries because they are more neglected by financial institutions. According to (Cunat, 2006), if Firms experience the liquidity issues and negative growth rates trade credit also has an effect on the growth process. As per (Petersen & Rajan, 1997) those Firms which already face financial distress, are more interested to extend trade credit as trade credit is the source for the increase in the sales. This gave flexibility in payment to suppliers. Trade credit extends to many periods of the agreement. Suppliers to accommodate the adjustments in the demand, willingly accept to alter the price of commodities than that of the credit terms. To diversify the risk of the buyer, it has been necessary to distribute the earning of the buyers so that there has been less chance of liquidity faced to the buyer (Smith, 1987) (Beck, Demirgüç-Kunt, & Maksimovic, 2008). In Pakistan, non-financial firms face scarce financing issues. Hence there is a need for external financing most of the times. As per the study conducted by (Jaleel, Hui, Virk, & Abdullah, 2015) on the non-financial sector firms of Pakistan. They found that the textile sector is one of the largest sectors of non-financial firms of Pakistan mostly financed by the trade credit. Moreover, the other sectors like chemical sector, sugar industry, motor vehicle, cement etc. are also mostly funded by the trade credit. The conventional bank loans required security which at times becomes difficult for these non-financial firms to provide and so the trade credit becomes an important source of financing in Pakistan for these firms.

2. Literature Review

3 Firms which have less trade credits mostly considered as a low-quality production Firms as they offer less time to verify products to customers
Firms can fulfill its capital needs using two major financing sources i.e. short-run and long-run financing. Two major sources of long-term financing are issuing shares and debentures and two major sources of short-term financing are bank loan and trade credit. Trade credit is a source of short-term financing which is taking popularity today due to its benefits. As per theory, the issues were due to asymmetric information within the market. There were alternative ways that solve the issues of the short-term financing like trade credit. Hence trade credit is an important source of financing for all sizes of firms, but especially small, medium-sized and unstable firms. Because these firms have fewer chances to get a bank loan due to their less market goodwill and low level of assets. Stable firms can easily get help from the financial institutions however unstable firms have to see other resources. There are two ways to use trade credit either for supply or demand for credit goods. As per study for all American firms, trade credit was an important part of the balance sheet in early 1990. Account receivables was recorded as 18 percent as per total assets. As, for example, in United Kingdom, debts of short-term nature have observed to be 70 percent account payable from the balance sheet and 50 percent of debt has recorded as compiled debt of the companies. In France, Germany and Italy trade credit has been observed as one-fourth of all the corporate assets and is important where the firm gets limited support from the banks in emerging economies like China as per Ahmed & HUI, (2016). A discount offer is an attractive option from the firms’ point of view, because, the cost attached to purchase goods or services is reduced. In the case of lending to other firms, the firms have financing advantages to collect and gather the information more quickly and easily compared to that of banks and financial institutions. Suppliers have informational benefits over other financial sectors.

As per Petersen & Rajan, (1997) suppliers do not discriminate the prices if they work on the price of credit or price of goods, therefore, the supplier may face low profitability. According to Vaidya, (2012) supplier also imposed power on buyers to pay on time otherwise buyer will no longer be served as a customer. As explained by Smith, (1987) the discount given to buyers indicates as a weak financial standing by the seller. According to (Wilson & Summers, 2002) as a tool, the trade credit has fulfilled all the marketing aspects. In case that a new owner entered into the market, it can gain reputation and success if involved in trade credit transactions instead of spending many years to stand alone trade credit build new business relations. SME’s are not able to secure the enough amounts of finances and this caused the SME’s to fail quiet more often than other firms (Huyghebaert, Van de Gucht, & Van Hulle, 2007). According to (Beck et al., 2008) there have numerous studies carried out for the use and existence of the trade credit. According to those studies, buyers and suppliers can avail of the facility of relationships in a case when there has instability in the financial market of the country. According to them trade credit has made up of 70 percent of the debt. The nature of the debt is short term debt. Non-availability of finances always turns the buyers towards new and everlasting sources, especially the trade credit contract serves the purpose. As per smith (1987) trade credit act as a positive signal in the market as compared to banks, which are less liked to lend to the buyers. Smith (1987) stated that trade credit act in a way to finance the company externally also it became cheaper at a discount for early payments. As per Van Horne & Spence, (1989) trade credit has a direct relation to business and the source of financing for the companies. According to Beck, Demirgüc-Kunt, & Maksimovic, (2005) trade credit is best for the buyer as well as for the supplier where both the parties mutually share their interests to expand the businesses, in case of inefficient financial markets. SME’s can easily get trade credit financing as compared to a bank loan because of the small nature of businesses.

Non-financial firms have their interest in the issue of trade credit because of the fact that knowing complete information about the market these firms have advantages over the other institutions and they efficiently utilize their resources to give maximum output to their companies. In working in the same industry supplier knows very well about the near future aspects of the running companies and has complete knowledge to expand the needs and efforts of the business. Trade credit holds an important role in every corporate financial policy. Funds invested as trade credit financing served the purpose of an investment in the business. (Long, Malitz, & Ravid, 1993) and (Berger & Udell, 1995) stated that in European Firms in balance sheet items the total assets of the companies have trade credit supply items. According to (Ge & Qiu, 2007) trade credit served the purpose of external financing for the countries which are still underdeveloped as these countries have no excess towards the financial institutions and they are unable to meet the policies of financial institutions. From the supplier point of view, in order to discriminate the price to the buyer, supplier extended goods on credit. As per Ferris (1981) as suggested to reduce the transaction cost, trade credit served the best means. (Cunat, 2006) for a deprived customer to maintain a long-term relationship, the supplier’s given discount as well as try to settle the liquidity problems of their customers.
Mostly the use of trade credit has higher in those countries where the production of goods is an integral part of the economy as explained by (Long et al., 1993). Ahmed & HUI, (2016) examined that the use of trade credit is increased after 2008 due to financial crises in Pakistan. Trade credit is more common among the firms facing bank borrowing constraints as banks required security against the loans. The bank always issues loans to those customers where there has attached a less risk of repayment. Due to an increase in risk the customers are not able to run business, therefore, move towards other short-term trades. Trade credit thus serves as an edge to the buyer to sustain in the competitive market. This showed a strong and effective use of trade credit in developed as well as developing countries (Ahmed & HUI, 2016). Small companies have more interest to issue trade credit as they have to be more interested to resolve their liquidity issues. According to (Long et al., 1993) Firms get less involved in credit transactions also they don’t need to provide the guarantee for their product. As per the study survey Beck et al (2008), 19.7 percent of total financing has been financed through trade credit and is an external source in 48 countries of the world. The author argued that trade credit has the second-largest source of external financing. In developed countries like France and the UK, more than 30% of finance is external finance as trade credit. In the U.S. 60% of small businesses used trade credit such a major use of financing than banks and financial institutions as explained by (Elliehausen & Wolken, 1993). Firms at startup and newly younger Firms rely more on the external source of financing as trade credit.

Ferris, (1981) investigated that the account payable and the trade credit related to total purchases at the purchase time and time of delivery. The high level of risky firms uses more trade credit and pay a higher portion of trade purchase after the due date. Economically significant theories were transaction cost theory and informational asymmetry explained the demand for trade credit. Buyers firms have faced credit-constrained issues as these firms have faced investment opportunities and they can increase their inputs by expanding the business. Also, the increased sales gave an easy to increase their market share and to prosper the business. The commercial banks have more lending channels as compared to those of suppliers to fulfill contract requirements. The main reason for the existence of tax has been to motivate the trade credit because different tax policies for buyers and suppliers showed a way to protect against the highest tax schedule as the case of financial institutions. As the seller has to report the taxable income as per the installment of credit received. In the case of the cash management process, the trade credit serves the purpose to reduce the cost of firm resources.

3. Methodology
Data of this study collected from the non-financial firms listed on the Pakistan Stock Exchange (PSX). Selection criteria based on the complete availability of the data set for the years 2001 to 2015. To capture the effect of different independent variables on firm growth the study used the Generalized Method of Moments (GMM).

3.1 Data
As per the nature of the trade credit transactions and the difference in capital structure the study has selected non-financial firms listed on Pakistan Stock Exchange. Before the year 2001, it is very hard to find and collect the data of all non-financial firms in Pakistan. Because The State Bank of Pakistan did not provide any kind of information regarding the data of financial statements of different businesses. After the year 2001, the SBP started to publish the financial statement data of the non-financial firms. On the other side, the currently available of data set on the website of the State Bank of Pakistan is till the year 2015. So, due to unavailability of data the study has finally collected the data for the years 2001 to 2015. Data are collected from the Balance Sheet Analysis (BSA) and Financial Statement Analysis (FSA) published by the State Bank of Pakistan. Moreover, the missing information about any variable has been confirmed directly from the financial statements of each non-financial firm selected in the sample. To find out the impact of macroeconomic variables in this analysis the study used the two fundamental variables of Gross Domestic Product (GDP) and Inflation rate. The data of these macroeconomic variables are collected from World Development Indicators (WDI) and government monetary policy circulars. According to the Financial Statement Analysis (FSA) 2015 there were 443 non-financial firms listed on a Pakistan Stock Exchange. Non-financial firms which did not provide the complete information even in the financial statements and maybe started their operations recently are excluded from the sample. Non-financial firms which contained some unusual year values are also extracted from the sample. Finally, the data has been collected for 257 non-financial firms of Pakistan.

According to the sample information the greater number of Firms selected in the sample was from the textile sector. As the textile sector has a greater frequency in overall listed non-financial firms listed at Pakistan Stock Exchange. It contributes 39.86 percent in the overall sample of selected firms. Chemicals, Chemical Products and Pharma
stood at the second number. Thirty-three firms were selected from this sector, it contributes 11.15 percent in the overall sample. (see appendix A, for a complete list of companies of non-financial sector of Pakistan).

3.2 Variables
The dependent variable is Firms’ Growth which is calculated on the basis of real added value. The calculation of firms’ growth on the basis of real added value is presented by Ferrando and mulier in (2013).

In table 3.1 dependent and independent variables are explained with their calculation specifications.

Table 3.1: List of variables

<table>
<thead>
<tr>
<th>Variable Names</th>
<th>Formula</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>FG (Firms Growth)</td>
<td>(\frac{\text{real added value} - \text{lagged real added value}}{\text{lagged real value added}})</td>
<td>(Ferrando &amp; Mulier, 2013)</td>
</tr>
<tr>
<td>Trade credit (TC)</td>
<td>AR, AP</td>
<td>Peterson &amp; rajan 1997</td>
</tr>
<tr>
<td>AR</td>
<td>Account receiveable / Total sales</td>
<td></td>
</tr>
<tr>
<td>AP</td>
<td>Account payable / Total purchases</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>Founded year</td>
<td>(Gertler, 1988)</td>
</tr>
<tr>
<td>FG (-1)</td>
<td>(\frac{\text{real added value} - \text{lagged real added value}}{\text{lagged real value added}})</td>
<td>(Ferrando &amp; Mulier, 2013)</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product (In billions)</td>
<td>WDI</td>
</tr>
<tr>
<td>Inf</td>
<td>Inflation Rate</td>
<td>WDI</td>
</tr>
</tbody>
</table>

The nature of the data used in this study is of panel data. The Panel data contained the information of multiple cross-sections over time. On the other hand, cross-section and time-series data focus on only one dimension. Time series focuses on time intervals and vary over time and cross-section based on individuals at a specific point in time. The study used the panel data and measure most of its variables as

\[ X_{it}, i = 1, 2, \ldots, k, t = 1, 2, \ldots, n \]

Where I represent each cross-section or individually and it is standing for time periods that vary from 1 to n. Data from non-financial Firms were collected over the years. The most suitable type of data set that can be used is panel data. Panel data techniques will be used and discussed in this section. There are two major models normally discussed in the literature of panel data econometrics, fixed and random-effects model. Normally, the error term does not change or vary over time for cross-sections (for example, in case of different countries the climate and geographical boundaries of that country remain constant over time) but adding another term along with the error term make it possible for the error term to vary and remain varied.

According to one of the assumptions of the classical linear regression model the error term should not be correlated with any of the independent variable. If this is so, then a simple the problem of omitted variable biased can arise and the simple, ordinary least squares are no longer useful in this situation. To solve this problem the fixed effect estimation technique or a method of the first difference estimator can be used. On the other hand, if an independent variable is not correlated with the error term, then a simple, ordinary least square method may use to find the consistent and unbiased results. When the error terms correlate with the lagged error term, there arises the problem of autocorrelation. If the same relationship occurs between any other variable and the lag of that specific variable, it can also be known as the serial correlation. To avoid this problem, another efficient estimator is required that might
solve this problem. In this case, the random effect model helps to come across the unbiased and efficient estimates. Hausman test is used to differentiate the two models. The study has also used the test and found that the fixed effect model is more appropriate.

In most of the case of finance and economics most of the variables depend on their previous behavior or trend. The dependent variable sometimes depends on lag values. If the dependent variable depends on its own lag value this phenomenon is explained as a dynamic panel. The presence of lagged dependent variables is a strong signal of containing the problem of endogeneity and violates the assumption of exogeneity on which the panel data techniques rely. An alternative technique is used to avoid the problem of endogeneity called instrument variable regression. There are three major types of instrumental variable regressions. First, a two-stage least square method that is appropriate where there are simultaneous equations in the model. Secondly, generalizes least square techniques which are based on the assumption when the data is not linear. Third and the last type is the generalized method of moments which is most popular where we have simple linear equations along with lagged dependent variables. In this study, firms are totally different from each other in respect of size, industry type, etc. e.g. cement sector, oil and gas sector, textile sector, etc. So, in every phenomenon they are different from each other in terms of their decisions, growth, business strategy and their sale promotions etc. so data are totally heterogeneous in every respect. To capture this heterogeneity affect the fixed effect model is used. Moreover, since the dependent variable also depends on its previous value. Firms' growth depends on last year’s firms growth means its lagged value so there might be a chance of endogeneity. To capture the endogeneity problem, GMM model is used in this research.

(possibly the first difference).

3.3 Model Specification
The general model used is,

\[ Y_{it} = \beta_0 + \sum_{i=1}^{t} \beta_i x_{it} + \epsilon_{it} \]

Specifically, our model followed by the model presented by (Ferrando & Mulier, 2013).

Model-1
\[ F.Growth_{it} = \alpha_0 + \alpha_1 Growth_{it-1} + \alpha_2 A/R_{it} + \alpha_3 size_{it} + \alpha_4 age_{it} + \alpha_5 GDP_t + \alpha_6 inf_{it} + \epsilon_{it} \]

Model-2
\[ F.Growth_{it} = \alpha_0 + \alpha_1 Growth_{it-1} + \alpha_2 A/P_{it} + \alpha_3 size_{it} + \alpha_4 age_{it} + \alpha_5 GDP_t + \alpha_6 inf_{it} + \epsilon_{it} \]

The term (i) stands for industry as in our data the firms are heterogeneous industry-oriented and (t) is the time period.

The term log of size and the log of age will be used to ensure that any impact of the trade credit channel on growth is not driven by firm size or age. According to (Gertler, 1988) the age is also a constraint in firm growth. They suggested that small size and newly established firms tend to have more difficulties in raising external finance.

4. Results and Discussion
4.1 Descriptive Stats
Statistical summary of variables

<table>
<thead>
<tr>
<th></th>
<th>FG</th>
<th>AR2</th>
<th>AP2</th>
<th>AGE</th>
<th>SIZE</th>
<th>GDP</th>
<th>INF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.90</td>
<td>0.24</td>
<td>0.30</td>
<td>3.38</td>
<td>6.82</td>
<td>25.77</td>
<td>8.76</td>
</tr>
<tr>
<td>Median</td>
<td>0.43</td>
<td>0.05</td>
<td>0.01</td>
<td>3.37</td>
<td>6.80</td>
<td>25.85</td>
<td>8.08</td>
</tr>
<tr>
<td>Maximum</td>
<td>9.89</td>
<td>9.90</td>
<td>10.00</td>
<td>5.04</td>
<td>12.20</td>
<td>26.32</td>
<td>19.60</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.00</td>
<td>0.00</td>
<td>-0.30</td>
<td>0.69</td>
<td>-2.21</td>
<td>25.00</td>
<td>3.10</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>1.36</td>
<td>0.93</td>
<td>1.10</td>
<td>0.55</td>
<td>1.72</td>
<td>0.40</td>
<td>4.29</td>
</tr>
</tbody>
</table>
FG= Firms growth, INF=Inflation, AR= Account Receivable, AP= Account Payable
Source: Authors’ computation

4.2 Correlation Analysis
Correlation analysis results of dependent and independent variables are shown in table 4.2.

Table 4.2 Relationship among variables

<table>
<thead>
<tr>
<th></th>
<th>FG</th>
<th>INF</th>
<th>GDP</th>
<th>AR</th>
<th>SIZE</th>
<th>AGE</th>
<th>AP</th>
</tr>
</thead>
<tbody>
<tr>
<td>FG</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INF</td>
<td>-0.026</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LGDP</td>
<td>0.015</td>
<td>0.403</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AR</td>
<td>0.002</td>
<td>-0.152</td>
<td>0.165</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.012</td>
<td>0.068</td>
<td>0.228</td>
<td>-0.082</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LAGE</td>
<td>-0.006</td>
<td>0.087</td>
<td>0.259</td>
<td>-0.084</td>
<td>0.121</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>AP</td>
<td>0.007</td>
<td>-0.107</td>
<td>0.142</td>
<td>0.461</td>
<td>-0.062</td>
<td>-0.077</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Source: Authors’ Computation

4.3 Data Analysis

Table 4.3 shows the regression results of our first Model,

Table 4.3: Regression analysis of Model-1

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.136</td>
<td>1.826</td>
<td>0.074</td>
<td>0.940</td>
</tr>
<tr>
<td>FG (-1)</td>
<td>0.101</td>
<td>0.017</td>
<td>5.941</td>
<td>0.000*</td>
</tr>
<tr>
<td>AR</td>
<td>0.089</td>
<td>0.028</td>
<td>3.178</td>
<td>0.012*</td>
</tr>
<tr>
<td>INF</td>
<td>-0.078</td>
<td>0.016</td>
<td>-4.875</td>
<td>0.014*</td>
</tr>
<tr>
<td>LGDP</td>
<td>0.079</td>
<td>0.036</td>
<td>2.191</td>
<td>0.036*</td>
</tr>
<tr>
<td>LAGE</td>
<td>-0.100</td>
<td>0.067</td>
<td>-1.492</td>
<td>0.126</td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.039</td>
<td>0.012</td>
<td>-3.254</td>
<td>0.004*</td>
</tr>
</tbody>
</table>

R-squared                   | 0.388            |
Adjusted R-squared          | 0.361            |
Prob (J-statistic)          | 0.051            |
Note: * indicates significant variables.

In this study the dependent variable is firms’ growth, the hypothesis was related to the growth of firms which is dependent on many other factors like GDP, Inflation etc. The value of R-square has found 39 percent indicates that 39 percent of the variation in Firms growth has been explained by these explanatory variables. As the firms’ growth depends on the previous lag so, the first independent variable is the lag of firms growth which showed the positive and significant relationship that firms growth depends on its own previous lag. The value of T-statistics is above 2 which indicates that the variable used is significant. P-value is less than 0.05. AR has a positive significant relationship with firms growth which proves our hypothesis of an increase in AR leads to the increase in firms growth. As sales increased the other sources of growth especially firms’ growth is directly influenced. The value of T-statistics is above 2 which indicate that the independent variable AR used is significant to the firms’ growth. P-value is less than 0.05 so we reject the null hypothesis and accept the alternative hypothesis that AR has a positive impact on firms’ growth. Inflation shows a negative significant relationship with that of firms’ growth. Hence proved hypothesis regarding inflation has a negative significant impact on firms’ growth. The value of T-statistics is above 2 which indicates that inflation used is significant to firms’ growth. P-value is less than 0.05, so we reject the null hypothesis and accept our alternate hypothesis to add reference to this finding. Gross Domestic Product (GDP) gives the positive significant relationship explains that the Gross Domestic Product has been positively related with the firms’ growth. If the economy is stable then firms’ growth has been achieved and implemented and in case that economy is facing instability then it also affects the firm growth. Hence, it proved the hypothesis regarding GDP and firms’ growth. T-statistics is above 2 indicating that GDP used is significant to the dependent variable firms’ growth. P-value is below 0.05 so we accept the alternative hypothesis. add a reference to this finding Firms age gives the negative insignificant relationship. Explaining that the firms’ growth is not related to the age of the firms. Hence, negative sign shows that the large-scale firms have less growth instead of small firms. As an increase in firms age put the decrease in firms' growth. It proved the hypothesis regarding firms age and Firms growth. T-statistics is below 2 indicating that firms age used is insignificant to the dependent variable firms’ growth. P-value is above 0.05 so we reject the null hypothesis. Size gives the negative significant relationship with firms’ growth. Firms growth decreases with the increase of the size of firms because large-sized firms are difficult to be managed. Hence, it proved the hypothesis regarding firms’ growth and size. T-statistics is above 2 indicating that size used is significant to the dependent variable firms’ growth. P-value is below 0.05 so we reject the null hypothesis.

**Table 4.4** shows the results of our 2nd model.

**Table 4.4 Regression analysis of Model-2**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.631</td>
<td>2.888</td>
<td>0.218</td>
<td>0.827</td>
</tr>
<tr>
<td>FG (-1)</td>
<td>0.039</td>
<td>0.017</td>
<td>2.293</td>
<td>0.027*</td>
</tr>
<tr>
<td>AP</td>
<td>0.081</td>
<td>0.036</td>
<td>2.253</td>
<td>0.004*</td>
</tr>
<tr>
<td>LAGE</td>
<td>-0.280</td>
<td>0.292</td>
<td>-0.959</td>
<td>0.337</td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.128</td>
<td>0.045</td>
<td>-2.849</td>
<td>0.026*</td>
</tr>
<tr>
<td>LGDP</td>
<td>0.096</td>
<td>0.023</td>
<td>4.173</td>
<td>0.051*</td>
</tr>
<tr>
<td>INF</td>
<td>-0.067</td>
<td>0.015</td>
<td>-4.466</td>
<td>0.002*</td>
</tr>
<tr>
<td>R-squared</td>
<td></td>
<td></td>
<td>0.367</td>
<td></td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td></td>
<td></td>
<td>0.341</td>
<td></td>
</tr>
<tr>
<td>Prob (J-statistic)</td>
<td></td>
<td></td>
<td>0.043*</td>
<td></td>
</tr>
</tbody>
</table>

Note: * indicates significant variables.

The value of R-square has found 37 percent indicates that approximately 37 percent of the variation in firms’ growth has been explained by these explanatory variables. As the firms’ growth depends on the previous lag so, the first independent variable is the lag of firms’ growth which shows the significant relationship with firm growth, that firms growth depends on its own previous lag. The value of T-statistics is above 2 which indicates that the variable used is significant. P-value is less than 0.05 so we reject the null hypothesis and accept our alternate hypothesis. Accounts payable has been positive significantly related to the firms’ growth which proves the hypothesis that an increase in accounts payable leads to the increase in firms’ growth (Schwartz, 1974). The value of T-statistics is above 2 which indicates that the accounts payable is significant to dependent variable firms’ growth. P-value is below 0.05 so we reject the null hypothesis and accept the alternative hypothesis. Firms age gives a negative insignificant relationship. Explaining that the firms’ growth is not related to the age of the firms. Hence, negative
sign shows that the large-scale firms have less growth instead of small firms. As an increase in firms age put the decrease in firms’ growth. It proved the hypothesis regarding firms age and firms’ growth. T-statistics is below 2 indicating that firms age used is insignificant to the dependent variable firms’ growth. P-value is above 0.05 so we accept the null hypothesis. Size gives the negative significant relationship with firms’ growth. Firms growth has not focused on the size of firms because large-sized firms are difficult to be managed. Hence, it proved the hypothesis regarding firms’ growth and size of the firm. T-statistics is above 2 indicating that size used is significant to the dependent variable firms’ growth. Negative sign shows the negative impact of size on firms’ growth, as the size increases the speed of growth decreases. P-value is less than 0.05 so we reject the null hypothesis. Gross Domestic Product (GDP) gives the positive significant relationship explains that the Gross Domestic Product has been positively related with the firms’ growth. Hence, it proved the hypothesis regarding GDP and firms’ growth. As T-statistics is above 2 indicating that GDP used is significant to the dependent variable firms’ growth. P-value is approximately 0.05 so we accept our alternative hypothesis. Inflation shows a negative significant relationship with that of firms’ growth. Hence proved hypothesis regarding inflation has a negative significant impact on firms’ growth. As we have stated that the value of T-statistics is above 2 which indicates that inflation used is significant to firms’ growth. P-value is below 0.05 so we reject the null hypothesis.

This study findings related to the size of the firms confirm the empirical findings of Wilson & Summers (2002) that young and small firms use trade credit supply as a means to assure their quality and build their reputation among potential customers in order to increase their market share. In this study, Trade credit results show the clear picture as discuss by Love, Preve, & Sarria-Allende (2007) they found that industries that are more dependent on trade credit financing grow relatively more rapidly in countries with less developed financial intermediaries. Inflation findings clearly match with the results of Boyd et al. (2001) study which indicates that there is a negative relationship between inflation and financial and non-financial firms sector growth.

5. Conclusion
This research tries to capture the effect of trade credit on firms’ growth. As previous researchers highlighted the role and importance of trade credit in the arrangement of short-term financing. The prime objective of the study is built on this ground to find out the relationship between trade credit and firms’ growth in the case of Pakistani non-financial firms. To achieve this objective, the study, use the data of 257 non-financial registered firms of Pakistan. The data consists of 15 years from the year 2001 to 2015. The results of the study proven that approximately all registered non-financial firms of Pakistan use trade credit policies to achieve their firms’ growth. There is a positive and significant relationship between trade credit and firm growth have been captured in the regression analysis. Trade credit plays an important role in the firms’ growth. Those firms which have financial constraint and fail to achieve their growth targets can adopt the trade credit policies to achieve their goals. Firms with the best credit policies can find credit supplies and will be in a better position to obtain short term financing. Firms size and age is also affecting the firm growth rate. Regression results shows the negative significant relationship between size and age of firm with firm growth. That means the new firms have a better opportunity of growth instead of the old firms as they have a chance to capture more market share.

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The Maqasid Al Shariah and the Sustainability Paradigm: Literature Review and Proposed Mutual Framework for Asnaf Development

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<td><strong>History</strong></td>
<td><strong>Purpose</strong> - The study examines through analysing the literature, that the zakat recipients (asnaf) can be better entertained by a sustained mechanism than one-off measures. The main aim towards asnaf upliftment should be based on a self-reliance goal-oriented-action strategy plan to alleviate them from any further deprivation. The aim of Maqasid in addressing these issues is to ensure that an asking basket gets smaller day by day through an effective regime.</td>
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<td>Revised format: November 2019</td>
<td><strong>Design/Methodology/Approach</strong> - The paper analyses and synthesises the relevant literature on Maqasid and sustainable paradigm, then proposes a conceptual convergence to understand the paradigmatic similarities between the two in appreciating the welfare of zakat recipients.</td>
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<td>Available Online: December 2019</td>
<td><strong>Findings</strong> - The paper attempts to examine the latitude of sustainability and Maqasid necessities in relation to asnaf welfare. The sustainability development’s main concern that the future generation benefits from the present development, which is quite similar to Hifzul Nasl or protection of progeny in Maqasid fulfilment. It can be stated that the three jurisdictions of sustainable development (SD) paradigm i.e., namely, the social, economic and environmental concerns are in actual fact, more in conformity with the Maqasid requirements. But many authors stated that indeed Maqasid is more wholesome and more encompassing than the traditional SD paradigm. Islam categorically highlights that human being as a caretaker of environment, need to ensure a better, and harmonious society, that should be erected with constructive and productive economic activities and not resorting to any damages to the nature. These concerns clearly conforms with Maqasid when it conditions that the protection of life or health, or intellect or progeny or wealth needs to be with true understanding about the self as well as the kindness of the creator, which truly encompasses faith, and that to achieve any higher dimension, may require that these basic necessities are fulfilled and ascertained at the foremost.</td>
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1. Introduction
The asnaf (i.e. the zakat recipients) need a steady development that is sustainable and not necessarily just one-off measures, so that they can withstand adversities and be self-reliant within a time frame with the necessary help, assistance, support and motivation (Abdullah, 2012; Haq et al., 2017; Obaidullah et al., 2014). The implementation of the Maqasid (reasoning and the rational) of the Shariah is to ensure that the asking basket is reducing over time, as was witnessed in Khalifatul Rashideen (righteous Caliphs) time (Nadzri et al., 2012). In conventional wisdom, the sustainability paradigm encompassing the three top requirements, i.e. first the ecological balance, keeping in view the social progression and achieving and advancing the economic emancipation - is somewhat overriding in addressing the woes of downtrodden people such as the asnaf who many need gradual and sustainable support and development to keep their means at developing ends (Ali et al., 2014; Ibrahim, 2015; Yumna et al., 2011).

The wellbeing is the key to achievements, and the Maqasid which means ‘in the end’ as per Laldin et al. (2013) is the key to happiness, comfort and satisfaction (Rasool et al., 2018). In Islamic perspective, the Maqasid Al Shariah encompassing the five exegeses of protections, such as life, belief, honour, intellect and property, which in other words, give a peaceful, clean, and decent living i.e. Hayat-e-Tayyaba (Rasool et al., 2018), may be enormously indispensable in terms of long term comfort and sustenance.

According to Ahmadi (2016), the sustainable development (SD) in Islamic perceptive is based on understanding that the role of human being is based on responsibility and to care for the nature, and it depends on mainly in safeguarding the benefits to all spectrum including the animal kingdom and the environment. According to the Islamic appreciation as per Ahmadi (2016), humankind is not the owner, but only the meagre manager to ensure upkeep in most judicious way, as the mankind is entrusted to ensure wisdom and civility in every way in terms of bringing harmony to greater society, nature and the human life. In addition, Ahmadi (2016 quoting Al-Jayyousi, 2015) stated that wastage is strictly forbidden in an Islamic society, because Islam disallows unscrupulous depletion and degradation to the environment, and failing to protect the environment is rather a failure of mankind in guardianship towards being honest steward of the nature. The author (Ahmadi, 2016) further pointed that species are constantly in prayers (Tasbeeh) as stated in Holy Scriptures and rightly pointed to avoid environmental corruption which may be not astute for true proponents of development.

Ahmadi (2016) further quotes Nouh (2012) in making a stand towards not jeopardising the rights of future generations for the present consumptive nature of human, as ascertained by the sunnatic traditions. Laldin et al. (2013) added that the goal of Maqasid Al Shariah is to illustrate a preferred direction of all human actions, and that is towards ‘siratul mustaqim’ (right direction), and it's toward peaceful and progressive environment.

The paper has few parts. At the initial level, the study will attempt to elucidate in detail the different aspects of sustainable development and the Maqasid facets through analogy and review of the comprehensive literature, and then will attempt to explain different measurement techniques, and issues. Furthermore, the convergence and significance of the two broad paradigm, and will put forward a conceptual framework and will finally draw the concluding remarks, discussions and recommendations.

2. The Paradigmatic Mutualities and Differences
The similarities and differences do exist between the two paradigms, though both are for betterment of human development and welfare. Discussed briefly below.

2.1 What is Sustainable Development and why it is Important in Present Context?
According to Strange et al. (2008), the persistent development has costs, which one can hardly ignore. Mere economic prosperity cannot solve societal and environmental issues and stop any level of degradation, for which the nations need to address the rising inequality and concentration of wealth in the hands of few (Hasan, 2006). Therefore, sustainable development, as per the above authors, is about integration and understanding the potential impacts of each action, and more profoundly impacts on the future. Quoting Brundtland Report (1987), the authors state that sustainable development ‘meets the needs of the present without compromising the ability of future generations to meet their own needs’.
The need for sustainable development became important since unprecedented growth started taking place relentlessly across different territories (Redclift, 1989). But if this development is not sustainable then issue crops up in relation to ethical, ecological, societal, and matters that may require necessary and often crucial remedy (Hasan, 2006). So keeping in line to that requirement, the initial Brundtland Report, in October, 1987 and further more in 1998, Elkington’s proposed basic three dimensional paradigms naming the triple bottom line in view of sustainable development, are testimony that the non-financial measures are equally as important as financial ones. This concept evolved as a renewed yardstick worldwide in appreciating human, social and economic development. Keeping in view the utmost safe keep of the fragile environment.

The importance of sustainable development became important in the modern context is due to the need for understanding the non-economic measures in appreciating development. Before the advent of SD, the development and growth meant only reporting financial indices and the need to calculate the margin of profit of the firm. But the emergence of SD has brought few checks in terms of development as the need to take the social and environmental concern along with economic development has gained and further gaining importance and maintaining that status quo. Similarly in case of asnaf development, the non-financial woes, such as capability, natural, human and social assets and so on - are acknowledged as equally important, as seen in few findings (Kamaruddin et al., 2014). Therefore, according to Brugmann (1997), the sustainability of economic development at present truly depends on solving the environmental and social worries.

According to Kamaruddin et al. (2014), it’s important to address the ability, capacity and the preparedness for shocks in addition to income and assistance parameters. The authors describe the scenario through an English proverb, where, if a man is given a fish every day, he might remain dependent for long, but if he is taught how to catch a fish, then that may give him to withstand for life.

2.2 Understanding Maqasid Al Shariah in the Context of Sustainable Development

In elaborating the multidimensional process of sustainable development from Islamic perspective, Nouh (2012) states that Islam drives a balance between economic and social development in one side and the environmental importance on the other side, to maintain efficient and effective resource usage. Because Allah proclaims in the Holy Scriptures, “And there is no creature on [or within] the earth or bird that flies with its wings except [that they are] communities like you. We have not neglected in the Register a thing. Then unto their Lord they will be gathered” (Al Qur’an 6:38). Furthermore, the author (Ahmadi, 2016) explains from Quran, “…you will have upon the earth a place of settlement and provision for a time” (Al Qur’an 2:36) which directs humans to follow a disciplined and planned living for maintaining harmony.

According to Alam et al. (2018) Islam encourages community wellbeing as an important aspect in terms of attaining Islamic sustainability or the Maqasid. Islam prioritises the importance of attaining better living condition including education, targeting improved healthcare for the masses, and care for the ecological balance in realising the Maqasid. In answering these objectives, Alam et al. (2018) quoted that even the father of economics, Sir Adam Smith (1937) argued for effective resource utilisation towards the welfare of the mankind. By addressing the community’s welfare, it is expected that it will in turn direct the individuals and the greater concerns, and may most likely bring overall benefit in the economy through prosperity and harmony. This in turn may ensure economic sustainability, as explained by Alam et al. (2018). In Islam, welfare of mankind is in other words the Lord’s serving dictum and that is the nexus of any development initiative in an Islamically inspired Maqasid attainments.

Islamic system bases its argument on reforming human welfare, as per Maqasid, as opposed to profit agenda as propagated by conventional wisdom (Alam et al., 2018; Dusuki et al., 2011). This refined welfare system is a further testimony to balance and ensure ethical primacy (Naqvi, 1981 as cited by Alam et al., 2018) for all the stakeholders based on trust, equity and excellence (Alam et al., 2018; Hassan et al., 2010). According to Alam et al. (2018) and many others, the Islamic welfare maximisation can be envisioned when inner self development is realised only through a thorough concerted effort. In return, society benefits resultantly the equitable distributive mechanism along with environmental enrichment, or in plain words safety for the nature at a harmonious level. This value based ethical and effective system, according to Alam et al. (2018) can align the system as per Myrdal’s societal developmental vision, and can bring true harmony to society. This shared understanding can lead to a win win situation for both the proponents of Maqasid and the sustainable development SD.
As per Kamali (2011), in pursuing Shariatic goals under the auspices of Maqasid, there are three main objectives that can be attained, i.e. mercy of mankind, benefits to greater nature and all species, and removing any harm to entities, in other words, ensuring public benefit or interest (Maslahah for Ummah). In Islam, Maslahah rather aims to protect humans, society and the fragile nature. Imam Ghazzali, rightly classified that to protect the religion or belief (hifzu Deen) —there are four Duniyawi (worldly) activities that are important, i.e. protection of life (nafs), lineage (nasl), intellect (‘aql), and wealth (maal) (Abubakar, 2016). But according to Imam Qarafi, protection of dignity (ird) is equally important in safeguarding oneself (Abubakar, 2016). And not to mention that the Maqasid al Shariah can overpoweringly assist in social responsibility agendas of individual, society and the nation in pursuit of wellbeing and benefit of all (Arsad et al., 2015).

2.3 The Difference between Conventional Wisdom and Islam

Alternatively, Islamic understanding is to be at a moderate (wasat) level in all aspects (Kamali, 2011). As per Chapra (2008) and Mohammad (2010), Islam propagates neither laissez faire nor totalitarian view. It rather encourages harmony with nature and a system more atoned towards welfare for all, avoiding resource exploitation and wastage (Mohammad, 2010). In line with Ibn Khaldun (Chapra, 2008) and Muhammad (2010), the national economy essentially grows with wellbeing of the masses, and removing hardship. Public spending on empowerment of the poor and rebuilding the infrastructure, like disbursements more on health, education and spirituality - enhances skills, social as well as distributive justice, and gives rise to civilisational development and well-management of the economy and nation. Ibn Khaldun is rather called the true father of economics and economic theory because of his understanding of the institutional interconnectivity which may lead to economy to rise or fall. He understood and explained the income, expenditure and the multiplier effect long before the theories came into place (Chapra, 2008; Mohammad, 2010; Soofi, 1995). A point to note by Ibn Khaldun is that – the sustainability may not be an issue if the masses or the grassroots income remains above the poverty line, reported by Mohammad (2010).

Islamic teaching and lifestyle promotes wellbeing and happiness for all irrespective of colour or race or religion (Chapra et al., 2008). Qur’an states, “We have sent you forth as nothing but mercy to people of the whole world” (Al Qur’an 21:107). Chapra et al. (2008) further clarifies, that sustained growth is a necessity in drives towards an equitable society, where all are better off. The authors, further records, quoting Qur’an, “Allah does not change the condition of a people until they change their own inner selves” (Al Qur’an 13:11). In other words, its Lord’s commandment to improve, but for the better, and for all, and not for only the few. Islam accepts enrichment or profiting but not at the expense of disregarding the social responsibility (Dusuki et al., 2007). Therefore, through the Maqasid, Islam promotes social cohesiveness and growth in economy through ethical and rational expansion, and safeguarding the nature, as per Dusuki et al. (2007).

According to Ibrahim et al. (2010) the sustainable development encompasses the understanding of well-being of human as well as nature through integrating social development, economic development and environmental conservation as well as protection. According to the said authors, social development means emancipation of human rights, like access to education, healthcare, food, housing, equitable employment and so on. Likewise, economic development truly means that the availability of work and the ability of individuals to secure income to support their families (Ibrahim et al., 2010). And these are the basic qualities enshrined even in an Islamically inspired Maqasid framework (Ibrahim et al., 2010). Therefore, the basic objectives of Shariah are to put emphasis on welfare of the people and their ‘relief from hardship’ (Ibrahim et al., 2010).

As per Hasan (2006) and Ibrahim et al. (2010) the concept of sustainable development has three important aspects, primarily, the concept of long run growth rather than short term plans, secondarily, understanding about inter-generational equity in the use of natural resources, and thirdly, restricting as far as possible the pollution level for maintaining the quality of environment. Ibrahim et al. (2010) highlighted the need of safeguarding the nature and ensuring the betterment of the ‘future generations’, as that was emphasised in the Brundtland report (1987). But such protection measures for future generations are actually the hallmarks of Maqasid, as duly stated in Hifzu Nasl or protection of progeny (Abubakar, 2016). In 2002, the Islamic conference of environment ministers made the Islamic Declaration on Sustainable Development, where economic growth and understanding of the resource constraints were highlighted, while safe use was genuinely promoted (Ibrahim et al., 2010). In addition, the Islamic
Hasan (2006) prioritises the vitality of non-material (spiritual) needs as the material ones so as to lead a healthy state. Hasan (2006) addresses further that after Agenda 21 in Rio (1992), the renewed emphasis on social justice, on recycling initiatives and on conserving the environment - enforces the notion that material as well as non-material (spiritual) development are important, and hence the sustainable development in the conventional paradigm in the end (and in essence) conforms to Maqasid requirements. Human may heed to Lord Almighty’s warning, “Evil has become rife on the land and at sea because of men's deeds” (Al Qur’an 30:41). So through this improved understanding after the Agenda 21, it’s obvious that the modern notion of sustainable development is more towards ethical and balanced development.

In Islamic paradigm, According to Alam et al. (2015), the Islamic set of principles guided by Maqasid is to attain Masalih (betterment) in society (Dusuki et al., 2011). The Maqasid set of laws answers the questions linked to why and how in relations to Shariatic applications. Therefore, this Maqasid enshrines the conventional wisdom as stated by Maslow on his hierarchical theory, where self-actualisation is the prime goal in achieving highest standard in attainment of life (Ahmed et al., 2011; Alam et al., 2015; Bakar et al., 2011; Dusuki et al., 2011).

The proponents of Maqasid, like Imam Al-Shatibi and Imam Al-Ghazzali constructed three tier of Maqasid hierarchy in order to measure it, and that is - Al-daruriyyat (necessity), Al-hajjyyat (the complements or supports) and Al-tahsiniyyat (embellishments), where Al-daruriyyat relates to absolute necessity. Furthermore, Al-daruriyyat has five subsections (Alam et al., 2015; Dusuki et al., 2011), namely, protection of faith - i.e. seeking truth and justice, protection of life through well-being, protection of Intellect through knowledge enhancement, protection of lineage and honour through fulfilling obligations towards future generations and finally protection of wealth through ensuring economic justice and peace. Nevertheless, many scholars such as Nadzri et al. (2012) addresses that the asnafs’ basic need fulfillment is actually the top most priority in getting them out from the asking basket.

### 3. How to Measure the Maqasid al Shariah

The purpose of ensuring the Maqasid is to secure benefit to all stakeholders, without harming any one (Azhar Rosly, 2010; Kamali, 2011). Therefore, in pursuit of measuring the Maqasid, it is to ensure the protection of basic necessities (Al Daruriyyat), which encompasses faith, life, progeny, intellect and property. As for example, the prohibition of interest in Islam is for instance like not harming any party, because one can lose all his property due to unfair means, such as cumulative interest charges (Azhar Rosly, 2010). Qur’an promotes healthy and sustainable business activities, while forbidding to rely on interest earning in the economy (Al Qur’an 2:275), so as to repel harm from society. Islam encourages having mutually beneficial contracts, and asks for up-keeping them.

So once the basics are in order, then the need to take attention towards the Hajjyyat and Tahsiniyat comes in question. According to Abubakar (2016), the hajjyyaat are important, but its absence may not warrant a chaos in society, and may only lead to hardship and difficulty. As for example, a validity of a hire agreement is an important matter and is necessary to the hirer, but may not be an issue for everyone. Often in a conflict of interest, a higher priority given due recognition while lesser one is given a sad sacrifice. Another example is that to accustom the believers in understanding the importance of charity, and even if that person has nothing to offer, maybe he lends a smile or similar and that should be encouraged as per Prophetic tradition, though nothing tangible was given to fulfil an obligation (Abubakar, 2016). And in case of Tahsiniyat, it is to seek considerable improvement and perfection in conducts and customs of people at all ranks, so as to make society a better place, according to the said author.

#### 3.1 How Maqasid is Linked to Personal Development

According to Mili (2014), ethics constitutes personal development in an Islamic framework. The author in pursuit of understanding the impact of Maqasid on human development did a thorough empirical analysis, where the author found that protecting life through spiritual development is important towards maintaining a good self. The author states, “Unlike the secular market paradigm, human well-being in Islam does not depend essentially on the maximisation of wealth and consumption”. It requires a balanced approach in maintaining stability between healthy material and spiritual development. The author further states, the five pillars of Islam, namely having faith, saying the prayer, fasting in the designated month, executing the pilgrimage, and paying alms, may not necessarily ensure that ethical self has developed, but rather reforming the behavioural aspects in accordance to Islamic understanding.
which is designed to realise the Maqasid, namely social-economic justice and wellbeing for all, can ensure a more favourable outcome.

The author (Mili, 2014) clarifies that frustrations in society or criminal activities in society may be more due to lack of understanding of the spiritual need in maintaining a healthy life. So, Sulayman (2014) gave some rationale for integrating moral values in school curriculum so that ethically enriched students may perform better in terms of attaining worldly and spiritual life. The value-based system can enhance students in terms of suppressing the evil considerations and ultimately concentrate more on ethical and healthy development. Lord proclaims, “And do not make mischief in the earth after it has been set in order, and call upon Him with fear and longing. Surely Allah's mercy is close to those who do good (Al Qur’an 7:56). Consequently, it’s natural that the goals of Maqasid is to edify the individual self, and to create a social structure and environment based on moral values, where effective economic reform is based on ethical development (Mili, 2014).


4. Maqasid al Shariah and the Broader Dimensions of Sustainable Development
According to Nalla (2011) the worldview in Islamic arena inextricably includes social responsibility at the core under the strict guidance of Qur’an and the Sunnah. Therefore, these revealed sources guide the Muslims in developing and refining their Akhlaq (morality and ethics) through regular prayers (Ibadah) and having stronger Aqeedah (creed), and helping the mankind for a better world. So through remembering the three main dimensions of social, economic and environmental concerns, Islam inspires the believers in economic development keeping in view firmly the social justice note in mind, as ordained in Qur’an, “God commands you to do justice and be fair [to others]” (Al Qur’an 16: 90). Accordingly this social reminder clarifies the Islamic viewpoint and the necessary injunctions in regards to society and nation development, and it becomes evidently clear from the above text. Furthermore, Arsad et al. (2015) explains that in environmental conservation, the Maqasid understanding for the waste minimisation and protecting the environment can be envisioned from strict adherence to Qur’anic injunction, where Lord Almighty proclaims, “and cause not corruption upon the earth after its reformation, and invoke Him in fear and aspiration. Indeed, the mercy of Allah is near to the doers of good (Al Qur’an 7:56).

According to legal maxims (qawa’id al-fiqhiyyah) from Maqasid perspective, it is a general maxim, which says, La Darara wa la Dirar, and that means, “Harm shall not be inflicted nor reciprocated”. This maxim indicates the importance to remove all kinds of harm especially to human, environment and society (Arsad et al., 2015).

5. The Way Conventional Businesses Respond to the Sustainable Paradigm
According to Medel-González et al. (2013) in the 1980s, the awareness has already grown on conserving the very delicate nature due to relentless and reckless economic and infrastructural development, where any further checkless development may in fact cause severest damage to the (already) fragile system. This gave rise to appreciate a sustainable appraisal from all spectrums of society, name, economic, society and the nature. Likewise, the corporate sustainability (CS) gained the momentum to address ‘all’ stakeholders in place of previous shareholders’ view, through delicately and proactively balancing the economic, environment and social domains (Hubbard, 2009; Medel-González et al., 2013) by engaging a multidimensional performance measurement system in corporate and governance sector. The multidimensional performance measurement (MPM) includes business strategies, financial returns, customer’s satisfaction, stakeholder’s interest, internal processes and above all the human factor (Epstein and Marie-Josée 2001, as cited by Medel-González et al., 2013). To address this MPM, Kaplan et al. (1992) proposed a Balanced Scorecard (BSC) system, which further is designed towards a sustainably enhanced SBSC to reflect the holistic issues related to corporate sustainability (Erechtchoukova et al., 2013).

And again Becker (2005) explains that to understand the sustainability, revisiting the nature is essential, as the author centres his understanding based on ‘Web of life’ – as enlightened by Capra (1996). In this regard, understanding the power of resilience, the absorptive notion of nature is important, as elucidated by Becker (2005),
citing Conway et al. (1990) and Holling (1973). Resilience implies adaptability, and lack of it results in fragility. Holling (1973), as cited by Becker (2005), explains that greater adaptability may provide a better chance of recovery after stress and shocks. And furthermore, collaboration is important aspect in understanding and appreciating the sustainable paradigm (Becker, 2005; Capra, 1996). Next, Becker (2005) stressed the notion of inclusivity as seen imperative by Norgaard (1994). In relation to inclusivity, the significance of community involvement is equally an important aspect in attaining sustainable development.

Becker (2005), quoting Smith et al. (1998), equates inclusivity with equity in social systems, and it includes life expectancy, literacy and affordable housing. But in pursuing such narrative, society need to address the issue of uncertainty. As Becker (2005) puts it, “Humans are also affected by uncertainty, despite their ability to manipulate their environment”. So society can expect uncertainty and the chances of its occurrence can affect the society seriously. Though uncertainty an aspect one cannot ignore, but the notion of futurity can explain that the sustainability and sustainable development in reality implies continuity as well as change for the better. These aspects provide a better futurity, ‘which addresses the needs of future generations i.e., inter-generational equity’ (Becker, 2005). This final aspect requires sustainable community to adapt to flexibility to changing environments (Smith et al., 1998) as quoted by Becker (2005). In conclusion Becker states that the evaluation of sustainable development can assess the societal needs, and resources, ‘through repetition, responsiveness to changes’ and through a holistic approach in addressing the above issues.

According to Mohammad (2010), capitalistic thinking vs. issue of sustainability are often incompatibl in terms of assessing the paradigmatic inconsistencies. As the author Mohammad (2010) quotes (Magel, 2001), that the free-market theories may miss the mark to implement the conventional ‘sustainable development theory’ or in other words may fail to realise the sustainability goals. And permitting to Rogers (2000) as noted by Mohammad (2010), the base of sustainability depends on socio-economic-environmental necessities, but the capitalism strives on capitalists’ welfare and values, discounting social ones. In the last two centuries, the run towards capitalistic encroachment has resulted in agonising eco-degradation level, as explained by Liodakis (2000) and Mohammad (2010). In addition, the drive towards capitalism has an equal clout on socio-economic deprivation to an unprecedented level, where equitable growth or idea of resource democratisation is absolutely missing, but these are the standard yardsticks of sustainable environment.

6. Understanding the Sectoral Convergence

How three segments of sustainable paradigm are addressed in Islamic framework, is presented in following sections.

6.1 The Importance of Environmental Protection in Islam

In Islamic paradigm, Muslims are treated as the trustees of the safe keep of the environment, as understood from Al Qur’an (5: 64), and equally stated by Ahmadi (2016), that Allah may not like transgression and corruption in and of the environment. And further similar injunction repeats in following words, “It is He Who has brought into being gardens - the trellised and untrellised - and the palm trees, and crops, all varying in taste, and the olive and pomegranates, all resembling one another and yet so different. Eat of their fruits when they come to fruition and pay His due on the day of harvesting. And do not exceed the proper limits, for He does not love those who exceed the proper limits” (Al Qur’an 6:141). And Lord also warns to protect the nature in following words, “…and make no mischief on earth after it has been set in good order. That is to your own good, if you truly believe” (Al Qur’an 7:85).

Humans are mere beneficiary and not the owner to do whatever they want through free will, and that’s the Islamic position of humans on earth (Ahmadi, 2016). Humans need to ensure peace and harmony with nature, and with every individual, every social element, or environmental or economic interest, and need to conform to sustainable understanding. And the relationship with nature in an Islamic worldview has to be even stricter than conventional wisdom as explained by Hasan (2006). On resource allocation and efficiency, Lord proclaims, “We sent down water from the sky in right measure, and caused it to stay in the earth… We caused gardens of date-palms and vines to grow for you wherein you have an abundance of delicious fruits... and from them you derive your livelihood. (Al Qur’an 23: 18-20). So according to Ahmadi (2016) the verses eventually confirm the importance of fulfilling the heavenly orders, and that is to take care of the environment at the very onset.
6.2 The Importance of Maqasid in Economic Development

Islam clarifies the economic importance through the following Qur’anic injunctions, “And there is not a thing but that with Us are its depositories, and We do not send it down except according to a known measure” (Al Qur’an 15:21). Islam encourages accommodative sustainable economic and business model for thriving the economic development, rendering Ahmed et al. (2017). The Islamic notion goes beyond the conventional norm, according to Hasan (2006). In addition, Aydin (2015) states that in comparison to conventional social business platform, the Islamic alternative understanding and wisdom is more sustainable, exceedingly demanding and profoundly applicable both in terms of theoretical and practical significance.

Islamic paradigm encourages healthy business and economic activity in line with Maqasid element, and that is sustained through understanding the societal context and benefits, where minimum level of affliction to anyone is commandingly vital (Chapra et al., 2008). The economic activity will enhance to upkeep with fulfilment of basic needs, as well as the realisation of equitable distribution of income and wealth, and this can be attained through moral wellbeing, and adequate training to gain in the long run. If these healthy economic activities cannot flourish, it may lead to decline in civilisational development and may harm the true existence of human and nature (Chapra et al., 2008). The hale and hearty economic activities will help ensuring socio plus economic justice with communal peace in society, as per the said authors.

In line with that notion, Sadeq (1996) clarifies that zakat is a solid instrument for the Islamic economic framework towards a sustainable grassroots human development in an Islamic entity. It also gives asnaf (zakat recipient according to Qur’an and hadith) a sense of self-reliance and making oneself out of poverty, if one truly wants to. And that fits-in first of all, the protection of life and health, as well as protection of wealth and progeny, as well as faith, and ultimately intellect, as per Maqasid developments. This is also in line with the economic or financial sustainability in pursuit of sustainable development (Yumna et al., 2011). Furthermore, in the end note, Islam promotes a balanced sustainable measure to overcome any economic or social woes, or likewise (Hasan, 2006; Sadeq, 1996).

This in turn will augment the socio-economic environment to be in line with sustainable development and social security measures, as seen in par with contemporary western society. This development from Islamic perspective can ensure enhanced social justice (Ibrahim, 2015; Sarif et al., 2009). The Lord Almighty commands in the Holy Scriptures, “The believing men and believing women are allies of one another. They enjoin what is right and forbid what is wrong and establish prayer and give zakat and obey Allah and His Messenger. Allah will have mercy upon them. Indeed, Allah is Exalted in Might and Wise” (Al Qur’an 9:71). So the practising Muslims will be humbly submissive to Allah and perform prayers with sincerity and pay zakat dues in time (Al Qur’an 23:1-4).

6.3 The Social Aspect in Maqasid

The Islamic viewpoint on the above scenario is that, an Islamic entity needs to ensure a clean, honest, continually encouraging good deeds and make a disciplined life, and at all-time be free from any sort of wastage, as clarified by Ahmadi (2016). To pursue such well-mannered life and behaviour, knowledge expansion will assist in achieving that desired objectives, because this refinement in knowledge expansion will enlighten to have communal understanding or public participation called ‘shura’ (Moten, 2013). And as a result, the society will better comprehend the Divine inscriptions, and will absorb the spiritual dimension as well as its significance in a more astute manner. As a result, the ethical and moral development becomes equally important in appreciating the Maqasid implementation towards a civilising society (Chapra et al., 2008; Sulayman 2014).

This moral refinement will help the society conserve ‘adl’ or justice in place of ‘fasad’ or calamity or environmental degradation (Ahmadi, 2016). And the adl or justice can be attained when the poor, downtrodden and marginalised people are addressed effectively and cared through the zakat, sadaqat and waqf system in upbringing their status in society. Ensuring the robustness of these policy prescriptions can have the five basic Maqasid requirements fulfilled better than before due to such developments. And this may require institutional development through innovation (Ijtihad) and governance and practicing zuhd (avoidance of unnecessary spending) and ihsan i.e. a sense of social responsibility, explains the learned author.

7. Assessment of Maqasid and SD in the Context of Asnaf Development
Zakat plays an important role in asnafs’ sustainability (Ali et al., 2014). While prompting zakat’s growth possibility in the realm of productivity, Ibrahim et al. (2014) upheld that zakat can be a way forward towards empowerment in line with Maqasid fulfilment, towards alleviation of poverty and reducing the income gap. The authors accept zakat’s expansion and growth potential as business capital. According to Ibrahim et al. (2014) this development can generate progressive income and enlarge the economy through emancipation of life, value and quality. That is why Islam places the zakat at the forefront to address the issue of poverty and socioeconomic welfare in an Islamic framework (Ibrahim et al., 2014, quoting Ataul Haq Pramanik, 1990). In earlier research findings, it was observed that poverty and wellbeing may be interconnected (Ahmad et al., 2016), though more considerations are necessary (Rojas, 2008, as quoted by Ahmad et al., 2016).

Ibrahim (2015) elaborates that Zakat is a God gifted system bestowed for mankind towards establishing a truly sustainable development. It is like a ‘collective social security scheme for mutual help’ as well as sympathy in an Islamic economic framework. Ariyani (2016) elucidates that zakat is an effective strategy in an Islamic framework towards poverty alleviation. The author (Ariyani, 2016) further states that, zakat is actually a practical sustainable mechanism to overcome the socio-economic gap in a Muslim society.

Essentially zakat (alms) is welfare oriented economically viable and sustainable measure towards the peaceful existence of the humankind (Ibrahim, 2015). This establishment will ensure social order, which is part of social sustainability, according to the said author. This enhancement will create collective social security and long term benefits to peaceful existence of human society. The structure of zakat will improve the sharing and caring attitude, towards a more financial stable as well as a healthier society.

7.1 Appreciating due Diligence of Asnaf Development
According to Kakwani (2006), as reported by Ahmed et al. (2017) that it is important to asses poverty not based on material deprivation, such as income, but need to be assessed through the issue of lack of health, lack of education, their coping with risks and vulnerability, powerlessness or social exclusion. So when allocating the zakat fund towards the poverty alleviation, it’s important to improve their status quo, as duly agreed by most of learned jurists of all time (Ahmed et al., 2017). And according to Imam Nawawi as reported by (Ahmed et al., 2017; Bakar et al., 2011), the zakat proportions allocated for the needy and the poor may need to take into account the recipients’ skills and present living condition. If assisted based on skills enhancement, then that will be a good starter in moving that needy out of asking basket in future, and that will be most deserving episode. As per Ahmad et al. (2016) even if through a concerted effort the incidence of poverty can be reduced considerably, but further still required because the shape and the form of poverty may change due to varying of dimensions. Ahmad et al.’s (2016) further explains, ‘many problems and challenges still exist’.

Ahmed et al. (2017) reported that to measure poverty, it may be preferable to assess the poor’s consumption basket, and that of the self-employed, as explained by Abdullah et al. (2012), because it may often be difficult to assess the informal sector’s income. And furthering to that discussion, Ahmed et al. (2017) further states that, the satisfaction of basic human needs such as food, shelter, clean running water, sanitation, clothing, education and health care is rather the overriding objective of any development policy, as equally narrated earlier by Alkire & Santos (2010). And as per Bakar et al. (2011), an empowerment mechanism in zakat distribution could bring long term benefit, same note was observed by Ibrahim et al. (2014).

7.2 The Significance of Developing the Zakat Base to Achieve Maqasid Al Shariah
Sarea (2012) argues that effective zakat (alms) distribution to the prescribed eight categories can lead to economic growth through sustainable development in terms of redistribution of wealth and bridging the income gap. The author (Sarea, 2012) elaborates Ibn Ashur's description on Maqasid al-Shariah al-Islamiyah (Objectives of Shariah) as the mother of Islamic economics and science, and zakat as like an act of dedicated worship expressing a Muslim’s gratitude for Allah’s financial gifts (Awang et al., 2012). According to Sarea (2012), Kahf (1999) and Bakar et al. (2010), the objective of zakat is none other than just to ensure socio-economic justice.

Effective zakat implementation will render huge benefits to the society, like multiplier effect on employment and incomes, as per Sarea (2012). And more importantly, poverty can be gradually eliminated through effective and empowered management (Sarea, 2012). Therefore, the significance of effective zakat implementation can assist the economy to achieve its Maqasid in due course. The author suggests that zakat can assist all the three main elements of production, namely labour, capital and natural resources. In other words, that’s the prerequisite of sustainable
agenda or the Maqasid of an Islamically inclined economy. Zakat can also be a monetary instrument in regulating the inflation or the economy, through the device of supply and demand of money. Sarea (2012) states in circumstances, “…management of Zakat … (can be performed) to reduce the inflation rate by imposing Zakat (on givers) to be paid to recipients”.

The authors (Ahmed et al., 2017; Bakar et al., 2011) regard zakat as a social insurance policy and a potent redistributive mechanism towards inequality reduction, that is available to Ummah (the believers), though the prospect is still untapped. And this inequality can be well measured by education index, health index and standard of living index and so on (Ahmed et al., 2017). In actual fact, though there are discrepancies in defining who are rather poor and who are in actual need, because of differences among Muslim jurists, but nevertheless, not having enough to eat or to cloth or a decent shelter, in any environment or economy, warrants a thorough recheck on adequate rehabilitation (Ahmed et al., 2017; Bakar et al., 2011). These issues provide urgent need to assess the situation, may be through multidimensional indexes such as MPI (multidimensional poverty index), as stated by (Alkire & Santos, 2010; Ahmed et al., 2017). But Becker (2005) ascertains that the correct evaluation method in regards to sustainable development may depend on setting goals and objectives, and also on the resource availability as well as the concerned nature of the stakeholder. So these commendations are fittingly important for asnaf development in line with Maqasid or sustainable paradigm.

8. Proposed Conceptual Framework
Through systematic literature review and content analysis, the study’s research methodology aims to enlighten that the classical Maqasid Al Shariah, as prescribed by Imam Ghazzali and Imam Shatibi, which is actually more like a revolutionary human development model as per Oladapo et al. (2017), is more encompassing than just mere Sustainable model as understood in the conventional terms. The note has been explained and detailed in the review, and therefore, the welfare of asnaf truly depends on understanding and appreciating both the paradigm in assessing the true progress and also to appreciate the mechanism to sustain, and understand their true abilities. Hence, the proposed framework is presented below.

![Figure 1: Proposed Mutual Framework for Asnaf Development](image)

In true essence, the protection of faith, life, intellect, progeny or wealth, which is the exegesis of Maqasid Al Shariah, truly embraces the three dimensional spectrum of sustainability, and that is the economic, social and environment as understood by many and explained in detail in the study. Therefore, the mutual convergence and mutual existence may truly benefit in uplifting the status of asnaf, and can bring a breakthrough in asnaf development and empowerment.

9. The Contemporary Discussions and Recommendations
According to a famous narration from the holy Prophet (pbuh), as explained by Bakar (2011), the Lord Almighty will send a reformer (Tajdid) every century for human guidance. So according to the said author, the Maqasid and the Tajdid, as understood by Ibn Khaldun in the thirteenth century, both have very contemporary prominence in solving perennial matters. Because the beauty of Islam is not only in the way of life (Deen), but also as a constant evolver of dynamism in civilisation. Therefore, the issue of Islamic revivalism encompasses all embracing societal manifestations.

Bakar (2011) further states that, Shariah without the Maqasid element will be lost in time and space battle in answering contemporary questions. The issue with contemporary time and space is, that only the ‘material growth, development and progress’ stand the effort, whereas human welfare and dignity takes a back seat. As per Bakar (2011), a person or a nation or a society is judged based on three material elements, i.e. growth, development and progress - ignoring the human welfare or human dignity in mind. In author’s own words, “He evaluates and grades
his fellow men according to the degree of their success or failure in achieving growth, development, and progress. Thus, we used to have the groupings ‘advanced’ or ‘developed’ nations, ‘developing’ and ‘underdeveloped’ nations or societies, or ‘progressive’ and ‘backward’ countries and societies”. Due to such narrow and distorted thoughts of developments, society experiences extreme deprivation and finally a huge contradiction becomes eminent. This so called inconsistent and distorted development made the Red Indians in America go extinct, while pursuing the drive towards the Wild West was observed. Similar fate happened to the natives of Australia and New Zealand. And as a result of massive destruction to mankind, and also to the fragile nature - that was sadly observed even in the very recent past through natural and political calamities.

As Bakar (2011) points out, “Contemporary human civilisation is rich and advanced in scientific and technical knowledge, but poor … in moral and spiritual knowledge and wisdom. Consequently, we are superb at solving even the most complex of scientific … problems … but we are utterly hopeless when it comes to solving the most basic of human problems”. In chasing such flawed progression the institutionalised racism has become very inappropriately the norm, according to Bakar (2011).

Therefore, equilibrium in life, that is ensuring ‘justice while advancement’ would be best way forward as understood by the sustainability induced mechanisms, and likewise Islamic Maqasid principles rather excels way ahead in this regard. In Islam, the concept ‘itidal’ that relates to justice and peace, is inherently related to harmony with nature (Bakar, 2011). Therefore not having equilibrium (i.e. away from the norm) resembles as pain and discomfort in human civilisation, which might need urgent ramification.

In appreciating the understanding of Maqasid Al Shariah, it is important to analyse the legal rules (Ahkam), the value of Ijtihad (evaluation of the legal maxims, and a polar opposite to Taqlid, which is indiscriminate imitation), and the fatwas (a ruling by a learned expert) so as to realise the broader goals and purposes of the Shariah (Kamali, 2011). In the past, due to undue importance that was sadly given to Taqlid at the beginning, and hence Maqasid was inappropriately and unfortunately left marginalised for centuries, but auspiciously Maqasid gained momentum since the thirteenth century, when, Imam Al Ghazzali (Raa), Imam Al Shatibi and such noble savours started researching in deeper Fiqhi (the philosophy of Islamic law) matters to recognise the contemporary issues through inductive method of exploration, as elaborated by Kamali (2011).

But essentially, the gaining prominence of Maqasid, is duly and timely acknowledged again in the twentieth century, after the vacuum created by newly minted Muslim territories, which were under the despise colonial rule even in the recent past (Kamali, 2011; Moten, 2013). And the reason for importance can be explicated from the following passage, “Maqasid are inherently dynamic by comparison and open to growth in tandem with changing conditions, just as they also strike a closer note with the contemporary human rights discourse” (Kamali, 2011).

In matter of fact, Maqasid gained the due diligence because of hidden Hikmah (benefit or wisdom) or Maslahah (public interest) in relevance to civilizational renewal (Tajrid Hadari) as explained by various scholars and summarised by Kamali (2011). Here authors discuss Al Fitrah (natural law or human nature) of mankind, and that is, the human propensity is to accept that is good and reject that is wrong in society in considering the civilisational renewal aspect of Maqasid. Because the Qur’an desires human to be the torchbearer of huda wal rahmah (guidance and blessing as stated in verse 10:57 of Al Qur’an) under the supreme assistance of the Prophet (pbuh) as the blessing of mankind, rahmatul lil alamin (Al Qur’an 21:107). To ensure the blessings is endured, the Prophetic ruling can be transformed for a better outcome, ‘but’ only for the maslahah (public benefit) of the ummah (for the whole community), as explained in detail by Kamali (2011). In Maqasid accomplishments, human dignity, issue of equality, justice and fair treatment are important objectives while adhering to moderation and justice (Al Qur’an 2:143: Kamali, 2011). Ibn Rushd (d. 1198, as noted by Kamali, 2011) entails that, these can be accomplished only through higher ethical, moral and spiritual upliftment and devotion, through a holistic understanding as explained by Nasr and reported by Moten (2013).

10. Concluding Remarks
The sustainability paradigm and the Maqasid is more in line with wider ethical inclination, and for the benefit of ‘all’ the stakeholders. This is in sharp contrast to the pure capitalistic understanding of only to realise and ensure the benefits of the ‘shareholders’. The similarities in SD and Maqasid may have positive effect, and can assist the poor and especially the asnaf in building a better future. Asnaf requires an overall upliftment strategy, towards a more holistic development of social, economic and their environmental concerns in addressing the systematic and
concerted effort of making them out from any further deprivation. The paper attempted to explain that the conventional sustainable paradigm is more attuned to Maqasid al Shariah, but as many authors did clearly state that the Islamic stance is more holistic and wholesome then the most recent consideration in SD and so on, therefore its quite ascertaining that more research, understanding and exploration in this regard becomes due. The study textures that this ‘long due’ convergence is extremely important in greater understanding that Islam is understood as rather a way forward towards economic, personal, societal, religious, environmental harmony and peace. And more importantly, it’s encouraging that the poverty alleviation and solving the status of asnaf and similar, are given due share in this Maqasid fulfilment. It is more noticeable, that only through a sustained development policy; asnaf can be better off, and not necessarily through any ad-hoc measures, as dismally and openly remitted by different zakat jurisdictions.

Kind Acknowledgement
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Balancing hospital’s financials through implementing Cost of Quality Models

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ARTICLE DETAILS

<table>
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<tr>
<th>History</th>
<th>ABSTRACT</th>
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<tr>
<td>Revised format: November 2019</td>
<td>Purpose: Hospitals integrate different quality improvement models such</td>
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<td>Available Online: December 2019</td>
<td>as lean and cost of quality to identify the wastes resulted from the cost</td>
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<pre><code>                             | of poor quality and spot the opportunities for improving the cost of      |
                             | good quality. This study reviews the literature related to these two      |
                             | models and highlights its implementation in the healthcare sector.        |
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<table>
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<tr>
<th>Keywords</th>
<th>Design: the study is based on a systematic-review of previous literature</th>
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<tr>
<td>Cost Of Quality, Finance,</td>
<td>and summarizes the best modules and practices of cost of quality in</td>
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<td>Hospital, Lean Healthcare</td>
<td>healthcare sector.</td>
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| JEL Classification:             | Findings: One of the main research implications is that accounting and  |
| D61,D69,E62,E69                  | quality assurance teams have to cooperate and share information to reduce |
|                                 | undesirable costs and improve the hospital’s financials. However, future |
|                                 | studies are encouraged to expand the research empirically to discover     |
|                                 | hidden costs of quality and implement different improvement quality      |
|                                 | models to enrich the literature.                                        |
|                                 | Originality: It is a complicated task to balance between reducing the    |
|                                 | cost and providing a high quality service. This study is targeted for    |
|                                 | quality, finance and accounting managers and it highlights the main     |
|                                 | issues for measuring the cost of quality in hospitals.                   |

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1. Introduction

Providing a product or a service with high quality that meets the customer’s needs is considered as the main target for most organizations. However, the process of achieving such a goal is subject to variety of factors that influence its level of conformance. In the healthcare sector, most of hospitals tend to provide high quality services with the lowest cost as a part of its social and humanity prospects. Meanwhile, there are many factors affecting the quality of healthcare services including patient and provider related factors and environmental factors such as management and leadership, resources, facilities and healthcare financing system (Mosadeghrad, 2014).

Currently, most of healthcare organizations are allocating their budgets to match with the costs of providing healthcare services. As cited by the Alliance for Health Reform (2012), the cost of healthcare services is driven by several factors such as fragmented delivery and financing system, technology diffusion, regulations and mainly the quality conflicts that would increase the cost and reduce the value of the service provided. Thus, it is essential for hospitals to find potential quality improvement approaches that consider all cost implications and thus help managers to take better decisions regarding the expenditure on quality-related activities.
By definition, cost of quality (COQ) is a term that is commonly used but frequently misunderstood. It is not always the price of creating a quality product or service. Yet, it is the cost of not adding value due to errors and poor management practices such as reworking, retesting and correction of errors (Ross, 2008). The COQ concept was first developed in the 1950s as a tool for managers to assess quality improvement and profit contributions (Juran, 1951). In general, there are two categories namely, cost of good quality (COGQ) that includes prevention and appraisal costs, and the cost of poor quality (COPQ) that includes the internal and external failure costs (Arabian, 2013).

Specifically, prevention costs result from preventing poor quality and maintaining good quality of production, while appraisal costs are associated with checking conformance of products and services mainly through auditing and evaluation. However, failure costs are related to products and services that do not have conformance to quality standards and customer needs. Failure costs are observed prior to production (internal failures) or after delivery (external failures) to the customer (Elbireer, 2010). However, Omachonu et al. (2004) illustrated that as appraisal and prevention costs increase, the quality improves and failure cost decreases. Some examples regarding COQ in healthcare organizations are provided in Table 1.

Table 1: Examples of COQ in Healthcare Organizations.

<table>
<thead>
<tr>
<th>Cost of Good Quality (COGQ)</th>
<th>Cost of Poor Quality (COBQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prevention costs</strong></td>
<td><strong>Appraisal costs</strong></td>
</tr>
<tr>
<td>- Salaries and benefits for quality assurance team, administration and technical staff</td>
<td>- Quality control</td>
</tr>
<tr>
<td>- Training</td>
<td>- Verification</td>
</tr>
<tr>
<td>- Quality planning</td>
<td>- Supplier rating</td>
</tr>
<tr>
<td>- Preventive maintenance contracts for equipments</td>
<td>- Quality audits</td>
</tr>
<tr>
<td>- Office supplies for documentation and annual competency assessment</td>
<td>- External Quality Assurance (EQA) surveys</td>
</tr>
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In hospitals, seven non-value adding activities can increase the cost of poor quality as identified by lean healthcare practitioners namely; overproduction, over processing, transportation, waiting, inventory, motion, unclear communication and correction of errors (HPP, 2011; Burke, 2011; Robbins, 2009; Bicheno & Holweg, 2009, Womack et al., 2005). By definition, lean healthcare is a set of practices that engage employees to eliminate wastes, identify root causes, solve problems and standardize the work through controlling hospitals’ resources in line with the customers’ requirements at high quality, less cost and short lead time (Aoun, 2015). Consequently, the objective of this study is to highlight the best employed approaches to improve the hospital’s financials through reviewing previous literature and empirical studies that have focused on implementing lean practices to control COQ in healthcare organizations.

2. Literature Review

The COQ is considered as a tool to determine the optimal level of quality investment, where COQ analysis enables organizations to identify, measure and control the consequences of poor quality and utilize their limited resources (Tsai et al., 2012). It is essential to assess the effectiveness of quality methods applied to determine opportunities, threats, problem areas and action priorities. Philip Crosby argued that organizations choose to pay for poor quality as he used the model of COQ to describe the monetary impact of quality issues and referred it to the price of nonconformance (Crosby, 1979). Moreover, Duffy (2013) stated that in a successful organization, costs of poor quality may represent about 10 to 15 percent of operations while other studies showed that cost of poor quality presents up to 70% of the total cost of quality as shown in Table 2 (Zimak, 2000). Thus, effective quality improvement programs can reduce such a lost and make a direct contribution to profits.
Table 2: Overall COQ, COGQ and COPQ percentages relative to operating expenses in different hospitals.

<table>
<thead>
<tr>
<th>Study</th>
<th>Overall COQ from OE</th>
<th>COGQ of Total COQ</th>
<th>COPQ of Total COQ</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Prevention</td>
<td>Appraisal</td>
</tr>
<tr>
<td>Menichino (1992)</td>
<td>35%</td>
<td>10%</td>
<td>25%</td>
</tr>
<tr>
<td>Zimak (2000)</td>
<td></td>
<td>5%</td>
<td>20%</td>
</tr>
<tr>
<td>Zimak (2015)</td>
<td>32%</td>
<td>94%</td>
<td>70%</td>
</tr>
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According to Arabian et al. (2013), there are five common COQ models namely prevention - appraisal - failure (PAF) model, the process cost model (PCM), opportunity or intangible cost model, Crosby’s model and activity-based costing (ABC) model. Although PAF model was found to be the most popular model, quality managers are encouraged to select the COQ model that best fit the condition, environment, objectives and organization’ needs.

In the same context, Schiffauerova and Thomson (2006) conducted a review of research reviewed on COQ models and best practices and summarized their finding in Table 2 below.

Table 2: Generic COQ models and cost categories

<table>
<thead>
<tr>
<th>Generic model</th>
<th>Cost/activity categories</th>
<th>Examples of publications describing, analyzing or developing the model</th>
</tr>
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<tbody>
<tr>
<td>Crosby’s model</td>
<td>conformance + non-conformance</td>
<td>Suminsky, 1994; Denton and Kowalski, 1988</td>
</tr>
<tr>
<td>Opportunity or intangible cost models</td>
<td>prevention + appraisal + failure + opportunity conformance + non-conformance + opportunity tangibles + intangibles P-A-F (failure cost includes opportunity cost)</td>
<td>Carr, 1992; Malchi and McGurk, 2001</td>
</tr>
<tr>
<td>Process cost models</td>
<td>conformance + non-conformance</td>
<td>Ross, 1977; Marsh, 1989; Goulde and Rawlins, 1995; Crossfield and Dale, 1990</td>
</tr>
<tr>
<td>ABC models</td>
<td>value-added + non-value-added</td>
<td>Cooper, 1988; Cooper and Kaplan, 1988; Tsai, 1998; Jorgenson and Enkerlin, 1992; Dawes and Siff, 1993; Hester, 1993</td>
</tr>
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Source: Schiffauerova and Thomson (2006)
Different studies applied these COQ models in healthcare organizations and obtained significant result such as Menichino (1992) who found that quality improvement programs which are based on COQ analysis have reduced the costs of non-conformance by 83% in a period of 9 months.
Also, Blegen et al., (1995) found in their 18 months-long study that improving the quality of care at a tertiary-level university hospital has reduced the average length of stay by 13.5% (0.7 days) and the average costs decreased by 13.1% ($518). In addition, patients’ perception of healthcare quality increased from 4.26 to 4.41 based on a 1-5 scale. Furthermore, Malchi and McGurk (2001) measured the alternative or hidden costs of total COQ in a pharmaceutical company. The hidden cost represents the lost sales, delays, extra inventory and unidentified scrap where implementing COQ model led to 11% reduction in the total COQ.

Crosby (1979) believes that each defect represents a hidden cost such as inspection time, wasted material and labor, rework, lost revenue and the cost of customer dissatisfaction. However, the magnitude of these costs can be made apparent when these deficits are properly identified. Thereby, the concept of lean healthcare is to recognize, reduce and eliminate wastes once the problem occurs, to help cut costs, improve patient services and ensure most advantageous utilization of existing resources (Jekiel, 2011; Patton, 2009; Casey, 2007).

There are many lean tools that have been addressed by previous studies to implement lean philosophy in hospitals mainly kaizen, quick changeover, poka-yoke, just-in-time, jidoka, andon, kanban, and hoshin kanri (Aoun, 2015; Weber, 2013, Ortiz, 2012; Aikens, 2011; Shah & Ward, 2007). For example, Esimai (2005) examined how lean six-sigma reduces medication errors at a hospital’s pharmacy department. Based on the findings, she estimated labor cost reductions of $1.32 million annually and a 55% reduction in medication errors where the total number of errors dropped from 213 in February to 96 errors in June.

Moreover, Olivier and Seyedzadeh (2006) referred to lean implementations while using the cost of poor quality to drive process improvement in medical institutions. They focused on the importance of enhancing automated test equipment (Jidoka) and to reduce errors with process design changes (poka-yoke). Furthermore, the healthcare performance partners (HPP, 2012) have implemented different lean healthcare tools to reduce wastes and cut cost at an emergency department. Upon using the value stream mapping tool, the hospital saved $230000 and patient waiting time decreased by 59% where total patient time in the department dropped to two hours.

In addition, the HPP team employed the lean workplace redesign methodology that presents the 5S principles to remove wastes. The study achieved a 43% in overall waste reduction, 30% increase in care related activities and 12% decrease in wasted motion. Likewise, Lowe (2013) showed how successful the Kaizen promotion office at Park Nicollet Health Services in Minnesota was in implementing lean principles. Over two years of lean efforts, 1431 excess inventory items were removed; cycle time was reduced by 76 hours per day and 3977 defects were eliminated per day.

3. Improvement of Healthcare Financials

As it is financially approved, the net operating income (NOI) represents the long-term financial viability of hospitals that is mainly the result of deducting the hospital’s total operating expenses from the total revenues obtained. If sustained NOI margins are below 2 to 3% of total operating costs, hospitals are considered to fail financially (Palmer et al., 2006). Therefore, it is essential for hospitals to manage the costs and maintain an acceptable range of NOI to ensure its sustainability in the healthcare market.

Globally, costs of operations in healthcare sector are either fixed or variable costs. Fixed costs are the expenses paid regardless the number of patients, while variable costs are directly proportional to patient number. For instance, as the number of patients increases, the hospital has to count more medications and disposable equipments. However, Researchers have found that 84 to 89% of hospitals’ costs fall in the fixed cost category (Graves, 2004; Roberts et al., 1999). Furthermore, Pudło and Szabo (2014) illustrated how the operating income is highly affected by the variation of revenue and operating expenses at organizations which majority of its costs is fixed. As operating expenses increase, the revenue and operating income decrease. Thus, it is essential for hospitals to manage the operating expenses and reduce the wasted costs in order to increase its revenue and benefits for the long term.

As discussed earlier, integrating lean and COQ models would effectively reduce wasteful operations that narrow the profit margins and potentially lead to poor quality services. Thus, implementing such process improvements would improve operations and provide hospitals with necessary information for identifying the potential savings to
be gained. Scotty (2013) stated that accountants lack the necessary information for connecting waste with expense accounts. Meanwhile, quality auditors may not have access to ledgers. Therefore, it is very important to have cooperation between accounting and quality assurance staff to estimate the cost of quality and develop strategies for financial and operational improvement.

4. Conclusion
In conclusion, it is apparent from previous literature how costs of poor quality and wasteful operations reduce profit margins and inhibit hospitals from having the potential of generating the true revenue. Therefore, providing lean and COQ trainings to accounting staff and facilitating the accessibility of quality assurance team to ledger would help to fill the information gap and build a direct linkage to enhance the hospitals’ financials. Future studies can expand this study empirically and provide more case studies to support the literature in terms of applied COQ and quality improvement models. 

References
The Effects of Independent Audit Committee on the Accounting Policy Decisions of Nigerian Firms

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ARTICLE DETAILS

ABSTRACT

Purpose: The study examines the effects of the independent audit committee on the accounting policy decisions of firms. Managers use their discretion in accounting decisions against the interests of shareholders. Independent audit committees are relied upon by the shareholders for monitoring.

Design/Methodology/Approach: Data were generated from the financial reports of the sampled firms and a model similar to Bowen DuCharme and Shores (1995) and Jackson, Xiaotao and Cecchini (2009) was used to estimate the predictive capacity of the independent audit committee in the process.

Findings: It was found that the firms predominantly decided on income increasing policies but did not find any significant evidence that independent audit committee monitoring is effective on accounting decisions.

Implications/Originality/Value: The firms set up audit committees not because they rely on them for effective monitoring but to fulfill statutory requirements of CAMA 2014, as amended. This conclusion is consistent with the view of Menon and Williams (1994). This evidence extends the literature of accounting choice in relation to the role of audit process.

1. Introduction

From the perspective of the agency theory, managers could be opportunistic by choosing accounting policies using their discretion to manipulate accounting income to optimize their benefits (Healy, 1985). Section 359: 3-4 of CAMA (2004) requires firms to establish an audit committee to safeguard the corporate accounting decision process to protect the interests of shareholders. The committee became a listing requirement in 1990 (CAMA, 2004) and the SEC code of 2011 institutionalized its independence with independent directors to foster effective monitoring. The independence of the audit committee came under attack for inadequate oversight in recent years in Nigeria (Chukwunedu, Ogochukwu and Chiedu, 2015). An independent audit committee is required to effectively protect the interests of shareholders from the managers. According to Carcello and Neal (2003) and Poretti, Schatt and Bruynseels (2018), the effectiveness of the audit committee depends majorly on its independence. The composition of the committee assumes a critical role assessing the quality of its monitoring of the accounting policy decision process. The code of corporate governance requires that independent directors should compose half of the
committee membership (SEC, 2011). It is hypothesized in this study that higher proportions of the independent directors in the committee would support effective monitoring of the accounting policy decisions of the firms to ensure that the incentives behind the selections of the methods are in the interest of the shareholders.

The audit committee started as a part of corporate governance mechanism in the US in the late 1930s (Bealing, Nelson and Staley, 2006) and became a listing requirement in 1972 (Fichtner, 2010). The Sarbanes-Oxley Act bolstered its institutionalization (Naciri, 2008). However, Menon and Williams (1994) observed that most firms do not rely on the committee to stimulate the eminence of the financial reporting process. Accounting policy choice is a discretion in the reporting permitted within GAAP (Bagnoli and Watts, 2005). Top management deploy this latitude to reduce the constraints imposed by their agency contracts in particular where managerial compensations are tied to reported income (Warfield, Wild and Wild, 1995). However, where the incentives of managers coincide with the owners’ then accounting policy decisions would create information asymmetry and influence stock returns (Dhaliwal, Salamon and Smith, 1982; Fields, Lys, and Vincent, 2001). The need to meet up with and protect the interests of the firm’s stakeholders serves as a significant incentive to accounting policy decisions (Ndjetcheu, 2012). Managers used their discretion in accounting policy decisions to manage the expectations of stakeholders with implicit claims (Bowen DuCharme and Shores (1995). A bonus plan compensation scheme is not popular among Nigerian listed firms. Therefore, managers’ incentives for accounting choice would be for other purposes, such as managerial reputation and job security rather than financial compensation. Still, managers could be opportunistic in their choice of the accounting method because the impact is commensurate with that of the bonus plan.

The discretion of managers in accounting choice usually could be in the decisions to use either fair-value or cost method in reporting economics events of firms (Cairns et al. 2011). These measurements have different effects on the reported income and the prediction of the firm’s future operating cash flows (Holthausen, 1990; Healy and Wahlen, 1999; Beneish, 2001). Some of these latitudes are found in International Accounting Standards (IAS)2, 16,38 and 40 for the measurement of inventory, property, plant and equipment, intangible assets and investment property respectively. Nigerian firms started using international standards to prepare financial statements since 2010 and managers utilize this discretion for opportunistic purposes. Independent audit committees are considered the ultimate mechanisms to ensure that managers are better monitored on this discretion (Klein, 2002; DeZoort, et al., 2002). Accounting policy decisions need to be closely monitored as they have similar objectives as the earnings management (Dhaliwal, Salamon and Smith, 1982; Fields, Lys and Vincent, 2001). However, the independence of the audit committee in Nigeria does not support effective monitoring on firms’ accounting process (Moses, 2016; Oliver and Grace, 2017) and the management of the firms could use their discretion against the interest of the shareholders.

Fields, Lys and Vincent (2001) noted that studies (such as Dhaliwal, Salamon and Smith, 1982; Bowen DuCharme and Shores, 1995; Astami and Tower, 2006; Dey, Grinyer and Sinclair, 2008; Waweru, Ntui and Mangena, 2011; Isa, 2014) did not include the influence of the auditing process on accounting policy decisions. This has left out an important variable in the literature of accounting choice. According to Parker (1997) and Abbott and Parker (2000), there is growing evidence that the independence of an audit committee is vital to mitigating the adverse consequences of managers’ discretions and the manipulations of the accounting process. The objectives of the study are, first, to examine the nature of accounting policy decisions of the firms and, second, to examine the effects of an independent audit committee on a firm’s accounting policy decisions to provide the basis for assessing the relevant corporate governance code that affects audit committee independence. To the best of the knowledge of the researcher, the predictive capacity of the audit committee’s independence on accounting policy decisions is yet to be addressed in any study. The next part of the paper presents the literature review, part three reports the research design, part four presents the results and discussions and, lastly, part five reports the summary and conclusions.  

2. Literature Review

2.1 Accounting Policy Decisions

Accounting policy decisions would have income-increasing or income-decreasing effects on the firm’s reported income permissible within the prescribed methods that lead to inefficient contracting (Bowen DuCharme and Shores, 1995; Watts and Zimmerman, 1978; Fields, Lys and Vincent, 2001; Francis, 2001). According to Isa (2014), Nigerian firms used accounting policies that increase their reported income.
The incentive to choose income increasing methods is then derived by the need to: increase managerial compensation, particularly when tied to reported income, avoid firms’ violating debt covenants and reduce their political costs (Watts and Zimmerman, 1978 and 1990). The bonus-plan and debt violation explanations do not apply to the Nigerian business environment. Ndjetcheu (2012) argued that firms in the Sub-Saharan Africa select accounting policies that reduce the tax burden, consistent with Zmijewski and Hagerman (1981). There are other implicit incentive obligations to the firms that could apply to Nigeria discovered to be associated with accounting policy decisions (Bowen DuCharme and Shores, 1995; Jackson, Xiaotao and Cecchini, 2009). These include labor intensity in organizations and continuous patronage of short-term creditors and the suppliers of inputs. The concentration of ownership and owner-control boards also predicts the decisions on which accounting policy to adopt by firms (Dhaliwal, Salamon and Smith, 1982; Dhaliwal and Schepanski, 1984; Astami and Tower, 2006; Isa, 2014). Whichever incentives derive management decisions on accounting policies in Nigeria, company law requires audit committees to scrutinize their appropriateness before the financial statements are finalized and the oversight could only be effective with the independence of the committee.

2.2 Audit Committee Independence and Accounting Policy Decisions

According to the agency theory, managers would always try to achieve this purpose given their discretion in selecting accounting policies (Healy, 1995). Audit committees should be composed of competent members with the authority and the resources to secure shareholders’ interests against managerial manipulations of accounting methods for personal gain (DeZoort et al., 2002). The code 2011 requires half of the committee’s membership (three independent directors) to make the six-man committee independent. Audit committee independence is considered critical to its effective oversight functions (Poretti, Schatt and Bruynseels, 2018). Thus, a higher presence of outsiders in the committee increases its level of independence and the ability to check the CEOs and prevent managerial opportunism. The results of Cacello and Neal (2000) support the idea that the audit committee should comprise entirely independent directors. Abbott, Parkand Parker (2002) found that audit committees composed of outsider directors are likely to safeguard the integrity of the financial reporting process.

Studies such as Cacello and Neal (2000) and Li, Lin and Yang (2006) found that audit committee independence was not significant in securing the interests of shareholders in the latitudes accounting process provided for managers. However, Abbott and Park (2000), Anderson, Mansi and Rebb (2004), Sharma and Chunli (2014), Soliman and Ragab (2014), Oliver and Grace (2017), Musa, Oloruntoba and Oba (2014), Ayemere and Elijah (2015), Chandrasegaram et al. (2013), Hamdan, Mushtaha and Al-Sartawi (2013), Salleh and Haat (2014), Wiralestari and Tanzil (2015), Kamolsakulchai (2015) and Habib and Bhuiyan, 2016) found contrary evidence. The evidence has been mixed across countries depending on the institutional enforcements of each country. In countries where there are stronger institutions, the functions of audit committees are enhanced and also their ability to fulfill their obligations becomes much easier (Cacello and Neal, 2003). Nigeria belongs to a group of LDC countries categorized with weak institutional enforcement.

2.3 Audit Committee Monitoring and Financial Reporting Process

Cacello and Neal (2003) found that an independent audit committee reduces the risk of corporate failure. Menon and Williams(1994) posed that most firms just comply with the legal requirement but not because they are performing their expected roles. In Nigeria, the audit committees monitoring performance could be considered as ineffective and the committee a mere legal compliance. For instance, Chukwuunedu et al. (2015) showed that audit committees are faced with practical and legal constraints that have adversely affected their ability to adequately monitor the accounting process. Professional accounting bodies and the public are wary of the committees reports. The committee enjoys inadequate managerial backing with inconsequential faith, fewer responsibilities and unwilling respect (Atu, 2014).

Studies such as Bala (2014) and Isa and Farouk (2018) in Nigeria discovered that committees have been effective in their monitoring role, but much is left to be desired on their independence. To make the committee more independent and effective in monitoring, the drafted Nigeria Code of Corporate Governance (NCCG), which becomes effective by January 2020, proposed that the committee composed of only independent directors. Prior studies such as Bowen DuCharme and Shores(1995), Astami and Tower (2006), Dey, Grinyer and Sinclair (2008), Jackson, Xiaotao and Cecchini (2009), Waweru, Ntui and Mangena(2011), Isa (2014) and Acaranupong (2017) in the literature of accounting choice did not examine the independence of the audit committee as a predictor of the accounting policy decisions of firms. This study tests the significance of audit committee independence on accounting policy decisions within this context to validate the proposition of the agency theory.
3. Research Design

Fifty-eight firms from the 114 non-financial firms listed on the NSE were studied from 2012-2016. The data were extracted from the financial statements. A model similar to Bowen, DuCharme and Shores (1995) and Jackson, Xiaotao and Cecchini (2009) was modified and adapted to assess the predictors of the audit committee independence on firms’ accounting policy decisions. The model specification is:

\[ APC = \beta_0 + \beta_1 ACI_{it} + \beta_2 BCM_{it} + \beta_3 LEV_{it} + \beta_4 PRT_{it} + \beta_5 LBR_{it} + \beta_6 TAX_{it} + \beta_7 STC_{it} + \beta_8 SPL_{it} + \epsilon_{it} \]

\( APC_{it} \) is a dependent variable that represents the accounting policy decisions of firms. It is the ratio of the accounting policies of assets, which have the effects of increasing the reported income over the total assets accounting policies adopted and disclosed by the firms (Waweru, Ntui and Mangena, 2011). In this study, only the accounting policies on assets were considered because they provided widely used managerial discretion for accounting choice used in Nigeria. \( ACI_{it} \) is an explanatory variable that represents the audit independence committee. It is measured as the natural log of the numbers of the committee, who represent shareholders over the number of members, who represent directors (Isa and Farouk, 2018). There is growing evidence on the association of audit committee effectiveness and its oversight on the firm’s accounting process (Parker, 1997; Abbott and Parker, 2000). This justifies the choice of the \( ACI_{it} \) as an explanatory variable on the accounting policy decisions of firms.

The explanatory variables in the model include the traditional predictors of accounting policy decisions of firms used by previous studies, such as Bowen, DuCharme and Shores (1995), Astami and Tower (2001), Jackson, Liu and Cecchini (2009), Waweru, Ntui and Mangena (2011) and Isa (2014). These include: \( FSZ_{it} \) that represents the size of the firm which is measured as the natural logarithm of the firm’s total sales; \( LEV_{it} \) represents the leverage of the firm and is measured as the ratio of the long-term borrowings to the shareholders’ equity (0 if long-term borrowing is missing). And \( PRT_{it} \) represents the profitability of the firm which is measured as the ratio of net income to adjusted total assets. \( BCM_{it} \) represents board independence and is found significant in Waweru, Ntui and Mangena (2011) and Isa (2014). It is measured as the ratio of non-executive directors to the size of the board. The other category of traditional predictor variables for stakeholder expectations are based on party implicit claims: \( STC_{it} \) represents creditors’ expectations; it is measured as the ratio of short-term borrowings to equity; \( CGS_{it} \) represents suppliers’ expectations; it is measured as the natural logarithm of the cost of sales scaled by adjusted total assets. \( LBR_{it} \) represents employee expectations; it is measured as one minus the ratio of gross PP and E to adjusted total assets (Bowen, DuCharme and Shores, 1995; Jackson, Xiaotao and Cecchini, 2009; Waweru, Ntui and Mangena, 2011; Ndjetcheu, 2012) and \( TAX_{it} \) represent government expectations; it is measured as the natural logarithm of the accrued tax expenses scaled by adjusted total assets (Ndjetcheu, 2012).

4. Results and Discussions

4.1 Descriptive Statistics

The descriptive statistics are reported in Table 1. \( APC_{it} \), (accounting policy decision) has a mean of 0.74. This implies that the firms averagely choose income increasing policies. The mean of \( ACI_{it} \) is 2.74. This implies that the average outsiders in the committees are slightly below the required minimum. Further description of the composition of the audit committee’s independence is reported in Table 2. The average value of the firms’ size (\( FSZ_{it} \)) is $117.10 with a standard deviation of $201.96. These are accompanied by a maximum observation of $1,081 billion and a minimum less than $0.07 billion. These indicate greater variability among the firms because they are drawn from the various subsectors of the manufacturing sector.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Stdev</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>APC</td>
<td>290</td>
<td>0.74</td>
<td>0.18</td>
<td>.25</td>
<td>1.00</td>
</tr>
<tr>
<td>BCM</td>
<td>290</td>
<td>0.66</td>
<td>0.17</td>
<td>0.00</td>
<td>1.00</td>
</tr>
<tr>
<td>FSZ (billion $)</td>
<td>290</td>
<td>117.10</td>
<td>201.96</td>
<td>0.07</td>
<td>1,081.15</td>
</tr>
</tbody>
</table>
This Table presents the description statistics of the study variables.

Table 2 presents the frequencies of the number of independent directors in the audit committee. The number of outsiders who represent shareholders in the committee among the firms ranges from 1 to 5 among the committees. It is revealed that about 26% of the audit committees had 2 outsiders. This is less than the benchmark of three outsiders prescribed by the code. However, about 72% of the committees had three outsiders as members which comply with the Code. Furthermore, it is discovered that only 1% and 0.4% of the audit committees had 4 and 5 outsiders respectively, which implies the highest level of independence. It could be stated that the majority of the audit committees enjoyed the purported amount of independence. These results imply significant compliance with the provisions of the Code.

Table 2: Frequency of Outsiders in Audit Committee

<table>
<thead>
<tr>
<th>Number of Outsiders</th>
<th>2012 %</th>
<th>2013 %</th>
<th>2014 %</th>
<th>2015 %</th>
<th>2016 %</th>
<th>Mean (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
<td>0.00</td>
<td>0.02</td>
<td>0.014</td>
</tr>
<tr>
<td>2</td>
<td>0.26</td>
<td>0.25</td>
<td>0.26</td>
<td>0.26</td>
<td>0.26</td>
<td>0.26</td>
</tr>
<tr>
<td>3</td>
<td>0.72</td>
<td>0.74</td>
<td>0.68</td>
<td>0.72</td>
<td>0.72</td>
<td>0.72</td>
</tr>
<tr>
<td>4</td>
<td>0.00</td>
<td>0.00</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>5</td>
<td>0.00</td>
<td>0.00</td>
<td>0.02</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

This Table presents the frequencies of ACs outsiders, meetings and membership vis-à-vis the statutory benchmark.

4.2 Accounting Policy Choice Decisions

Table 3 presents the count of accounting policy decisions of the sampled firms on accounting policy on property, plant and equipment (PPE), goodwill (GDWL), software (SFTW), inventory (INVT), investment property (INVP) and depreciation methods (DEPM). From the results, the firms adopted the cost method (income increasing policy) 87% for PPE, 53% for GDWL, 94% for SFTW and 57% for INVP of the decisions. All the decisions on the depreciation method by the firms favoured a straight-line method. Bowen, DuCharme and Shores (1995), Astami and Tower (2006) and Waweru, Ntui and Mangena (2011) classified the straight-line method as income increasing. It is discovered that 71% of the policy decisions on INVT was the average cost method. Bowen, DuCharme and Shores (1995) considered the straight-line method as an intermediate policy (between FIFO (income increasing) and LIFO (income decreasing). The results further indicate that the fair-value (income decreasing) method was not favoured by the policy decisions of the firms; they adopted only 5% and 6% of the decisions for PPE and SFTW, respectively. However, the policy was adopted for GDWL 47%.

Overall, it is discovered that an average of 69% of the firms’ decisions favoured the income increasing policies, 29% of the decision adopted the income decreasing methods and 2% adopted mixed policies. This implies that firms predominantly used income increasing policies. This is consistent with the finding of Bowen, DuCharme and Shores (1995), Astami and Tower (2006), Waweru, Ntui and Mangena (2011) and Isa (2014).

Table 3: Accounting Policy Decisions of Firms

<table>
<thead>
<tr>
<th>Disclosure</th>
<th>Income increasing</th>
<th>Income decreasing</th>
<th>Mixed</th>
</tr>
</thead>
</table>
Depreciation Method | 1.00 | 1.00 | 0.00 | 0.00
Property, Plant and Equipment | 1.00 | 0.87 | 0.05 | 0.08
Goodwill | 0.16 | 0.53 | 0.47 | 0.00
Intangible Assets Software | 0.64 | 0.94 | 0.06 | 0.00
Inventory | 1.00 | 0.23 | 0.71 | 0.06
Investment Property | 0.26 | 0.57 | 0.43 | 0.00
Mean | 0.68 | 0.69 | 0.29 | 0.02

This Table presents the distribution of decision on accounting methods made by firms between 2012-2016.

4.3 Analysis of the Regression Results
Table 4 presents a summary of the regression results. The Adjusted R2 indicates that 24.83% of the changes in accounting policy decisions are explained by the variables composed in the model, which is higher than the moderate value of 19% suggested by Chin (1998). The F-ratio is 11.61 along with a p-value of 0.0000. This indicates that the model is significant and good for estimating the incentives for accounting policy decisions of firms. Several tests were conducted to ensure that the assumptions of regression analysis were not violated. For instance, the constant variance assumption was tested using Breusch-Pagan and the null hypothesis was not support (chi-square = 1.80, p-value = 0.1792) which indicates that heteroskedasticity is not a problem. Skewness/Kurtosis tests for the normality test was conducted and the results indicated that data were normally distributed (the joint chi-square = 2.92, p-value = 0.2327. The variance inflation factor test showed a Mean VIF 1.69 (maximum of 2.60 for TAXit and minimum of 1.08 for BCMit). According to Craney and Surles (2002), no formal criteria exists for deciding if VIF is too large, but a value greater than 10 indicates a strong presence of multicollinearity that requires remedial measures. There were very few outliers outside the threshold of ±2 based on studentized residuals analysis which were not significant.

From the Table, it is discovered that ACit, is not significant (t-statistics = 0.63, p-value = 0.526). This implies that the audit committee’s independence level does not ensure effective incentive monitoring on the accounting policy decisions of the management. This result is inconsistent with the findings of Abbott and Park (2000) which states that firms with independent audit committees are more vigilant and ensure the objectivity and integrity of the accounting process. Contrary to Carcello and Neal’s (2003) and Poretti, Schatt and Bruyneels’ (2018) results, the findings did not validate the agency theory perspective that the presence of an independent audit committee would improve monitoring in favour of shareholders. However, consistent with previous studies (Waweru, Ntui and Mangena, 2011; Isa, 2014), the results indicated that an independent board (BCMit) is significant (z-values = 3.44; p-values = 0.001) to the firms’ accounting policy decisions. This implies that the central boards have taken over the responsibility of monitoring accounting process from the committees.

Stakeholder expectations are found to be significant predictors of the accounting policies decided upon by management. For instance, TAXit,(z-values = 2.31; p-values = 0.022), CGSit, (z-values = 5.56; p-values = 0.000) and STCit (z-values = 4.52; p-values = 0.000) are significant to the decisions. This supports that firms recognize each stakeholder’s expectations based on their implicit claims and merit consideration for its own sake in the accounting policy decisions (Donaldson and Preston, 1995), which is consistent with Bowen DuCharme and Shores (1995). The traditional predictors of accounting policy choice (Watts and Zimmerman, 1978) are found significant: PRTit, (z-values = 1.67; p-values = 0.097) and LEVit (z-values = 1.84; p-values = 0.067) except the political costs hypothesis. This is contrary to the view of Ndjetcheu (2012). The bonus plan and the debt covenant hypotheses though significant are applicable in different contexts other than for managerial compensations and firms’ risk control. These results imply that the managers’ incentives to accounting policy decisions were derived by the quest to maximize shareholders’ wealth, which could be aligned to managerial intentions to secure jobs and reputations.

Table 4: Regression Summary

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.4676</td>
<td>0.1223</td>
<td>3.82</td>
<td>0.000</td>
</tr>
</tbody>
</table>
5. Conclusions
The study examined the impact of audit committee independence on accounting policy decisions by linking the monitoring incentives on the efficiency of the management choice of accounting policy. Fifty-eight listed firms in Nigeria were studied for 290 accounting years. Data were collected from the available financial reports of the firms and analysed using a model similar to Bowen DuCharme and Shores (1995) and Jackson, Xiaotao and Cecchini (2009). The results showed that the firms predominantly used income increasing accounting policies, which include cost model and straight-line depreciation method, which implies income increasing strategy. It also discovered that a significant number of the audit committees have met up the required number of independent directors as prescribed by the 2011 code of corporate governance, which is meant to strengthen their independence for effective monitoring. However, this did not ensure effective monitoring of the accounting policies selections. Boards monitoring suppressed that of the audit committees because either the committees are not given the required authority or they have been passive. This implies that the interests of management and those of the shareholders in the selection of the accounting policies are aligned. This brings the oversight of the committees to the limelight once again. Thus, the firms setup the audit committees not because they wanted to rely on them for effective monitoring but to fulfil the statutory requirement of CAMA 2014 as amended. This conclusion is consistent with the view of Menon and Williams (1994). This discovery is contrary to the views of Fields, Lys and Vincent (2001) and Ndjetcheu (2012): audit process does not ensure effective monitoring on accounting policy decisions. This evidence extends the literature of accounting choice in relation to the role of audit process.

These findings have implications for FRCN to reinforce the committees to be effective in monitoring. Although the new code, which becomes effective January 2020, requires the committee to be composed mainly of independent directors, they would need the required authority to undertake their oversight functions. Members of the committee should be required to engage in periodic capacity development and self-assessment for quality control for responsible engagement in their monitoring functions. The study makes a major contribution to the accounting policy choice literature, as it relates to audit committee independence. Further studies can focus on evaluating the authority of the committee and the financial literacy of members in Nigeria.

References


**APPENDIX**

```
. regress apc nlogaci bcms levs szes roa lbr tax stc cgs

Source | SS     df    MS | Number of obs = 290
-------------+-----------------+-----------------
Model       |  2.45728023     9 .273031137   F(  9,   280) = 11.61 Prob > F = 0.0000
Residual   |  6.58580781    280  .023520742  Adj R-squared = 0.2483
-------------+-----------------+-----------------
Total       |  9.04308805    289  .031290962         Root MSE = .15336
-------------+-----------------+-----------------

apc | Coef.  Std. Err.   t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------
nlogaci |    .0316011   .0497737     0.63   0.526      -.066377    .1295791
bcms   |  -1.954275   .5686455   -3.44   0.001       -.3.073638   -.834912
levs   |    .181763   .0988094     1.84   0.067       -.0127406   .3762667
szes   |   4.452446   7.14841    0.62   0.534        -.9.619002  18.52389
roa    |  -1.518163   .0911783   -1.67   0.097        -.3.312983   .2766565
lbr    |  -.0311059   .0242424   -1.28   0.201        -.0788263   .0161454
tax    |   .0043998   .001835     2.31   0.022       -.0.006277   .0078519
stc    |  -4.452446   .733767    -4.52   0.000       -.1.4760146  -.1.873147
  cgs |  .0120814   .0021724     5.56   0.000       -.0.0078051  .0163578
_cons  |   .4675622   .1223418    3.82   0.000       .2.267358   .7083886

. predict myres, resid
. sktest myres

Skewness/Kurtosis tests for Normality
------- joint -------
Variable | Obs  Pr(Skewness)  Pr(Kurtosis)  adj chi2(2)    Prob>chi2
-------------+----------------------------------
  myres | 290  0.1296         0.4383         2.92   0.2327
.
. estat hettest

Breusch-Pagan / Cook-Welsberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of apc
  ch2(1)  =  1.80
  Prob > ch2  =  0.1792
.
. pwcorr nlogaci bcms levs szes roa lbr tax stc cgs, sig
```
<table>
<thead>
<tr>
<th>Variable</th>
<th>VIF</th>
<th>1/VIF</th>
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Mean VIF: 1.69
Impact of Terrorism on Stock Market: A Case of South Asian Stock Markets

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ARTICLE DETAILS

ABSTRACT

The purpose of this study is to examine the impact of terrorism on stock markets of South Asia namely, Karachi Stock Exchange 100 index (Pakistan), Bombay Stock Exchange (India), Colombo Stock Exchange (Sri Lanka) and Chittagong Stock Exchange (Bangladesh). Monthly panel data has been used for the period of January 2000 to December 2016. Terrorism events happened during the period of 2000 to 2016 have been incorporated to examine the impact of terrorism on stock market returns of South Asia. DCC GARCH through R software is used to analyze the impact of terrorism on stock market returns and to analyze the spillover effect of terrorism in one country and on the stock markets of other countries of South Asia. The results indicate that terrorism has significant and negative effect on stock market returns of Pakistan, India and Bangladesh but insignificant in Sri Lanka. Results also shows that stock markets return of Pakistan, India, and Bangladesh are significant and positively correlated with each other except the Stock market of Sri Lanka.

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Keywords
Terrorism, Stock Market, Spillover, South Asia, DCC GARCH, Panel Study

JEL Classification:
H50,H54, N10, N15,C33

1. Introduction

Terrorism is one of the biggest problems faced by countries across the world. It impacts the nations by devastating their economies, trembling the markets, disturbing the capital allocation, stagnating the economic growth, destruction of infrastructure, declining the foreign investment, targeting political, business and army personnel, cause to many fatalities and injuries, declining export, increasing business risk, increasing the security threat and playing with investors’ sentiments. Terrorism is not only a global phenomenon but also a hot issue since the 9/11 incident. Acts of terrorism increases the risk and uncertainty. Terrorism risk can be measured but uncertainty cannot be calculated.

Mostly, terrorism is discussed in relation to sociological, geopolitical, political, historical, and psychological aspects, but upshots of terrorism can be observed in the economic and financial sector too. Though there are fewer
studies on terrorism but the impact of it on the economic growth and stock markets of the countries is very big. Unfortunately, in Pakistan the terrorism attacks increased since 2001 this is how Pakistan came into lime light.

The focus of the study is to find the connection and impact of terrorism incidents on KSE 100 index of Pakistan, BSE of India, CSE of Sri Lanka and CSE of Bangladesh stock markets. Financial and economic hub of United States, New York Stock Exchange (NYSE) remained closed till September 17 because of 9/11 attack. Within 7 days of terrorist incident of 9/11, the Dow Jones decreased by fourteen percent (Lenain, Bonturi, & Koen, 2002).

Indonesia stock exchange had negative impact of terrorist attack on Bali Island on 12 October 2002 which resulted in deaths of 202 humans and 240 people got injured. The market slumped down by 25.53% and capital of investors collapsed drastically. The market remained negative for five days.

On the contrary, the worst terrorist attack in the history of U.K. was on July 7, 2005, in which terrorists exploded numerous bombs in London which resulted in death of 52 people and more than 700 civilians got injured. Because of this attack London stock exchange remained uninterrupted but the it went down by 4 percent. The London stock market adjusted to the shocks and continued trading. Terrorism has become geopolitical threat for global financial markets and for their stability Karolyi (2006).

Terrorism is not only affecting the economies of South Asian countries but also badly affecting the investments, financial institutions and international trade. Terrorism activity can affect stock exchanges directly or indirectly (IMF, 2005). The terrorist attack on September 11-2001 in U.S changed the way of thinking about terrorism and diverted the academic researchers’ attention towards the topic of terrorism. Terrorism is not only a cause of massive casualties and damages but also a geopolitical risk that affects both financial markets and the global economy.

In the existing literature, the negative relationship between terrorists’ single attack and financial markets has been tested, but the relationship between prolonged terrorism and financial markets is still in need to test.

Terrorism risk is a cataclysmic risk for investors and financial institutions. Numerous studies have been conducted to investigate the relationship between terrorism risk and financial markets. This paper is one of the few of existing literature on terrorism like Arin et al. 2008; karolyi and Martell, 2001, Eldor and Melnick, 2004; Chan and Siems, 2004 studied the relationship between terrorism and behavior of stock return.

Catastrophic terrorist attack harm investors, consumers, and businesses. Their confidence gets shattered which ultimately damage the consumption, investment and macro performance. Since, 2001 terrorist activities have been increasing very rapidly in all over the world that is why, terrorism is a deadliest menace for all the countries of the world. As terrorism has increased by 80 percent during the year 2014 as compared to 2013 (GTD, 2015). Number of deaths have also been increased nine-fold in 2014 as compared to 2000. Number of deaths in 2000 were 3129 while number of deaths in 2014 were 32686 (GTD, 2015). The world has to pay very high cost of terrorism.

According to Global Terrorism Data Base (2015), the total cost of terrorism has touched the level of 52.9 billion US Dollars in 2014 since 2000. This cost has total economic impact of US $ 105.8 billion. According to IEP assessment the GNS (global national security) expenses are around 117 billion US Dollars (GTD, 2015). Pakistan has paid very high cost because of war on terror.

The number of terrorism incidents that had been incurred since 2000 in Pakistan are 10916 and this caused to total deaths of 20953 and total injuries of 31961, in India are 6878 caused to total deaths of 9636 and total injuries of 16558, in Sri Lanka are 824 caused to total deaths of 3145 and total injuries of 5393and in Bangladesh are 944 caused to total deaths of 445 and total injuries of 2576 (GTD, 2015).

The increasing number of terrorism incidents, numbers of fatalities and injuries in South Asia is a big question mark. The researchers tend to focus on the root causes of increasing terrorism in South Asia and its impact on the Stock Markets of South Asia as there has been very few studies conducted on this issue.
The existing literature shows that only a few studies have been done to examine the impact of terrorism on stock markets, but this study is different from those. The existing literature shows that the impact of terrorism on individual stock markets of South Asia has been examined but impact of terrorism on all stock markets of South Asia collectively has not been measured before. Therefore, this paper measured the impact of terrorism on four stock markets of South Asia collectively. In this way, this paper is different from the other.

In the existing literature, studies show that impact of terrorism attacks on stock markets, on stock return, on stock prices, on financial markets, and on spillover effect have been examined separately and these studies also show that only major terrorism attacks have been taken to examine the impact of terrorism attacks on stock markets, on stock return, on stock prices, on financial markets, and on spillover effect. (Mnasri and Nechi, 2016; Estrada and Koutronas (2016) ; Hobbs et al. (2016) ; Apergis and Apergis (2016); Kolaric and Schiereck (forthcoming) ; Essaddam and Mnasri (2015; Essaddam and Karagianis (2014); Alam (2013) ; Aslam and Kang (2013) ; Ramiah and Graham (2013); Chesney, Reshtar, and Karaman (2011) ; Kollias, Papadamou, and Stagiannis (2011); M. Chesney et al (2011) ; Peleg, Regens, Gunter, and Jaffel (2011); Panagiotis and Liargovas (2010); Konstantenos Drakos (2010); Brounrr and Derwall (2010); Cam (2008); G. Andrew, karolyi and Rodolfo Martell, 2006; Karolyi, 2006; Berrebi and Klor (2005); Johnson and Nedelescu (2005); Cateer and Simkin (2004); Drakas (2004), Eldor and Melnick (2004); Eldor and Melnick (2004)).

This paper incorporates the impact of all terrorism incidents of small and large scale during the period 2000-2016 that has not been tested together in the existing literature. This paper also examines the impact of terrorism on stock markets of South Asian countries and their spillover affect altogether. This paper is also different in respect of time frame over a period of seventeen years (2000-2016). This paper is also different in respect of methodology. In the existing literature, mostly, daily data have been used to measure the impact of terrorism on stock markets but in this data monthly data is used to measure the impact of terrorism attacks on stock markets of South Asia.

Purpose of the research is that:
To examine the relationship between terrorist attacks and stock market returns.
To examine the spillover effect of terrorist attack in Pakistan on the stock Market of India, Sri Lanka and Bangladesh.
To examine the spillover effect of terrorist attack in India on the stock Market of Pakistan, Sri Lanka and Bangladesh.
To examine the spillover effect of terrorist attack in Sri Lanka on the stock Market of Pakistan, India and Bangladesh.
To examine the spillover effect of terrorist attack in Bangladesh on the stock Market of Pakistan, India and Sri Lanka.

Significance of the study is that:
This study is important because it fulfills the gap in literature. This study also provides directions to the researchers for future researches. Because, South Asia is an emerging market and foreign direct investment has been increasing in this region despite the fact that this part of the world face tremendous issues including terrorism. Stock markets of Pakistan, India, Sri Lanka and Bangladesh have increased integration.

These South Asian countries have close economic similarities and financial ties. This study has importance for the investors, banks and financial institutions because terrorism increases business risk and uncertainty that weaken the confidence of the investors and creates threat of loss of the investments for the banks and financial institutions. It also has direct and indirect impact on the financial institutions and on the stock markets. The occurrence of terrorism events in South Asia is relatively high that can increase the fear of investors and disturbs long run investment decisions. The results of this study show that terrorism attacks have negative impact on stock markets of South Asia and terrorism attacks in one country and have spillover effect on stock market returns of the other countries. So, if a terrorist attack take place in a country, investors do not invest in the host country, instead, they invest in the other countries of the region for yielding the effect of spillover.

This study is also helpful for the security agencies that have been striving for anti-terrorism activities. As per the report of Global Terrorism Database 2015, global national security expenses have reached up to 117 US billion Dollar. Therefore, security agencies working in South Asian countries can manage their security expenses in the
better way and can use their funds in procuring of the advance and latest technological instruments to curb the terrorism.

This study is also helpful for the governments because terrorism not only disturb the stock markets and financial institutions of the countries, but also it devastates the economies and disturb the budget allocation of the countries. Therefore, to mitigate the effects of terrorism and to curb it, governments should allocate sufficient funds for the security agencies and allocate all of its funds deliberately and take measures for peace and stability in the country.

This study is also helpful for the policy-makers to know that how terrorism attacks affects the stock markets of South Asia and how spillover effects take place in these countries in order to formulate the suitable policies. As terrorism risk is an important factor in making investment decisions so policy makers should design such policies that mitigate the effects of terrorism attacks on stock markets and stabilize the financial markets. An absence of suitable policies may lead to a more social and economic tensions in the South Asian region that is already in unrest in many aspects.

2. Literature Review
In the existing literature, the behavior of stock markets have been examined with respect to social, demographical, economic, wars, armed conflicts, elections, energy crises and environmental and non-environmental events. The impact of these events may vary from one event to another and from one country to another country (e.g. Choudhry, 1995; Frey and Kucher, 2000, 2001; Amihud and Wohl, 2004; Schneider and Troeger, 2006; Athanassiou et al., 2006; Bialkowski et al., 2008; Kollias et al., 2010; Guidolin and La Ferrara, 2010; Scholtens and Boersen, 2011; Wang and Mayes, 2012; Imbierowicz and Mark Wahrenburg, 2013; Fiordelisi et al., 2014; Smales, 2014; Carpentier and Suret, 2015; Haitsma et al., 2016; Kenjegaliev et al., 2016; Günster and van Dijk, 2016).

The increasing occurrence of terrorism events all over the world has increasing the demand for examining the economic upshots of terrorism. For example, Hobbes et al (2016) measured the impact of 28 terrorist and military incidents between a time span of 1963-2012 and concluded that stock perform worse on the days of terrorism events than on the days of military events. Ayman Mnasri, Salem Nechi (2016) has examined the impact of terrorist attacks on stock market volatility in emerging markets of MENA region (Middle East and North African countries) and concluded that impact of terrorism attacks on financial markets’ volatility lasts for 20 days.

Berrebi and Klor (2005), conducted the study to examine the effect of terrorism on stock price of Israeli corporations and used event study methodology. They concluded that companies’ having business in stock of defense, security or antiterrorism security measure have a positive outcome and those which do not have a deal in such activities have a negative trend in a nutshell. The results show that terrorism incidents negatively affect the stock and equity markets. In addition, Cater and Simkin (2004), conducted a study on impact of terrorism attack of 9/11 on Airline stocks by using a multivariate regression model. They concluded that 9/11 attack has different effect on different airlines firms.

Moreover, Drakas (2004) also studied the impact of catastrophic 9/11 on the several airlines stock listed in different stock markets by using a market model. His result reveals that calculating with market Beta (β), the value of systematic risk is greater than the value of systematic risk calculated on average. He also concluded that after the event market risk of airlines stock in different stock markets exposed an increasing trend.

Eldor and Melnick (2004) studied the impact of terrorism attacks on stock and exchange rates prices in Palestine. They used the time series analysis for the period of 1990 to 2003. Their results show that terrorism attacks have impact on stock and exchange rate prices. They also concluded that markets are affected by terrorism attacks on other transports.

Furthermore, Panagiotis and Liargovas (2010) studied the relationship between terrorism and Greek Banks’ stock. They used event study methodology. They analyze the impact of three terrorist attacks, 9/11, 2001 of USA, 11 March, 2004 of Madrid and July 7, 2005 of London. The results show that these attacks have abnormal negative impact on other financial markets of the world but have no impact on Greeks Banks’ stock prices. The huge impact of 9/11 attack on the stock markets than other attacks is owing to dominancy of US Economy.
Stock prices are highly sensitive to new information. The buying and selling of stock is reflected due to change in its price in result of the new information. For example, in result of the terrorist attack on September 11, in New York City on the World Trade Centre, the MSCI world index slumps down by 1.98%. Similarly, on March 11, 2004, MSCI world index fall by 1.72% in response to the Madrid attacks on the same day.

Researchers like Nikkinen, Mohammad, Sahlstrom, and Aijo, 2008; Gulley and Sultan, 2008; Chesney and Reshetar, 2007; Amelie and Darne, (2006); Eldor and Melnick, (2004); Carter and Simkin, (2004); Drakos, (2004) and Chen and Siems, (2004) also documented hostile impact on the stock market because of cataclysmic terrorism incidents.

Researchers like Choudhry, 2001; Board and Sutcliffe, 1988; Jaffe and Westerfield, 1985; Kato and Shallheim 1985; Gibbons and Hess, 1981 opined that return yielding process is not same in the world. It encompasses months and days to be considered in a return generation process. These are also known as months and days anomalies in a calendar year. Konstantenos Drakos (2010) concluded that stock returns are negatively affected by the terrorism activity on the day of attack and on the other hand, terrorism activity has positive impact on psychosocial factors as it increases the level of psychosocial factor.

G. Andrew, Karolyi and Rodolfo Martell, 2006 found that stock markets are negatively affected by -0.83% by terrorism on the day of attack which results a total decline of US $ 401 million in firm capitalizations. They also found that there is no stock spillover of firms. Results also shows that different countries are affected differently by terrorism attacks because of their unique attributes. Share prices are utmost negatively affected by the terrorism incidents in the wealthier and democratic countries. They also concluded that stock prices are also affected negatively by the kidnapping of corporate executives.

Slovin and Sushka (1993) found that stock price reaction is in the same line with the decreased block holders’ equity response. Salas (2005) concluded that the sudden announcement of deaths of corporate executives have positive impact on stock prices. Alam (2013) found that there is insignificant association between terrorism incidents and the stock return in the short run while terrorism incidents have negative effect on the stock return in the long run. Alam (2013) used the terrorism impact factor developed on the 3 terrorist activities instead of event study for analyzing relationship between stock market returns and the terrorism.

Aslam and Kang (2013) conducted a research to investigate the relationship between terrorism attacks and KSE100 index. They used the daily index of KSE 100 index for the period of 2000 to 2012 and found that KSE 100 index is temporary affected on the day of attack and one day prior the attack. They also found that impact of terrorist attacks changed across locations, types and severity of attacks. They also found that the degree of casualty effected of Indonesia is -0.0037, of Israel is -0.0027 and of Turkey is -0.0018. According to them, by using the terrorism GARCH model the mean coefficient for all six countries turns significant and negative Stock return is affected by Terror index volatility.

Ramiah and Graham (2013) investigated the impact of terrorism attacks on equity market of Indonesia and found that equity portfolios were badly affected by the 9/11 attack and Bali bombings. They also found that the Indonesian capital market is negatively affected by domestic terrorist incidents whilst the London, Madrid and Mumbai attacks have no significant impact.

Graham and Ramiah (2012) conducted a research to study the relationship between Japanese stock markets and terrorism incidents. They used the event study methodology. Their results show there is a rise in the systematic risk of some Japanese industries. They also found that returns of the Japanese industries are utmost negatively affected on the first day of trading following attack of 9/11.

Arin et al (2008) conducted a research to analyze the impact of terrorist incidents on stock markets of Israel, Indonesia, Spain, UK and Thailand and found that both, stock markets and stock markets volatility are affected by the terrorist events. Eldor and Melnick (2004) analyzed the association between stock and foreign exchange markets of Israel and terrorism events. They include 639 terrorism incidents for the period of 1990 to 2003. Results shows that there is a negative association between stock and foreign exchange markets of Israel and terrorism incidents. Their results also show that Israeli markets are effective to have impact of news about terrorism events.
Chesney, Reshtar, and Karaman (2011) examined the relationship between 77 terrorist events and behavior of markets of 25 countries. They used event study methodology for analysis by taking daily price indices during 04 January, 1994 to 16 September, 2005. Their results show that markets of the 25 countries are negatively affected by terrorist attacks.

Moreover, Kollias, Papadamou, and Stagiannis (2011) analyzed the impact of terrorist attack of London and Madrid on the stock markets of Spain and London and found that these markets are negatively affected on the day of attack and this negative impact was short lived. Results also shows that the recovery period in days of the stock markets to recover is different. Their results also revealed that the negative impact was short lived.

Drakos (2010) concluded that return is negatively affected in 22 countries on the day of terrorist attack. He also concluded that terrorist incidents accelerate the level of psychosocial impact. Brounn and Derwall (2010) conducted the study to examine the relationship between major terrorist attacks and major economies by using the event study methodology and found that stock prices are insignificantly affected by major attacks. They also compared the stock price reaction with the other natural disasters like earthquakes and found that stock price declines more from terrorism attacks as compared to decline from natural disasters. In both cases of terrorist attacks and natural disasters, stock markets recover within first week of the aftermath. Their results also indicate that terrorist attacks have strong shocks in the financial industry but financial industry recovered rapidly from these shocks except from the shock of 9/11 which have long term impact.

Ramiah, Cam, Calabro, Maher, and Ghafouri (2010) examined the relationship between terrorism attacks and Australian stock exchange and found that there is significant impact of short term on abnormal returns because of the terrorism attack of 9/11 and there is a slightly lighter impact of Madrid, and London bombing on stock returns.

Cam (2008) investigated the impact of three attacks (attack of 9/11, attack of Bali, attack of Madrid) on equity index of 135 industries of United States. He used the event study methodology and concluded that terrorism affect differently to hotel, airline, leisure, water, defense and telecommunication industries. Hotel, leisure and airline industries are negatively affected because of terrorism attacks and have negative abnormal returns. Whilst water, defense and telecommunication industries are positively affected because of terrorist attacks and have positive abnormal returns. These results are in the same line with Bruck and Wickstrom (2004). Results also revealed that attack of Bali and Attack of Madrid had minor effect on the equity index of industries in United States.

According to the analysis by Karolyi, 2006 that there is not much knowledge about the impact of terrorism on stock markets and about economics and financial outcomes of terrorism. The studies examined the impact of one or more major terrorism attacks on the stock markets in one jurisdiction or cluster of countries. For example, Carter and Simkins 2004, conducted a research on the impact of 9/11 on the American Airline stock market and found that major and minor airlines have negative abnormal returns.

Chaudhry, 2005 also studied the return and time varying beta effect of 9/11 on 20 American firms and found that there is a varying effect according to the firms. Some researchers emphasize on the temporary effect of 9/11 on the world capital markets (Richman et al., 2005; Hon et al., 2004; Chen and Siems, 2004). Researchers like (Chen and Siems, 2004) concluded that there is a significant effect of 9/11 on world’s stock markets. Hon et al., (2004) also conducted a research to examine the impact of 9/11 attack of US on the global stock markets and concluded that there is an increased correlation across the global stock markets and aftermath of 9/11.

M. Chesney et. al (2011) conducted a research to analyze the relationship between terrorism incidents and financial market and found that stock markets have been negatively affected by the 2/3 terrorism incidents. The terrorist attack effects more on Swiss stock market as compared to effects on American stock market.

Terrorism risk is a challenging risk for countries. It is important to minimize this risk to have stabilized economies. Like natural hazards such as storms, hurricanes, floods and earthquakes, terrorism can affect the entire economy. Terrorist incidents, causalities and injuries are the raucous measure of the dormant level of terrorist risk. In most of empirical studies on terrorism, numeral figures of terrorist events and numeral figures of fatalities have been used by the researches as a signal of terrorist activity.
Kollias et al., (2011) suggests that even though the stock markets slump down following terrorist attacks but these negative effects are short lived. Graham and Rumiah (2012) conducted a study on the impact of 5 terrorism incidents on all sectors’ industries of Japan and find that most industries are negatively affected on the 1st day of trading and 50% industries are affected after five days of the event.

Drakos (2010) find that terrorism has negative effect on daily stock market returns of 22 countries. He also find that terrorist incidents lower the stock market returns on the day of terrorist attack and increased the level of psycho-social reactions. Drakos (2010 b) find that terrorism shocks changed across the nationals with different pattern. To know about the upshots of terrorism we have to know about the terrorism.

There is not a single definition of terrorism. Terrorism has been defined differently by the different researchers’. Sandler and Enders (2002) defined terrorism as a premeditated use, “threat of violence to obtain political objectives through fear directed at public or civilians.” Similarly, Enders and Sandler, 2002:145 also define the terrorism as “The planned use or threat of extra normal violence by sub national groups to obtain a political, religious, or ideological objective through threat of a large audience. Usually not directly involved with the decision making”. The U.S. Code of Federal Regulations defines terrorism as” The unlawful use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives" (28 C.F.R. Section 0.85).

The number of terrorism incidents in Pakistan and their consequences are given below.

Table 1. Terrorism Incidents in Pakistan

<table>
<thead>
<tr>
<th>Year</th>
<th>No of Terrorist Incidents</th>
<th>Total Killed</th>
<th>Total Injured</th>
<th>No of Property Damaging Incidents</th>
</tr>
</thead>
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<tr>
<td>2000</td>
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<td>135</td>
<td>448</td>
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<td>53</td>
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<td>2002</td>
<td>46</td>
<td>114</td>
<td>341</td>
<td>28</td>
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<tr>
<td>2003</td>
<td>29</td>
<td>123</td>
<td>182</td>
<td>19</td>
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<tr>
<td>2004</td>
<td>67</td>
<td>311</td>
<td>674</td>
<td>29</td>
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<td>2005</td>
<td>78</td>
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<td>2006</td>
<td>163</td>
<td>324</td>
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<td>2008</td>
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<td>1,292</td>
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<td>2009</td>
<td>667</td>
<td>1,569</td>
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<tr>
<td>2010</td>
<td>700</td>
<td>1,778</td>
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<tr>
<td>2011</td>
<td>993</td>
<td>1,790</td>
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<td>1,895</td>
<td>480</td>
</tr>
<tr>
<td>2016</td>
<td>861</td>
<td>1,122</td>
<td>1,739</td>
<td>860</td>
</tr>
</tbody>
</table>

Terrorism incidents breakout in India in 2006. Since then number of terrorism incidents have been increasing day by day. India is a state in which people of Multi religions have been living. The threat of terrorism that is being faced by India is religious terrorism. The yearly occurrence of terrorism events in India along with their consequences are given below.

Table 2: Terrorism incidents in India

<table>
<thead>
<tr>
<th>Year</th>
<th>No of Terrorist Incidents</th>
<th>Total Killed</th>
<th>Total Injured</th>
<th>No of Property Damaging Incidents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>
In Sri Lanka the first terrorism incidents took place in 1987 when Captain Miller drove a truck loaded with explosives into a Sri Lankan army camp in which 40 soldiers lost their lives. This attack was done by the LTTE (Liberation Tigers of Tamil Eelam). Terrorist attacks breakout in Sri Lanka from 2009. Since then the number of terrorism incidents have been increasing in Sri Lanka. Sri Lanka is a country which is in threat of a state terror by Tamils. Terrorism incidents in Sri Lanka are also given below.

**Table 3.** Terrorism incidents in Sri Lanka

<table>
<thead>
<tr>
<th>Year</th>
<th>No of Incidents</th>
<th>Terrorist Incidents</th>
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<th>Total Injured</th>
<th>No of Property Damaging Incidents</th>
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</tbody>
</table>


The first terrorist attack which took place in Bangladesh at Chittagong on 06-01-1977 by an unknown group in which one person was injured. In this attack government of Bangladesh was targeted because it was a diplomatic type attack. Terrorism incidents breakout in Bangladesh in 2013. Since then terrorism has been escalating in the Bangladesh as well. The yearly occurrence of terrorism incidents in Bangladesh are as below.

<table>
<thead>
<tr>
<th>Year</th>
<th>No of Incidents</th>
<th>Terrorist Incidents</th>
<th>Total Killed</th>
<th>Total Injured</th>
<th>No of Property Damaging Incidents</th>
</tr>
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<tbody>
<tr>
<td>2000</td>
<td>22</td>
<td>10</td>
<td>35</td>
<td>18</td>
<td></td>
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<tr>
<td>2002</td>
<td>5</td>
<td>21</td>
<td>440</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>4</td>
<td>3</td>
<td>13</td>
<td>1</td>
<td></td>
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<tr>
<td>2004</td>
<td>11</td>
<td>33</td>
<td>234</td>
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<td>2007</td>
<td>9</td>
<td>1</td>
<td>10</td>
<td>2</td>
<td></td>
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<tr>
<td>2008</td>
<td>19</td>
<td>15</td>
<td>50</td>
<td>9</td>
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<tr>
<td>2009</td>
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<td>30</td>
<td>48</td>
<td>16</td>
<td></td>
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<tr>
<td>2010</td>
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<td>21</td>
<td>29</td>
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<tr>
<td>2011</td>
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<tr>
<td>2012</td>
<td>18</td>
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<tr>
<td>2013</td>
<td>139</td>
<td>16</td>
<td>120</td>
<td>56</td>
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</tr>
<tr>
<td>2014</td>
<td>130</td>
<td>40</td>
<td>115</td>
<td>74</td>
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<tr>
<td>2015</td>
<td>465</td>
<td>89</td>
<td>723</td>
<td>169</td>
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<tr>
<td>2016</td>
<td>88</td>
<td>94</td>
<td>147</td>
<td>13</td>
<td></td>
</tr>
</tbody>
</table>

2.1 Economic Cost of Terrorism

Economic survey of Pakistan (2015-16) reveals that total cost of terrorism including both direct and indirect incurred by Pakistan during the period 2001 to 2016 is amounting to US $ 118.32 billion that is equivalent to Rs. 9869.16 billion. Economic survey of Pakistan (2015-16) also reveals that the economy of Pakistan has suffered total loss of amounting to US $ 9.12 billion during 2014-15 and amounting to US $ 5.6 billion during the year 2015-16 due to terrorist attacks. During last decade, Pakistan has to pay a total price of approximately 103 billion US dollars.

The cost of war on terrorism suffered by Pakistan comprises of loss of 35000 masses, 3500 security personnel, destruction of infrastructure, displacement of three million people, decline in investment, decline in production, and unemployment (Economic Survey of Pakistan 2010-11). In short, terrorism has been badly affecting the economy of Pakistan.

Following the literature review, it can be inferred that investors responded differently to the terrorist attacks in accordance with the level of expected risk. If there is an increase in the expected risk than investors will response negatively and the vice versa. Market players also reacts differently in accordance with the perceived level of terrorist impact on expected return.

According to Global terrorism database (GTD, 2015), unemployment, belief in democracy, sureness in press, drug crime, social disenfranchisement and attitude towards immigration are correlated with terrorism in OECD countries. But on the other hand, socio-economic factors that are correlated with terrorism in non-OECD countries.
are political, religious, ideological, history of armed conflicts, corruption and fragile business environment are the key root causes of terrorism.

3. Methodology

3.1 Data

Monthly stock data of KSE 100, BSE, CSE and CSE is used over the period January 2000 to December 2016. The monthly stock return has been calculated with the following formula (Log of value for current month minus log of value for previous month) i.e. (LN (value of February)-LN (value of January)). Terrorism data in respect of Pakistan, India, Sri Lanka and Bangladesh has been obtained from the Global Terrorism Database (GTD, 2015) for the period of January 2000 to December 2016 for construction of terrorism index similar to (GTD, 2015). Data covers all terrorism events small and large that occurred in the sampled period of January, 2000 to December, 2016 and recorded 21,530 incidents in total in respect of Pakistan, India, Sri Lanka and Bangladesh.

Using GTD terrorism index scoring method firstly daily terrorism index was developed and then was changed into monthly terrorism index. To estimate the monthly score of every country following four factors have been taken into account:

1. Aggregate number of terrorism events taking place in a particular month.
2. Aggregate number of fatalities triggered by terrorism in a particular month.
3. Aggregate number of injuries triggered by terrorism in a particular month.
4. Aggregate property damages triggered by terrorism events in a particular month.

For construction of the terrorism daily index each factor has been given specific weight as follows:

1. Aggregate number on terrorism incidents.  
2. Aggregate number of fatalities.  
3. Aggregate number of injuries 

The property damages weights have been accorded as follows according to the level of damages:

1. Unknown  
2. Minor (likely < $1 million)  
3. Major (likely between $1 million and $1 billion)  
4. Catastrophic (likely > $1 billion) 

According to above weights the daily terrorism index is defined as “Daily terrorism index is a natural logarithm of (e+ number of human causalities +number of people injured + number of terrorist attacks occurred each day”) (Eckstein and Tsiddon (2004)).

For the rationale, sensitivity and validity of weights used for construction of terrorism index, it is sufficient that these weights have been opted as they have been used in the Global Terrorism Index 2015. The Global Terrorism Index Report is published every year by the Institute for the Economics and Peace (IEP) that is an independent, non-partisan and non-profit organization striving for peace, progress and well-being of human. (www.economicsandpeace.org) (GDT, 2015)

Moreover, Structural Break Test indicate that the intensity and severity of terrorism increased in Pakistan after 2007, in India after 2006, in Sri Lanka after 2009 and in Bangladesh after 2013.

3.2 The DCC GARCH Model

The GARCH model was introduced by Bollerslev (1986). In 1982 Engle stated that GARCH is a generalized form of ARCH. The ARCH model elucidates variances. To catch most of the variations in the variances, greater number of lags are used to catch the utmost variations in variances. In the econometric model, the GARCH compacts in worthy way with non-negative limitations that needs some small numbers of lags to provide a better fit. Where lags of the variance data series are termed as “autoregressive” and lags in predicted data are termed as “moving average.
The GARCH model permit the restricted variance to be demonstrated by earlier value of itself that is why it is differentiated from ARCH model. The GARCH model comprises a section of ARCH that enlighten a component where today’s variance can be uttered by earlier variances.

Financial modeling professionals preferred GARCH model for predicting prices and rates of monetary tools than the other models of prediction because GARCH model provide a real-world context. OLS estimator can be at contemporary finest straight unprejudiced in the range of restricting heteroskedasticity, those non-linear GARCH estimator might offer cosmic efficacy over OLS. OLS mainly analyze the homoscedastic models which have supposition of persistent volatility and intentions to lessen deviance among data points and regression line to fit those points.

OLS homoscedastic models are not fit for asset returns because their volatility varied during the specific period and based on the previous variance. Whereas, to model for current variance, GARCH model based on previous squared observations and previous variance. In finance, GARCH models are extensively used for modeling of asset return and inflation because of their effectiveness. For ameliorating the exactitude of continuing prediction, GARCH incorporate the errors of earlier forecasting to minimize the error of current forecasting. That is why, GARCH model is better than the other models. It is pertinent to mentioned that if an autoregressive moving average (ARMA) model is supposed for the error variance, the model is GARCH model.

Marc Chesney, Ganna Reshetar and Mustafa Karaman (2011) used GARCH (generalized autoregressive conditionally heteroscedastic) Model with EVT (Extreme value theory) theory to examine the insights of possible portfolio diversification owing to the terrorism risk. Most of the studies employed GARCH (1, 1). A GARCH (1, 1) is sufficient to understand in maximum cases. Volatility clustering and thick tailed returns of financial time’s series can be successfully captured by the GARCH Model. The GARCH model is said to be stationary when sum of alpha and beta are less than one (\(\alpha + \beta > 1\)). If \(\alpha + \beta = 1\), the model is still stationary because the variance is infinite. The GARCH model process generally implies three steps:

1. To estimate a best-fitting autoregressive model.
2. To compute autocorrelations of the error term.
3. To test for significance

The GARCH model Financial Assets and Investing contains an ARCH segment and indicates an element where today’s variance can be expressed by previous variances. We use the following equations for analysis of data.

\[
\begin{align*}
  r_t^i &= \alpha_0 + \sum_{i=1}^{\infty} \alpha_i \text{MoY}_{t-i} + \alpha_s r_{t-1}^i + \sum_{i=2}^{\infty} \beta_i r_{t-1}^i + \sum_{i=2}^{\infty} \theta_i \text{TA}_{t-1}^j + \epsilon_t^i \quad (1) \\
  h_t^i &= \omega + \gamma_1 \epsilon_{t-1}^2 + \gamma_2 h_{t-1} + \gamma_3 l_t \epsilon_{t-1}^2 + \gamma_4 \text{TA}_{t-1}^j + \sum_{i=2}^{\infty} \gamma_i \text{TA}_t^i + \sum_{j=1}^{n} \theta_j \epsilon_{t-1}^2 \quad (2)
\end{align*}
\]

Above given GARCH model consists of equation (1) which is a return equation and equation (2) represent variance equation. In return equation \(r_t^i\) is monthly return of ‘i’ country in time ‘t’, \(\text{MoY}\) are dummies for capturing ‘month-of-the-year’ effect, \(r_{t-1}^i\) capture return spillover of ‘j’ country in time ‘t’, while \(\text{TA}_{t-1}^j\) is terrorist attack of ‘i’ country in time ‘t’ and \(\text{TA}_t^i\) is terrorist attack in ‘j’ country in time ‘t’ and \(\epsilon_t\) is random error with mean ‘0’ and variance \(h_t\).

In equation (2) \(h_t^i\) is variance of ‘i’ country in time ‘t’ which is conditional of its previous month squared error (ARCH), \(\epsilon_{t-1}^2\), its own lag \(h_{t-1}\), asymmetric term (TGARCH term) \(l_t \epsilon_{t-1}^2\), Terrorist Attacks (TA) in ‘i’ country in time ‘t’, Terrorist Attacks (TA) of ‘j’ country in time ‘t’ and variance spillovers of ‘j’ country in time ‘t’.

As we are taking Bangladesh, India, Pakistan, and Sri Lanka we will run above given model for every country separately hence one country will become ‘i’ while others will be treated as ‘j’ countries. We winsorize this data at 5% in order to remove outlier used log natural of terrorist attack data.

4. Analysis & Results

Table 5: Descriptive Statistics

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<tr>
<th></th>
<th>mean</th>
<th>Sd</th>
<th>median</th>
<th>min</th>
<th>max</th>
<th>Range</th>
<th>skew</th>
<th>kurtosis</th>
</tr>
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</table>

225
Results of descriptive statistics shows that Asian markets are highly volatile and standard deviation is higher than mean in all the countries Pakistan, India, Bangladesh and Sri Lanka.

Table 6: Correlation

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<th>paklnt</th>
<th>indr</th>
<th>indlnt</th>
<th>srir</th>
<th>srilnt</th>
<th>bangr</th>
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<tr>
<td>indr</td>
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<td>0.2440***</td>
<td>-0.1220*</td>
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<tr>
<td>indlnt</td>
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<td>-0.0760</td>
<td>0.1690**</td>
<td>0.0220</td>
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<td>-0.3290***</td>
<td>-0.0180</td>
<td>-0.1210*</td>
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<td>0.0170</td>
<td>0.8770***</td>
<td>-0.0630</td>
<td>0.1390**</td>
<td>-0.0280</td>
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<tr>
<td>bangr</td>
<td>0.0340</td>
<td>0.2640***</td>
<td>-0.0760</td>
<td>0.2090***</td>
<td>-0.0020</td>
<td>-0.1830***</td>
<td>-0.0900</td>
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</table>

(This is pairwise correlation among variables in our study. As per standard rule *** p<0.01, ** p<0.05, * p<0 which means that if our hypothesis is significant at 1%, 5% and 10% then it will show ***, ** and * respectively)

Pakistan stock exchange returns has significant positive relationship with Indian and Bangladesh market but insignificant with Sri Lanka. Similarly, Pak Terrist Index (TI) has significant positive relation with India and Bangladesh.

**Graph 1**
### Table 7: DCC GARCH Fit

<table>
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<th>Distribution</th>
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<tbody>
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<tr>
<td>No. Obs.</td>
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<td>Optimal Parameters</td>
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<td>Shibata</td>
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</tr>
<tr>
<td></td>
<td>Hannan-Quinn</td>
<td>0.29520</td>
</tr>
</tbody>
</table>

Elapsed time: 2.068694
|                          | Estimate | Std. Error | t value | Pr(>|t|) |
|--------------------------|----------|------------|---------|----------|
| [Stock Return].mu        | 0.016574 | 0.003750   | 4.41936 | 0.000010 |
| [Stock Return].omega     | 0.001780 | 0.002765   | 0.64367 | 0.519788 |
| [Stock Return].alpha1    | 0.035454 | 0.013827   | 2.56418 | 0.010342 |
| [Stock Return].beta1     | 0.941682 | 0.043826   | 21.48683| 0.000000 |
| [Stock Return].eta11     | 0.442302 | 0.372505   | 1.18737 | 0.235080 |
| [ln(Terrorist Index)].mu | 6.465556 | 0.050943   | 126.91806| 0.000000 |
| [ln(Terrorist Index)].omega | 0.034166 | 0.023547   | 1.45095 | 0.146795 |
| [ln(Terrorist Index)].alpha1 | 0.182853 | 0.065508   | 2.79132 | 0.005249 |
| [ln(Terrorist Index)].beta1 | 0.785072 | 0.085867   | 9.14284 | 0.000000 |
| [ln(Terrorist Index)].eta11 | 0.142233 | 0.088449   | 1.60807 | 0.107820 |
| [Joint]dcca1             | 0.012596 | 0.026027   | 0.48396 | 0.628416 |
| [Joint]dccb1             | 0.906009 | 0.049426   | 18.33063| 0.000000 |

There is significant relationship between terrorist attacks and stock market return in Pakistan.

Graph 2 Indian Stock market return and Terrorist Index
Table 8: DCC GARCH Fit INDIA

<table>
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</tr>
<tr>
<td></td>
<td></td>
<td>No. Obs.</td>
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</tr>
<tr>
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<td>Log-Likelihood</td>
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<td>Av.Log-Likelihood</td>
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</table>

Information Criteria

| Akaike           | 1.07183  |
| Bayes            | -0.85965 |
| Shibata          | -1.07939 |
| Hannan-Quinn     | -0.98599 |
| Elapsed time     | 7.110123 |

Optimal Parameters

| Estimate        | Std. Error | t value | Pr(>|t|) |
|-----------------|------------|---------|---------|
| [Stock Return].mu | 0.008854   | 0.004239 | 2.08857 0.036747 |
| [Stock Return].omega | 0.004388   | 0.006074 | 0.72242 0.470034 |
| [Stock Return].alpha1 | 0.095067  | 0.039891 | 2.38314 0.017166 |
| [Stock Return].beta1 | 0.848997  | 0.122933 | 6.90619 0.000000 |
| [Stock Return].eta11 | 0.058542  | 0.231042 | 0.25338 0.799971 |
| [ln(Terrorist Index)].mu | 5.356141  | 0.039400 | 135.94126 0.000000 |
| [ln(Terrorist Index)].omega | 0.026924  | 0.025835 | 1.04213 0.297350 |
| [ln(Terrorist Index)].alpha1 | 0.056766  | 0.035655 | 1.59210 0.111362 |
| [ln(Terrorist Index)].beta1 | 0.906728  | 0.065152 | 13.91716 0.000000 |
| [ln(Terrorist Index)].eta11 | 0.092044  | 0.231250 | 0.39803 0.690608 |
| [Joint].dcca1 | 0.000000  | 0.000003 | 0.00627 0.994998 |
There is significant relationship between terrorist attacks and stock market return in India.

**Sri Lanka**

[Graph showing stock return and terrorism index over time]

**Conditional Correlation and forecasts**

[Graph showing correlation over time]
Table 7: DCC GARCH Fit for SRI Lanka

<table>
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<td>Hannan-Quinn 1.6525</td>
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<td>No. Obs.</td>
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<tr>
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<tr>
<td>Av.Log-Likelihood</td>
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<td></td>
</tr>
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</table>

Optimal Parameters

| Estimate      | Std. Error | t value | Pr(>|t|) |
|---------------|------------|---------|---------|
| [Stock Return].mu          | 0.009289   | 0.004058 | 2.28880 | 0.022091 |
| [Stock Return].omega       | 0.007797   | 0.006980 | 1.11712 | 0.263944 |
| [Stock Return].alpha1      | 0.122311   | 0.040744 | 3.00191 | 0.002683 |
| [Stock Return].beta1       | 0.762417   | 0.135734 | 5.61701 | 0.000000 |
| [Stock Return].eta1        | -0.105971  | 0.182743 | -0.57989 | 0.561991 |
| [ln(Terrorist Index)].mu   | 1.081743   | 0.267391 | 4.04554 | 0.000052 |
| [ln(Terrorist Index)].omega| 1.262180   | 0.373493 | 3.37939 | 0.000726 |
| [ln(Terrorist Index)].alpha1| 0.325864 | 0.203691 | 1.59980 | 0.109643 |
| [ln(Terrorist Index)].beta1| 0.000000  | 0.163272 | 0.00000 | 1.000000 |
| [ln(Terrorist Index)].eta1 | -1.000000 | 1.049934 | -0.95244 | 0.340873 |
| [Joint]dcca1              | 0.163819   | 1.044549 | 0.15683 | 0.875377 |
| [Joint]dccb1              | 0.000000   | 6.981642 | 0.00000 | 1.000000 |

There is insignificant relationship between terrorist attacks and stock market return in SRI Lanka.

Bangladesh

(Chart showing time series for Stock Return and ln(Terrorist Index) from 2000 to 2015)
Table 9: DCC GARCH Fit Bangladesh

<table>
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<th>Information Criteria</th>
</tr>
</thead>
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Optimal Parameters

| Parameter          | Estimate  | Std. Error | t value | Pr(>|t|) |
|--------------------|-----------|------------|---------|---------|
| Stock Return.mu    | 0.010648  | 0.003831   | 2.77946 | 0.005445|
| Stock Return.omega | 0.004271  | 0.002986   | 1.43052 | 0.152569|
| Stock Return.alpha1| 0.163813  | 0.054490   | 3.00629 | 0.002645|
| Stock Return.beta1 | 0.792481  | 0.076033   | 10.42286| 0.000000|
| ln(Terrorist Index).mu | 1.618416  | 0.230638   | 7.01712 | 0.000000|
| ln(Terrorist Index).omega | 0.084046  | 0.114350   | 0.73499 | 0.462346|
| ln(Terrorist Index).alpha1 | 0.056126  | 0.029768   | 1.88546 | 0.059368|
| ln(Terrorist Index).beta1 | 0.896545  | 0.090593   | 9.89638 | 0.000000|
| ln(Terrorist Index).eta11 | -0.125187 | 0.167417   | -0.74775| 0.454608|
| Joint dcca1        | 0.011194  | 0.033314   | 0.33600 | 0.736869|
| Joint dccb1        | 0.857881  | 0.076446   | 11.22210| 0.000000|
There is highly significant relationship between terrorist attacks and stock market return in Bangladesh.

5. Conclusion

The purpose of the study is to examine the impact of terrorism on stock markets of South Asia namely KSE 100 index of Pakistan, Bombay Stock Exchange of India, Colombo Stock Exchange of Sri Lanka and Chittagong Stock Exchange of Bangladesh with the help of GARCH methodology. The daily terrorism index for the period January 2000 to December 2016 was developed on the same pattern of Global Terrorism Data Base (2015) that was later on converted to monthly index and monthly stock market index was obtained from the data base.

The results show that there is highly significant but negative impact of terrorism on the stock markets of Pakistan, India, Sri Lanka and Bangladesh and there is a spillover effect of terrorist attack in one country to the stock markets of other countries. Results are in the same line with G. Andrew, Karolyi and Rodolfo Martell, (2006); Alam (2013); Aslam and Kang (2013); Ramiah and Graham (2013).

This research will open new horizons for the researchers of South Asia. As there is no prior study which elucidate the impact of terrorism of stock markets of South Asia. So the researchers may explore the new dimensions of the topic and discover new methods to research. The stock markets of South Asia can get benefit from this research that they now came to the results that terrorism can affect the stock markets so they can be more attentive to take serious measure to minimize impact of the terrorists’ attacks to stabilize the stock markets.

The investors can also be benefited from this research because this research suggests that terrorism attacks have negative impact on the stock markets of the country of attack and have positive impact on the stock markets of the other countries because of the spillover effect. So, investors will not invest in the country of attack instead they will invest in the other countries to gain the yields. On the same way, investors, financial institutions and securities agencies and governments can take preventive activities to reduce the risk and to mitigate the impact of terror and to combat the terrorism.

5.1 Limitations and Future Research

There are six countries in South Asia, namely, Pakistan, India, Bangladesh, Sri Lanka, Bhutan and Nepal. But only four countries like, Pakistan, India, Bangladesh, Sri Lanka was taken into consideration because of the unavailability of stock data of the Bhutan and Nepal stock exchanges. Therefore, in future researchers may incorporate all the six countries of South Asia in the research.

The period of sixteen years from January, 2000 to December, 2015 was taken into accounts for analysis, but in future, researchers may expand this tenure for further analysis.

To examine the impact of terrorism on stock markets of South Asia, stock market index calculated on the basis of stock market return was taken into consideration but in future, researchers may include the returns of listed companies in the stock exchanges of South Asia. In future, researchers may examine the impact of terrorism on profitability of the listed companies in the stock exchanges of South Asia. GARCH methodology with panel data for overall analysis and time series data for individual country’s analysis was used. In future, researchers may opt the different methodology for analysis.

There are many other reasons for the change in the value of market index but terrorism is one of them that is increasing day by day and spreading every moment with new tactics. There could be other variables like politics, economy, inflation, GDP, education and others that can influence the stock markets of South Asia. Therefore, for future research, these variables can be tested by the researchers to examine the impact of terrorism on stock markets of South Asia.

In this study impact of terrorism on stock market and spillover effect of terrorism was observed, whilst, in future, researchers may examine the impact of terrorism on stock return volatility. Terrorism incidents and country attributes may also be examined by the researchers in future. In this study, impact of terrorism on stock market has been tested but in future, researchers may examine the impact of terrorism on financial institutions and on economies of South Asia.
References


GTD (Global Terrorism Database) (2015) http://www.start.umd.edu/16gtd/search/Results.aspx?


IMF WP/05/60.


Ramiah, V., Cam, M., Calabro, M., Maher, D., & Ghafouri, S. (2010). Changes in equity returns and volatility across different Australian industries following the recent terrorist attacks. Pacific-Basin Finance Journal,

Appendixes
Robustness of Model (Actual data without winzorization)
DCC GARCH Fit  Pakistan

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Optimal Parameters

|                         | Estimate | Std. Error | t value | Pr(>|t|) |
|-------------------------|----------|------------|---------|---------|
| [Stock Return].mu       | 0.017955 | 0.005268   | 3.408131| 0.000654|
| [Stock Return].omega     | 0.005299 | 0.006781   | 0.781471| 0.434525|
| [Stock Return].alpha1    | 0.063358 | 0.033677   | 1.881355| 0.059924|
| [Stock Return].beta1     | 0.882296 | 0.086169   | 10.239111| 0.000000|
| [Stock Return].eta11     | 0.887945 | 0.580459   | 1.529729| 0.126084|
| [ln(Terrorist Index)].mu | 6.462133 | 0.048144   | 134.226143| 0.000000|
| [ln(Terrorist Index)].omega | 0.034128 | 0.022089   | 1.545045| 0.122335|
| [ln(Terrorist Index)].alphal | 0.190276 | 0.060188   | 3.191280| 0.001416|
| [ln(Terrorist Index)].betal | 0.783865 | 0.074003   | 10.592396| 0.000000|
| [ln(Terrorist Index)].etall | 0.129752 | 0.091782   | 1.413694| 0.157452|
| [Joint].dccal           | 0.001665 | 0.018942   | 0.087915| 0.929944|
| [Joint].dccb1           | 0.909292 | 0.072968   | 12.461476| 0.000000|

Conditional Correlation and forecasts

Elapsed time: 2.066293
DCC GARCH Fit    India

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Optimal Parameters

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|------------------------|----------|------------|---------|----------|
| [Stock Return].mu      | 0.007582 | 0.001439   | 5.269656| 0.000000 |
| [Stock Return].omega   | 0.002580 | 0.002649   | 0.973903| 0.330105 |
| [Stock Return].alpha1  | 0.149981 | 0.049338   | 3.039840| 0.002367 |
| [Stock Return].beta1   | 0.848864 | 0.058079   | 14.615639| 0.000000 |
| [ln(Terrorist Index)].mu| 5.364575 | 0.046095   | 116.380026| 0.000000 |
| [ln(Terrorist Index)].omega| 0.027692 | 0.034592   | 0.800522 | 0.423408 |
| [ln(Terrorist Index)].alpha1| 0.091624 | 0.062811   | 1.458723 | 0.144641 |
| [ln(Terrorist Index)].beta1| 0.890188 | 0.092178   | 9.657307 | 0.000000 |
| [ln(Terrorist Index)].etall| 0.232068 | 0.219348   | 1.057990 | 0.290060 |
| [Joint]dcca1          | 0.000000 | 0.000002   | 0.002329 | 0.998142 |
| [Joint]dccb1          | 0.928884 | 0.520602   | 1.784251 | 0.074383 |

Sri Lanka

![Graph showing Stock Return and ln(Terrorist Index) over time]
Conditional Correlation and forecasts

DCC GARCH Fit Sri Lanka

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Optimal Parameters

|                          | Estimate  | Std. Error | t value | Pr(>|t|) |
|--------------------------|-----------|------------|---------|----------|
| [Stock Return].mu        | 0.011332  | 0.004610   | 2.458375| 0.013957 |
| [Stock Return].omega     | 0.016044  | 0.010158   | 1.579492| 0.114223 |
| [Stock Return].alpha1    | 0.181895  | 0.064058   | 2.839536| 0.004518 |
| [Stock Return].beta1     | 0.614907  | 0.163990   | 3.749652| 0.000177 |
| [ln(Terrorist Index)].mu | 1.075850  | 0.251581   | 4.276353| 0.000019 |
| [ln(Terrorist Index)].omega| 1.260296  | 0.350264   | 3.598129| 0.000321 |
| [ln(Terrorist Index)].alphal | 0.330176  | 0.180367   | 1.830577| 0.067164 |
| [ln(Terrorist Index)].beta1| 0.000000  | 0.000000   | 0.000000| 0.999999 |
| [ln(Terrorist Index)].etall | -1.000000 | 0.952055   | -1.050359| 0.293553 |
| [Joint]dcca1            | 0.169446  | 0.164603   | 1.029418| 0.303283 |
| [Joint]dccb1            | 0.000000  | 0.769445   | 0.000000| 1.000000 |
**Bangladesh**

![Graph showing stock return and terrorism index over time.]  

**Conditional Correlation and forecasts**

![Graph showing conditional correlation over time.]  

---

**DCC GARCH Fit Bangladesh**

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Optimal Parameters

|                           | Estimate | Std. Error | t value  | Pr(>|t|) |
|---------------------------|----------|------------|----------|----------|
| [Stock Return].mu         | 0.010942 | 0.003914   | 2.7957   | 0.005179 |
| [Stock Return].omega      | 0.002814 | 0.002055   | 1.3695   | 0.170844 |
| [Stock Return].alpha1     | 0.221417 | 0.074890   | 2.9566   | 0.003111 |
| [Stock Return].beta1      | 0.793481 | 0.054765   | 14.4887  | 0.000000 |
| [Stock Return].eta11      | 0.270398 | 0.197355   | 1.3701   | 0.170654 |
| [ln(Terrorist Index)].mu  | 1.589794 | 0.134973   | 11.7786  | 0.000000 |
| [ln(Terrorist Index)].omega| 0.097171 | 0.126098   | 0.7706   | 0.440944 |
| [ln(Terrorist Index)].alpha1| 0.068509 | 0.045160   | 1.5170   | 0.129260 |
| [ln(Terrorist Index)].beta1| 0.880476 | 0.107798   | 8.1678   | 0.000000 |
| [ln(Terrorist Index)].eta11| -0.209964| 0.193845   | -1.0832  | 0.278740 |
| [Joint]dcca1              | 0.017591 | 0.033829   | 0.5200   | 0.603066 |
| [Joint]dccb1              | 0.846401 | 0.075416   | 11.2231  | 0.000000 |
The Adoption of Management Accounting Practices (Maps) in Small and Medium Enterprises (Smes) of Pakistan

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2 Assistant Professor, Department of Commerce, Bahauddin Zakariya University, Multan: zeeshanmahmood@bzu.edu.pk.
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ARTICLE DETAILS

ABSTRACT

The practices of Management Accounting have not been highly adopted in developing countries. But with increased importance of these practices, firms of developing countries are motivated to adopt MAPs. In this research, MAPs align with increased importance of SMEs have been studied and provide understanding to enhance adoption of MAPs in SMEs. This study outlines the usage of MAPs in Pakistani SMEs; identify the contextual factors that affect the adoption of MAPs by SMEs and finally explore perceived benefits and problems in adoption of these practices. A mixed methodology was used to collect data. A questionnaire with five categories of MAPs was used to examine the extent of use of MAPs by 100 SMEs of Multan from textile sector. Eight interviews were conducted to identify the factors, benefits and problems. However, the results shows that majority of respondent firms adopt traditional MAPs and other medium sized firms do more focus on contemporary MAPs. The findings of current study can be helpful and informative for practitioners and policy makers in the development of contemporary MAPs as well as provide deep insight for SMEs to enhance their business by adopting these practices.

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1. Introduction

Business competition has been intensified in modern business environment, both in developed and developing countries (Haron, 2013). Business owners wish to achieve higher position in market (Sleihat et al., 2012). To maximize profit and to stay competitive, management adopt best business strategies and techniques. Competitive advantages are possible when firms reduce cost of production and increase revenue. Management accountants are highly associated with the research and development of management accounting practices (MAPs). MAPs play an important role in ensuring that businesses stay competitive and profitable in the modern world (Ittner and Larcker, 1997). MAPs are important for productivity, pricing decisions and to control cost in an organization (Johnson and Kaplan, 1987). Management Accounting Practices (MAPs) include costing practices, budgeting practices, decision
support system, performance evaluation and strategic management accounting. To get success in dynamic market (Horngernet al., (2009) and to track the cost calculation and financial control manufacturing companies utilize MAPs (Uyar&Kuzey, 2016).

In any organization management accounting is the part of its control system (Frezatti, Aguiar, Guerreiro, &Gouvea, 2011). The role of management accounting has simply evolved from bookkeeping to increased decision making involvement (Bai & Krishnan, 2012; Walker, Fleischman, & Johnson, 2012). Managers use management accounting as a tool to perform their functions (Mahfar and Omar, 2004). By using these tools managers use this information especially financial information in essential way for planning, evaluating, controlling and in decision-making process to make competitive edge to the firms (Ashfaq et al., 2014). However, traditional management accounting much more criticized because it only focuses on internal process rather than external issues related with competition, customers value and competitive advantages.

Role of Small and Medium enterprises is of paramount importance in most of the economies of the world and they very much contribute towards servicing of their local communities and development of these countries (Devins, 1999). Aris (2007) argued that in an uncertain economy, country cannot depend much on foreign direct investment (FDI) and want to get more emphasis on SMEs as a new mechanism for generating the growth of its economy. EU defined SMEs that have valuation of balance sheet 27 million Euros and not exceeded from it and have annual turnover 40 million Euros or less from it (Schreyer, 2000). According to OECD (2000) SMEs are getting more importance because of its role in economic growth and sustainable development so, as a result SMEs entrepreneur activities increased in developing countries. SMEs also contribute in reduction of poverty and unemployment and developed domestic and export earnings.

According to Mitchell and Reid (2000) management accounting research has long been ignored the specifically in SMEs and, the topic was not considered ‘‘fashionable.’’ Small businesses have received only limited attention in the management accounting literature (Mitchell and Reid, 2000), despite their economic importance. It is noted that inability of required use of MAPs drag SMEs towards failure. It is noted that poor management system is the cause of business failure especially in small business (Wichmann, 1983).

The SMEs get social and economic importance however there is a lack of research in this sector especially to know the use of management accounting techniques in such firms (Nandan, 2010). Some of such studies are found on management accounting practices (MAPs) in SMEs in developed countries. Drury et al. (1993) investigated MAPs in SMEs and found that SMEs use simplest techniques but large businesses use limited activity-based costing (ABC), sensitivity analysis, and market research.

The purpose of this research study is to explore the extent of use of MAPs in SMEs, factors that determines the use of different MAPs and benefits and problems in implementing these MAPs. This research aims to fill this gap by investigating which MAPs are followed by SMEs of Multan potential benefits and challenges of implementation. Pakistan is one of the countries that emphasizes heavily on SMEs sector for generating faster growth in the national economy. Furthermore these type of studies also playing a potentially important role in informing the development of new practices that meet changing business needs for organizations (Unerman and O’Dwyer, 2010).

Objectives:
- To investigate the extent of use of management accounting practice in SMEs.
- To investigate the factors that determines the use of different MAPs in SMEs.
- To explore the benefits and problems for implementing these MAPs in SMEs.

2. Literature Review
2.1 Management Accounting Practices
Management accounting practices (MAPs) are known as the most important practices in any organization to stay competitive and sustainable. Performance evaluation as MAPs is crucial function of management accounting (Emmanuel et al., 1990). To achieve strategic objectives of organization (Jusoh and Parnell, 2008) and to provide information to managers and employees (Hall, 2008), performance evaluation is much more important. A final set of MAPs include strategic management accounting (SMA). SMA is to provide financial information analysis to the
firm on its product markets. More recently, five dimensions of SMA usage are described by (Cadez and Guilding, 2008) are the costing; control, planning and performance measurement; strategic-decision making; competitor accounting; and customer accounting.

Several factors affect the adoption of management accounting practices. These factors mainly relate to the broader institutional and organizational environment in which the organisation operates (e.g., Hopwood & Miller, 1994; Hopwood, 1983; and Chapman et al. 1990). These factors are part of the bigger context which must be understood for understanding accounting practices (Martin Messner, 2016). The use of MAPs is context-sensitive. Contingency theory is the dominant theoretical perspective that affects adoption of MAPs (Gerdin & Greve, 2004). This theory explains and elaborates different factors that determine whether particular MAPs are more and less useful for particular situation of the organization (e.g., Otley, 1978; Hirst, 1981; Ezzamel, 1990; Gerdin and Greve, 2008).

The literature on extant of use of MAPs describes various settings in which firms use these practices. Messner (2016) argue that the adoption of MAPs differs as the size of organization (small or large), organization’s purpose (profit or non-profit), its ownership type (private or public). Countries adopt MAPs according to environmental (political, cultural, economical) change (Hopper, 2000). The history of accounting shows that MAPs always enhance productivity and efficiency and useful in financial control and planning (Han Kang Hong, 1991).

Sulaiman et al. (2004) summarized the results of adoption of MAPs in four developing countries China, Singapore, India and Malaysia. Their result indicates that these Countries not mainly focused on contemporary management accounting practices. The probable reasons of low adoption rate is lack of expertise, lack of new techniques awareness and more importantly lack of top management support (Sulaiman et al., 2004). Lastly Frezatti (2007) investigate MAPs in medium and large companies operating in manufacturing and non-manufacturing sectors in Brazilian. The results showed that adoption of traditional practices like budgeting was more focused compared with recent management-accounting practices for example activity-based costing, balanced scorecard and economic-value added.

2.2 Management Accounting Practices and SMEs

Despite considerable interest in manufacturing and other industries (Chenhall and Morries, 1986; Chenhall and Langfield, 1998, Gichaaga, 2013) relatively a few studies have been conducted on the improvement of accountability and firm performance on SMEs through MAP. Most researchers focus to study MAPs in larger firms. Only fewer studies are found to examine contingent factors of MAPs in SMEs (Ahmad & Zabri, 2015). As organization grows up (smaller to medium or large) the use of MAPs increases. Cadez and Guilding (2008) found that strategic management accounting (SMA) usage is positively associated with company size. Burns and Scapens (2000). Bititici (2013) argue that to get sustainable and higher performance of SMEs is depicted by adoption of healthy MAPs.

2.3 Adoption of Management Accounting Practices in SME

2.3.1 Extent of Use

Adoption rate of MAPs is as differ as the firms is more context-sensitive. Recently developed MAPs are highly adopted by larger firms in contrast to small and medium sized firms (Joshi, 2001). In India, the percentage of the extent of use of MAPs was 40 per cent. In Singapore it is noted that extent of use of MAPs is slightly low, Firms that have foreign partners use more contemporary MAPs.

2.3.2 Factors

Cadez and Guilding (2008) and Albu and Albu (2012) revealed that size is one of the crucial contingent factor that affect the use of MAPs. As firms growing larger they have more complex structure and operations so they highly need to adopt MAPs. Size is an explanatory factor to increased use of MAPs with the increased complexity and more decentralized decision-making. Second factor is educational background of owner, manager or decision-maker. As much owner-manager trained and have past experience about MAPs they used MAPs in better way. The third factor that CIMA (2013) described is the nature of the firm’s operations. Last factor influencing MAPs in SMEs was the diversity of business segments. When firms put eggs in different baskets they need more financial and non-financial information for decision-making.
External stakeholder requirements are also a one of the factor that influences the use of MAPs. In MAPs literature, Hyvonen (2005) contribute by saying that in Greece, preference of variable costing is not that much popular due to the lack of external reporting and accounting restrictions. Wu, Boateng & Drury (2007) disclose that in the adoption of MAPs ownership type also plays a vital role. It is also observed by Islam (2005) that the information and practices of MA can also be improved if firm have a clear and deep understanding about principal-agent relationships.

2.3.3 Benefits and Problems

One of the benefits of MA is that it provides many competitive advantages for SMEs. It is evidential that management accounting helps to provide better informative environment to create decision-making value (operational and financial decisions) and a core competitive advantage for an organization (Islam & Kantor, 2015).

Whilst acknowledging that MAPs is under-researched in developing countries and previous researchers show that SMEs get little attention in MA research (Mitchell and Reid, 2000; Nandan, 2010. CIMA (2013) report that MA practices are not satisfactory in SMEs, and failing to leverage MA potential for helping them to achieve profitability and liquidity as financial objectives. Past literature shows that MAPs improve total quality management, financial performance and increase intensity of market competition (Ittner and Larcker, (1995); Sim and Killough, (1998); Mia and Clarke, 1999; Laitinen, (2006).

A key barrier in adoption of MAPs in SMEs is lack of communication skills (internal or external) of management. The top management do not communicate effectively with lower management in implementing the change in their organization so lower management do not accept change (Aylin Ates, 2013). Mitchell and Reid (2000) argued that the lack of management and accounting skills (partial or complete) is due to the inappropriate training in SMEs for their owner and staff. Researcher provide different reasons of widely use of traditional MAPs in developing countries (Tho et al. (1998). They explain that SMEs cannot adopt MAPs without support of top management. The most important reason of low adoption rate of MAPs in SMEs is the lack of expertise and knowledge about MAPs. Challenges occur in Malaysian SMEs and explained by National SMEs Development Council for SME Master Plan, 2012-2020 (Hamzah, 2012). Rahman (2015) describe problems in adopting MAPs in his study. The reasons are lack of access of loans to SMEs to adopt new accounting practices, limited knowledge of innovation due to the lack of training and expertise, limited adoption of new technology, lack of human resource. As a consequence, MAPs are less formalized and sophisticated in small firms than larger firms (Quinn 2011).

3. Research Methodology

Research methodology is the main part of any study. This research gathers empirical evidence that give an overview of “Adoption of management accounting practices in Pakistani SMEs”. The research also gauges the extent of factors that contribute to the use of MAPs and benefits and problems which result from implementing MAPs. In addressing the research objectives, the data were obtained from questionnaire responses and subsequent semi-structured interviews. The questionnaires and semi-structured interviews were conducted with managerial staff of SMEs and expert personalities (i.e. trainers and consultants). Questionnaire helps to describe extent of use of MAPs in a Pakistani SME context. And semi-structured interviews sought to identify more dominant factors and benefits and problems of MAPs as advanced in the research-practice literature.

3.1 Target population

The target population of this study is the SMEs of Pakistan. Research questions are required to acknowledge the adoption of MAPs in Pakistan’s SMEs. This study concentrates on manufacturing sector of SMEs for gathering relevant data. This study was conducted in Pakistani context and targets the manufacturing SMEs. Data were collected from the Textile sector of SMEs in Multan. The reason to select only manufacturing sectors in order to avoid distractions among different sectors. This sector highly contributes in Pakistan’s economy and exports. In recognition to see this high contribution in economy and government of Pakistan aggressively support this sector. Besides its vital role in Pakistan economy, this is the most suitable sector for research to investigate MAPs as textile sector has a higher proportion of medium sized enterprises that are most likely to use MAPs.

3.2 The questionnaire
It is quantitative type of study and uses for descriptive purpose and empirical testing of the responses. This study used a questionnaire to explore the use of MAPs in Pakistan’s SMEs which includes five sections of MA practices such as costing system, budgeting system, performance evaluation system, decision support system and strategic management accounting. These five sections further divided into specific type of 43 items.

3.3 Interviews
Interview questions are open-ended and allow interviewee to add something new that is appropriate. Interviews are semi-structured which provide potential of insight of the situations. Researcher finds many new things for further research. There is no substitute of interviews that discover important phenomenon from different situations. List of SMEs was taken from Multan Chamber of Commerce and Industry. Researchers conducted conversation with managers and accountants of the SME on MAPs. When the free-flowing conversation ceased, the protocol provided a list of open “prompt” questions.

4. Discussion and Findings
4.1 Extent of the use of Management Accounting Practices
One of the core objectives of this study is to investigate extent of use of MAPs (43 practices under 5 broad headings). The questionnaire first investigates about firm whether respondents used each practice in their firm or not. The enquiry was made to investigate 43 practices’ usage by five-point Likert scale where 1=Never, 2 =Rarely, 3=Occasionally, 4=Frequently and 5=Very Frequently. The following five subsections discuss further details.

4.1.1 Costing system
Four practices such as job costing, batch costing, contract costing and process costing are headed under the cost collection system and other three absorption costing, variable costing, absorption and variable costing and ABC are evaluated under costing techniques. The results surprisingly show that the respondent SMEs highly use costing system in their organizations. Table 2 shows the percentage of costing system usage in Multan SMEs of textile sector.

Table-1: Costing System

<table>
<thead>
<tr>
<th>Extent of Use</th>
<th>Cost Collection System</th>
<th>Cost Techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>JC</td>
<td>BC</td>
</tr>
<tr>
<td>Never</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Rarely</td>
<td>4%</td>
<td>8%</td>
</tr>
<tr>
<td>Occasionally</td>
<td>13%</td>
<td>3%</td>
</tr>
<tr>
<td>Frequently</td>
<td>70%</td>
<td>71%</td>
</tr>
<tr>
<td>Very Frequently</td>
<td>10%</td>
<td>16%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

JC= Job costing, BC=batch costing, CC=contract costing, PC= process costing, AC=Absorption costing, VC=Variable costing, ABC=Activity Based Costing
Table 1 shows that process costing in cost collection system is highly used in SMEs. It is observed that Medium sized firms more actively used process costing (60% frequently and 30% very frequently). Batch costing is also significantly use in SMEs because it have positive relation with product quality. The next method that is mostly used is batch costing among respondent firms. They employed 71% batch costing frequently in their firms that is highly depend on their size of business. On the other hand, the extent of use of contract costing is relatively low and 47% used this frequently on their regular based contracts.

For costing techniques, the most frequently used method in SMEs is variable costing (68%). Absorption costing is second costing technique which is only 9% behind variable costing. The results indicate that ABC is not used much more in SMEs. The given percentage reflects that medium sized firms rather used ABC than smaller firms. The use of ABC is lower and consistent with many previous studies such as Abdel-Kader & Luther (2008). It is also observed by past studies (Armitage & Nicholson, (1993); Innes & Mitchell, (1995) that the use of ABC was relatively low and only 20% firms implement this practice.

4.1.2 Part B: Budgeting system
In this study the use of budgeting systems was investigated as the second MAPs. Sales budget, purchase budget, production budget, cash flow budget, financial performance budget, incremental budget and zero-based budget are found under budgeting system. Table2 summarizes the results.

Table-2: Budgeting System

<table>
<thead>
<tr>
<th>Extent of use</th>
<th>SB</th>
<th>PB</th>
<th>Pr. B</th>
<th>CFB</th>
<th>FPB</th>
<th>FB</th>
<th>IB</th>
<th>ZBB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>2%</td>
<td>1%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>10%</td>
<td>13%</td>
<td>24%</td>
</tr>
<tr>
<td>Rarely</td>
<td>3%</td>
<td>2%</td>
<td>0%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
<td>22%</td>
<td>36%</td>
</tr>
<tr>
<td>Occasionally</td>
<td>10%</td>
<td>13%</td>
<td>6%</td>
<td>5%</td>
<td>3%</td>
<td>44%</td>
<td>17%</td>
<td>11%</td>
</tr>
<tr>
<td>Frequently</td>
<td>68%</td>
<td>70%</td>
<td>72%</td>
<td>85%</td>
<td>89%</td>
<td>34%</td>
<td>44%</td>
<td>32%</td>
</tr>
<tr>
<td>Very Frequently</td>
<td>17%</td>
<td>14%</td>
<td>22%</td>
<td>6%</td>
<td>4%</td>
<td>9%</td>
<td>4%</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SB=Sales Budget, PB=Purchase Budget, Pr. B=Production Budget, CFB=Cash Flow Budget, FPB=Financial Position Budget, FB=Flexible Budget, IB=Incremental Budget, ZBB=Zero Based Budget

Table 2 shows that the majority of firms (respondent) highly uptake budgets in their organizations as traditional MAPs. Under the eight budgets, production budget was used much more than other budgets. Sales budget was also used frequently being adopted by respondent firms as it indicates firms raising revenue from firm’s success.

Under the budgeting system it is noted that the uptake of all type of budgets are more used in medium sized firms in comparison with smaller firms. But the ZBB and incremental budget is the less implemented budgets in overall respondent firms. SMEs probably face high level of uncertainty in the mediating use of flexible budgets.
The production budget gets first rank with the highest percentage of users (94% frequently and very frequently). The other budgets such as sales budget, purchase budget and financial measure budgets and cash flow budgets also indicate high use in SMEs. When frequency of use is considered, ZBB and flexible budget are least used as of the reporting use of ZBB is 32% and flexible budget frequently used 34% of total respondent firms.

The high usage of full budgeting system is highly matched with previous studies (Shields et al. (1990); Yoshikawa (1994) and Chenhall and Langfield-Smith (1998) and Ahmad et al. (2003). Drury et al. (1993) concluded that only 42% of respondent firms in UK implement flexible budget. Szychta (2002) describes only 5% and 28% usage of ZBB by respondent firms respectively and this usage percentage was very low.

4.1.3 Part C: Performance Evaluation System

Third part of the questionnaire includes two perspective financial measure and non-financial measure of performance evaluation system of the firm. The financial measures included Operating Income, Return on Investment, Variance Analysis, Sales growth, cash flow, and non-financial measures were grouped by no. of customers complaints, customers satisfaction survey, no. of warranty claims, on-time delivery, manufacturing lead time/ cycle time, defect rate, employee turnover, absentee rate. Results are shown in table 3.

Table 3: Performance Evaluation System

<table>
<thead>
<tr>
<th>Extent of use</th>
<th>Performance evaluation practices</th>
<th>Financial Measures</th>
<th>Non-financial Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OI</td>
<td>ROI</td>
<td>VA</td>
</tr>
<tr>
<td>Never</td>
<td>0%</td>
<td>9%</td>
<td>0%</td>
</tr>
<tr>
<td>Rarely</td>
<td>0%</td>
<td>2%</td>
<td>0%</td>
</tr>
<tr>
<td>Occasionally</td>
<td>7%</td>
<td>32%</td>
<td>16%</td>
</tr>
<tr>
<td>Frequently</td>
<td>80%</td>
<td>49%</td>
<td>66%</td>
</tr>
<tr>
<td>Very Frequently</td>
<td>13%</td>
<td>8%</td>
<td>18%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OI=Operating Income, ROI=Return on Investment, VA=Variance Analysis, SG=Sales Growth, CF=Cash Flow, NCC=No. of customers complaints, CSS=Customers satisfaction survey, NW=No. of Warranty Claims, OTD=On-Time Delivery, MLD/CT=Manufacturing Lead Time/ Cycle Time, DR=Defect Rate, ET=Employee Turnover, AR=Absentee Rate

The results indicate that majority of firms employ performance evaluation system in their firms to acknowledge both financial and non-financial measure. This system was mostly seen in Medium sized firms. Results show that smaller firms do more emphasis on financial measure than non-financial measures due to the lack of resources. The least considered measures are warranty claims and absentee rate in performance evaluation system.

The use of financial and non-financial measures decreases from 89% to 15% respectively in case of financial and non-financial measures. Operating system is most popular financial measure in performance evaluation system and return on investment is least used measure. In non-financial measure on-time delivery (46%) get highest percentage
and absentee rate (15%) get lowest percentage. In the case of warranty claims, it is evaluated that only 32% of respondents firms use warranty claims and most firms do not offer warranties.

The individual survey on customer’s satisfaction does no implement because SMEs have lack of resources to adopt each and every practice of MA. The reason of low usage of customer satisfaction survey is perhaps because firms already used primary tool of customer’s complaints to evaluate customer-based performance. Lastly employee-based measures such as employees’ turnover and employees’ absentee rates are doing not much more focused.

The results of performance evaluation system are constant with previous studies such as Phadoongsitthi (2003); Joshi (2001); Jusoh and Parnell (2008); and Abdel-Kader and Luther (2006);. With regard to non-financial performance measures previous studies conclude that firms use more on-time delivery and customers complaints measure (see for example, Chenhall and Langfield-Smith (1998); Abdel-Kader and Luther (2006); Abdel-Maksoud et al. (2008); and Phadoongsitthi (2003). The results are clearly shows that the significant number of respondents has implement performance evaluation system in their firms but they rely more on financial measures than non-financial measures.

4.1.4 D: Decision support system

Table 4 summarises the responses of extent of use of decision support system and dividing into two approaches such as short-run analysis and long-run analysis.

The results show that SMEs do not use more sophisticated approach to MA. In the short-run category PPA used more frequently in contrast to other decision support systems. The adoption of other three techniques is slightly low by respondent firms who use decision support system. Meanwhile under the long-run category, the overall uptakes are rather lower than the first category. Under the long-run category, payback technique is the leader of other decision support techniques and gets highest percentage 38% of respondent firm.

Table-4: Decision Support System

<table>
<thead>
<tr>
<th>Extent of use</th>
<th>Short-run Analysis</th>
<th>Long-run Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BEA</td>
<td>SCM</td>
</tr>
<tr>
<td>Never</td>
<td>30%</td>
<td>24%</td>
</tr>
<tr>
<td>Rarely</td>
<td>23%</td>
<td>2%</td>
</tr>
<tr>
<td>Occasionally</td>
<td>15%</td>
<td>42%</td>
</tr>
<tr>
<td>Frequently</td>
<td>32%</td>
<td>29%</td>
</tr>
<tr>
<td>Very Frequently</td>
<td>0%</td>
<td>3%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

BEA=Break-Even Analysis, SCM=Stock Control Model, PPA=Product Profitability Analysis, CPA=Customer Profitability Analysis, PB=Payback, ARR=Accounting Rate of Return, NPV=Net Present Value, IRR=Internal Rate of Return

The adoption rate of long-run analysis is very low as given importance of investment decisions in smaller firms. Results indicate that Payback technique used more in long-run analysis. Overall result shows that the capital investment techniques are not frequently used by SMEs and the results are convergent with previous studies such as
Chenhall and Langfield-Smith (1998); Drury and Tayles (2006); and Joshi (2001) which reported that the usage of product profitability technique was more than 80% in respondent firms. Overall results depict moderate use of decision support system by SMEs and lower use of short-run analysis beyond product profitability. It is also noted that respondent firms do not highly focused on long-run decision-making techniques

4.1.5 Part E: Strategic management accounting (SMA)
The extent of use of SMA is analysed by six relevant variables shown in Table 5.

Table-5: Strategic Management Accounting

<table>
<thead>
<tr>
<th>Extent of use</th>
<th>TC</th>
<th>SC</th>
<th>ACA</th>
<th>PDMS</th>
<th>VFPD</th>
<th>SCD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>22%</td>
<td>49%</td>
<td>42%</td>
<td>30%</td>
<td>25%</td>
<td>29%</td>
</tr>
<tr>
<td>Rarely</td>
<td>21%</td>
<td>2%</td>
<td>17%</td>
<td>25%</td>
<td>37%</td>
<td>32%</td>
</tr>
<tr>
<td>Occasionally</td>
<td>5%</td>
<td>26%</td>
<td>26%</td>
<td>15%</td>
<td>23%</td>
<td>19%</td>
</tr>
<tr>
<td>Frequently</td>
<td>46%</td>
<td>21%</td>
<td>15%</td>
<td>28%</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>Very Frequently</td>
<td>6%</td>
<td>2%</td>
<td>0%</td>
<td>2%</td>
<td>0%</td>
<td>5%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6 shows that the usage of strategic management accounting practices are relatively low to other practice. Small firms have a considerably lower adoption rate than medium sized firms. As noted by Ahmad (2015), SMA is an advanced MAP and more likely to be employed by larger firms who will have a more sophisticated approach to strategic planning. SMEs do not SMA frequently. The number of respondents using SMA is not much higher and highest usage of target costing is 46%. ACA and SCD are not popular techniques among SMEs and percentage is very low about 15% both.

Table 5 shows that strategic pricing, target costing and life cycle costing are the top three techniques used by respondents. Abdel-Kader and Luther (2006) found that just under a quarter of British firms often employed target costing.

4.2 Factors
The following factors affect the use of MAPs.

4.2.1 Size of Firm
Size is one of the factors for the use of MAPs. As noted, company size is a key factor for the adoption of management accounting in any organization (Askarany, Yazdifar, and Askary 2010).

Smaller firms have simpler accounting system. If size of firm is large and they do not implement any management accounting practices, than things going to complex. As size grows up, need of implementation of these practices also grows.

Some responses from different interviewees:
- Using management accounting practices is a well and balanced way to avoid unfavourable conditions. Maximum penetration of MAPs is necessary according to the size for the better performance of SMEs.
- Yes somehow size is very important factor to adopt MAP. Increased firms size demand change and we must have to implement new techniques and procedures to alive our firm.
- Smaller firms do not focus too much on MA practices. Because they do not feel it is necessary for their simple transaction. But as things going complex it’s necessary to bring change.
- We have hundreds of transaction on daily bases. So to make things easy and more visible we adopt MAPs. If we do not implement MAPs than I don’t think its sensible decision” (Interviewee-8)
4.2.2 Competition

Competition is one of the important factors that bring change in any organization. As noted, MA system needs to analyse organizations completely and define its competitive position (Ashton et al., 1991). Some responses from interviewees are placed below:

- In the race of competition it is very satisfactory to adopt management accounting practices. I think competition is main factor that any organization make a change or adopt practices. It is a requirement to maintain organizational performance to compete others.
- If we talk about factors that increase the usage of MAPs, competition is one of them. In competitive business environment, organizations must have to focus on their accounting system. It’s much more necessary for survival.
- Competition is one of the factors that explain why we adopt different management accounting practices. MAPs are developed to respond to changes in the competitive environment.
- I don’t think anything influence the use of new practices as competition does. Competition perceived as the most important external factor for activating managers to start work on a new system. And MAPs one of the system that used as much as competition increase.
- If you want to survive you have to compete. If you compete, you have to change. Moreover, for change you have to adopt new things. MAPs is one of the necessary thing to compete” (Interviewee-5)

4.2.3 Organization’s Structure And Environment Uncertainty

Usage of MAPs also influenced by organization’s internal financial restructuring (Laitinen 2011). Amara & Benelifa (2017) argued that organizational structure include accounting information system of the firm, ownership structure (Lavigne, 1999), sector of activity (Dupuy, 1990) and age of firm (Ngongang, 2013) and mainly the size of firm. Major responses are given below:

- When small and simple things are going on than, no need to make hundred types of budgets. All things are simply done by an accountant or a manager. But when we start diversifying in other business segments and nature of operations and organization structure change its time to change our accounts and adopt management accounting practices. These practices help us to meet our goals.
- Growing change in business environment, economic activities and development of the accounting profession pressurse us to adopt management accounting practices.
- Diversification of business operations and ownership, and the increasing complexity of business transactions demanding us to implement management accounting practices. After implementation we are ensure about better results.
- The structure of our organization required to integrate management accounting practices. It is necessary to align things in proper way. Organization structure and content in which organization work must be match with each other. MAPs have done things in simple and appropriate way and provide an environment to operate organizations in good manner.
- MAPs help us to define capital structure of our firm. We are able to control our operations and better manage resources.
- In Pakistan we are not certain 100% about anything. Policies and rules changed. Even prices are not determined. To sustain financial position we must adopt that type of practices that help us to pre-plan things. And as we know firms adopt MAPs to make better decisions.

4.3 Perceived benefits

4.3.1 Decision Making

Management accounting practices are important more beneficial for all organizations in different ways. One of the benefits is that it helps in planning and decision-making. Management accounting practices are the decision support system that serves the management at all levels (Grandlund and Lukka, 1998). Major responses are as under:

- To stay in touch with modern economy it is crucial to adopt and maintain management accounting practices for SMEs. These practices are helpful in decision-making process. In the access of relevant information for decision making process management accounting helps a lot.
• We use information in management accounting as a decision-making tool. Management accounting practices especially different types of budgets give a clear view to make decisions and helps to develop best business strategy.
• In the living world, it’s feel necessary to compete with your competitors. Without any competition, we cannot step ahead. So to achieve our goals it’s necessary to use MAPs because it gives advantage to make decision about changing trends.
• We have to face countless decisions on daily bases in business day. With the assistance of management accounting practices, it is possible for us to make best decisions. Mostly in small business we have to use this powerful tool to make our business more successful.
• If we see overall performance of our organization, Management Accounting Practices contributes a lot. It makes things simple and well mannered. It helps in decision-making process. It provides environment to management to facilitate financial decision-making. We are able to make decisions according situations and using net present value (NPV) or internal-rate-of-return (IRR). In textile sector management accounting practices are much more useful.
• In continuously changing environment we have to ensure MA is practiced in organization. A wrong decision can spoil whole organization. So it’s very critical to have MAPs in firm. It is not wrong if I say it is the backbone of the firm”

4.3.2 Accuracy of results
MAPs are crucial and beneficial for all the organizations. One of the perceived benefits is that it provides accurate results to organization. Accurate and validate results can increase the efficiency and effectiveness of the firm. The interviewee’s comments follows:
• A healthy and good record is only possible when we use the management accounting practices so that to get the exact results, in other words auditing and accounting practices must be aligned with each other”(interviewe“If the question is about the accuracy and validity of results it can only be possible after implementing Management accounting practices. With the passage of time usage of MAPs increase after seeing its perceived importance.
• I feel inspired after implementing these practices because these practices improve the efficiency of operational management by providing more insight into the results.
• We get a road map by using management accounting practices and get accurate results. The result helps us in making decisions and in continues improvement. It is a more structured way that we implement in our organization and get high scores.
• Not putting MA into practice can be harmful in result of negative outcomes. Through MAPs we can get expected results easily. It is the easy and straight forward way to get accuracy in results. After implementing these practices especially costing practices we are assure about results.
• Mostly it is noted by us that failure of firms are due to the inaccurate results. Budgets are out of control. Due to this importance of MAPs has increased more today than ever. It is the proper way that firms want to implement to sustain in competitive environment. It is the easy way to match detail performance or budgets with actual results.

4.3.3 Organization performance
There is a direct link in the MAPs and organization’s performance. The researchers argue that business performance increase dramatically after the implementation of management accounting practices in SMEs (Hakola 2010; Laurinkeviciute and Stasiskiene 2011; Sousa et al. 2005; Zengin and Ada 2010). Comments of interviewees are given below:
• We are implementing Management Accounting practices because it increases organization performance. By using management accounting practices we make production budget on monthly and yearly bases. If we will not doing this we will not be able to judge our sales and demands.
• Performance of organization depends on the way in which organization work out. If organizations have a simple structure than I think no need to use MAPs. But if complexity of work increase than it is necessary to adopt MAPs. If we employed MAPs and strategy in alignment than we can get highest performance.
• Implementation of MAPs create a standard for organizations and defiantly effective for organization and its performance.
• No matter how the things are going on if your organization performance not increased than it’s useless. For me MAPs is the tool to increase organization’s performance. It is the well-mannered way to structure any organization.

• We learn different perspectives by implementing new techniques. MA system helps us a lot to judge different things in different angles. And then we are able to make best decisions for the betterment of organization.

4.3.4 Competitive Advantages
It is observed that MAPs create much more competitive advantages for organization especially SMEs. It helps SMEs to compete with other large organizations. For instance, low adoption rate of MAPs can hamper global competitiveness for SMEs (Greenhalgh 2000). The interviewees say:

• For the textile sector management accounting practices makes our work easy. We have achieved the greater command on all our operations and functions of our organization through an efficient and effective approach. It contributes many competitive advantages for us.

• At the time of adopting new program such as Management Accounting Practices we deeply observed that it is very useful to survive in competitive environment. We analyse that management accounting practices change or approach daily operations and organize it in the systematic way and provide support to compete with others.

• Perceiving MAPs is fruitful in the way it reduced companies’ operational expenses. If organization reduce its operational expance, it is more beneficial for it in competitive environment. Information in management accounting is used in a proper way to make a review of cost of economic resources and help us to understand how we can spend our money in better way.

• MAPs provide a comprehensive knowledge to us related with markets, customers and products. Then we have to search new ways in order to attract our customers and get competitive advantages.

• We feel pressured more than ever in this technology-based competition. We have to find new ways to compete. Today’s competitive business environment it is very tough to sustain. If you do not use latest MA system than you face tough time.

4.4 Problems
4.4.1 Lack of Skills
The key constraints in MAPs adoption is a shortage of staff that have abilities to carry out these practices. Comments of the interviewees are given below:

• Basically every organization wants to improve their performance. If they are not using these beneficial practices then there is a reason behind it. At the start of business every transaction simply recorded and no need to hire much more staff but with the passage of time as size increase we start hiring staff who are expert in management accounting practices and give training to older staff.

• When we were not implementing MAPs we have no appropriate staff, skills and knowledge about management accounting practices. The major problem is the lack of financial management skills in having proper accounting systems. If we are not able to hire new skilled staff we have to train older staff.

• Typically, we have short staff that performs accounting plus managerial practices. The same accounting staff would have to handle both financial and MA work in each enterprise. These staffs are not too much trained. To achieve highest goals we must adopt MAPs and staff that perform these practices.

• Lack of managerial and technical skills is the main obstacles that create issues in the adoption of MAPs. And create hurdle in the success of SMEs.

• Knowledge on MAPs is the basic need and I think it’s not wrong if I say it is the right of the employees to learn more and more. And without training and skills firm cannot get sense of stability.

4.4.2 Limited Resources
A possible reason is that larger organizations have greater resources than their smaller counterparts and can, therefore, afford to adopt more sophisticated MAPs (Haldma and Laats, 2002; Al-Omiri and Drury, 2007; and Abdel-Kader and Luther, 2008). The interviewees say:

• If anyone knows the benefit of these practices and not using these than only the reseon behind it is the lack of resources.
To identifies, measure, analyse and accumulate management accounting information, organization need resources. But if firms have limited resources then it cannot bring a change.

As management accounting helps in to reduce the wastage of resources. But it is only possible when we have enough resources to implement MAPs” (Interviewee-6)

It is more expensive to adopt MAPs. And training on these practices are quite insensible for smaller firms that have few resources.

5. Conclusions
SMEs operate in different sectors but one of the most important sectors is textile sector. Contributions of textile sector are remarkable in Pakistan’s economy in terms of GDP, investment, exports, employment and foreign exchange earnings. It contributes around 46% of the overall manufacturing activities, 35% of country’s labour force and 31% of total investment is related to this sector.

Results have concluded that the management accounting practices permit SMEs to compete with competitors and reduce business failure. It is necessary to enhance knowledge on usage of MAPs among SMEs in Pakistan after evaluating above advantages. This study filled a gap by taking SMEs as a population to investigate adoption of MAPs and it is confirmed that this research helps policy makers in better decision-making. This study addresses the current state of usage of MAPs by SMEs in Pakistan. Five sub-types of MAPs identified such as costing, budgeting, performance evaluation, decision-making and Strategic management accounting. It is viewed that usage of these practices are significantly high in both small and medium sized enterprises. The usage percentage varies according to respondents. Small firms use these practices 45% to 76% and it ranges from 67% to 86% among medium sized enterprises. The results reviled that high usage of MAPs partly explained by highly qualified staff (94%) and reasons behind low usage is less qualified staff (68%) in small firms.

The results also shows that past MAPs such as costing, budgeting and performance evaluation are higher (76% to 83%) than contemporary MAPs (51% to 63%) such as decision support system and SMA. It is observed that larger firms concentrate more on contemporary MAPs and learn more new techniques and ideas in contrast to smaller firms.

Results revealed that medium sized enterprises use these practices more than small enterprises and SMEs use financial-based MA practices (financial budgeting, financial performance measures, and product profitability analysis). SMEs use process costing and variable costing in conventional costing system. Non-financial measures are taken as important element in SMEs and these measures relate to internal processes and are customers-oriented. It is also noted that contemporary MAPs get lower attention by Pakistan’s SMEs.

In brief, results conclude that textile sector of Pakistan’s SMEs makes wide use of past MAPs and only use selective modern practices. Adoption of these MAPs is highly affected by qualified staff of the firm. Size of organization is the important factor in adoption of MAPs. Larger firms can handle their complex operations because they have larger resources to adopt MAP and these firms employ new MAPs because they have highly qualified accountants and resources to give training (see Chenhall and Langfield-Smith, 1998 and Abdel-Kader and Luther, 2008). Results of this study are also coherent with previous studies on MAPs in developing countries (Ahmad, 2015; Karanja, 2014; Joshi, 2001; Phadoongsitthi, 2003; and El-Ebaishi et al., 2003).

The analyses of result suggest that adoption of MAPs were affected by several factors. This study revealed that the textile sector of SMEs of Pakistan is more affected by contingent factors such as size of the firm, competition, organization’s structure and environment in which it operates. As such respondents argue that MAPs is much more helpful in planning, controlling, evaluating performance and in decision making. So it is necessary to adopt MAPs as size of firm increases. Competition is the important factor that influencing the choice of MAPs.

One of the factors that affect organizational structure is environmental uncertainty (Gull et al., 1994). As environmental uncertainty increases, organizations have to use more MAPs to deal with uncertainty. Firms that perceived low level of environmental uncertainty can easy predict market conditions and use low level of MAPs. Results indicate that the adoption of MAPs depends upon some contingent factor. These factors force out firms to adopt MAPs. Size of the firm, competition, organizational structure and environmental uncertainty have positively related with adoption of MAPs.
This study concludes specifically the benefits and problems on the adoption of MAPs. It is found that firms that use more MAPs do get perceived benefits. The firms that have low usage of MAPs are facing the problems of lack of training and skills and lack of resources. Moreover, the study concludes that MAPs act as supporting tool that increase overall performance of organization and helps SMEs to manage their resources to get firms objectives. It also revealed that MAPs helps management to effectively and efficiently manage organizations operations.

6. Implications

It is necessary for SMEs to compete with global competition and market competitors. Although literature reviews the use of MAPs, and previous studies has pointed out on larger firms especially on developed countries, very little concern on SMEs in developing countries is witnessed. This study makes special contribution by giving knowledge of MAPs in SMEs of Pakistan. The research is distinctive not only because it addresses the extent of use of MAPs in the SMEs of Pakistan especially in Multan; but it also underscores factors that affect the adoption of MAPs, and examines benefits and problems in adopting MAPs in SME sector.

This study focus on a wide range of MAPs instead of limited set of MA practices. In this study contingency theory use as a foundation that shedding the light on factors affect the usage of MAPs in SMEs in developing countries. The findings conclude that MAPs are influenced by internal as well as external factors and these factors are significant continence variables in small business (Ahmad, 2015). This research thus contributes towards the gap of MAPs in SMEs in Pakistan and provides increased knowledge in SMEs context. Pakistan strived more as a developing country to compete with developed economies, and policy-makers can get that research useful to find relevant knowledge to enhance the performance of Pakistani SMEs.

This research may be a beginning point for further study of investigation of MAPs among SMEs in Pakistan and promote Pakistani researchers’ interest to use SMEs sector as a sample. In particular it is expected that the Pakistani government will give more attention towards MAPs in SMEs and improve existing training programmes on the use of traditional and contemporary MAPs for the accountants.

7. Limitations of The Study

The study has the several limitations. First, this study only focused on one sector (textile sector) of Multan as a sample in Pakistan. The reason for the selection of Multan’s SMEs can be due to the shortage of time and limited resources. The second limitation is that the low response to the questionnaire survey to acknowledge the extent of use of MAPs and this cannot be avoided and relatively small numbers of SMEs participated. More sectors and SMEs might be studied for increasing the generalizability of study.

Lastly, low response may be due to the complex structure of questionnaire on the extent of use of MAPs with Yes or No and Likert scale questions. It is possible that the respondent may have not understood the question and misinterpreted it. This limitation was minimized by ensuring that questionnaires were filled by high executives and accounting managers.

Beside these limitations, this study successfully fill the gap by responding to the need of research on adoption of MAPs in SMEs in developing countries and gives evidence of the use of MAP by Pakistani SMEs with additional contribution on the factors that influence the use of MAPs in Pakistani SMEs and benefits and problems on the use of MAPs in SMEs.

8. Recommendations for Future Research

The results of this study have several extensions of future research. First, the sample sized can be increased by adding further sectors in population. Second, case study approach other than interviews might be adopted to highlight the reasons for the adoption of MAPs in a more detailed to know how and why MAPs are adopted and not adopted. Third, there is need to investigate further the dependence of firms on past and contemporary MAPs. Fourth, with increasing global competition, economies needed to expand survey on the change of MAPs in more detailed way. Lastly, a comparative study might be conducted in Pakistan and compared it with another developing country in terms to explore cultural differences and contingent factors.
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Commerce: Islamic Vs. Conventional Commercial Banking: The Resilience Avant-Garde

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ABSTRACT

This paper aims to examine the differences in financial resilience of Islamic and Conventional Commercial banks with respect to the short term and long-term perspectives to pliability. The selected banks are compared on their resilience quotient exhibited by Liquidity Coverage Ratio (LCR) and Z-Scores. This study evaluates cross country panel data of 157 listed and non-listed licensed Islamic banks located in 22 countries and same number of their conventional commercial counterparts, through a period of 1998 to 2018. The data were collected through BANKSCOPE database and World Bank publications. Ratio analysis and Multiple Regression analysis were applied on data to analyze the extent of resilience of both Islamic and Conventional banks. The findings suggest that there are considerable differences in short term and long term resilience quotient of Islamic and Conventional commercial banks. Where Islamic banks have relatively enervated position than Commercial banks on liquidity frontier, they hold a more resilient position with respect to z-score. ROE and Capital adequacy are two important factors that have a significant impact on bank resilience. This research is different from all past researches with respect to methodological, aeon and acclimatization perspective. Resilience is a relatively new phenomenon adopted from complex adaptive ecosystems and most studies in this area are of theoretical nature. Moreover, the fact that this research has considered not only the long term but also short-term resilience perspective, adds to its overall value and originality.

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1. Introduction

In the wake of Global Financial Crisis (GFC), the world saw incipient trends in banking and finance. Commercial banking had lost its credibility and a major gap sprouted in the financial system, an expanse which was to be covered by the inchoate of Islamic finance. Considered more stable and efficient in theory, the Islamic banks (IBs)
were well received by the investors all over the world as an ethical alternative to conventional commercial banking. Since then, the Islamic and Conventional commercial banks (CBs) have been compared to each other with respect to various aspects of efficiency. The GFC itself was a testimony on ineffectiveness of efficiency as a performance measure. There was need of a mechanism, which may not only reflect on efficiency of a system but also predict its tenure of stability and growth momentum; in short, it must predict its resilience quotient.

The comparative paradigms of Islamic and Conventional commercial banks have never been assessed on the resilience perspective. Theoretical arguments support a more resilient stature of Islamic banks as compared to conventional commercial banks, but there lack of empirical evidence to support the same. Moreover, factors affecting bank performance, especially their relative resilience quotient are also widely unexplored.

C.S. Holling (1973) was the person who introduced the word ‘resilience’ to the field of ecology. It is supposed to represent the return time of a system to its original position and better after a period of unprecedented turmoil. This return time of the system depends on the adaptive capacity of the system to tackle the perturbation and overcome it.

A resilient system exhibits several stable equilibrium points over a period of time, which is explained by equilibrium succession. Subject to change in the environment, the system gets disoriented first then tries to conserve its core competencies and move on towards the creative destruction phase as soon as possible. Reorganization follows creative destruction where the features, structure and identity of the system arrange themselves in an even better configuration. Therefore, we may describe resilience as a stochastic process inherent in a system. This process gets activated by external shocks and unprecedented changes in the environment. Panarchy of the system calls for a detailed analysis of elasticity and precariousness to establish the system’s resilience magnitude (resilience quotient).

A concept new to the field of finance, resilience made its way to the regulatory documents and keynote addresses of the monitoring authorities fairly soon. Financial resilience is not considered a buzzword anymore, but an essential phenomenon signifying stability of any system and its subsequent persistence at multiple equilibriums. As used by BASEL III accord, financial resilience is ability of a bank to withstand changes in the environment, absorb external shocks and manage to bring itself back to its initial equilibrium, or an advanced one in a shorter period. Earlier on, efficiency was considered the heart of performance analysis of banks. Resilience however, has now replaced efficiency as the core of performance analysis, since resilience not only encompasses the efficiency perspective but also stability and growth potential.

All through the late worldwide financial crisis, IBs have exhibited strength (Farook, Hassan, & Clinch, 2012) confirm by moderately high development execution of this industry and a genuinely stable level of NPF. Be it may, there are variables considered "protecting” the IBs from the immediate effect of stuns in the worldwide monetary framework i-e presentation of Islamic financing was still more outfitted to the conventional economy. Then again, as (Beck, Demirguc-Kunt, & Merrouche, 2013) calls attention to, the IBs might have been strong in GFC first wave, they are presented to higher danger in the delayed repercussions of emergency inferable from their meeting with business banks, on a few practices that render them more powerless against financing cost stuns and expanded systemic danger.

So far the world has seen the disappointment of extensive foundations of conventional banking system whereas IBs have not been put to a corrosive test of strength as their routine partners. Seen from a functional periscope, IBs are a subject to financing cost chance as well, notwithstanding intemperate liquidity hazard emerging from resource and obligation administration works on, inferable from the imprint up based contracts, the duality of agreements offered and reliance on traditional managing an account framework without a steady and all around created cash and capital business sector.

The majority of the studies, capital adequacy and income are observed to be the most helpful pointers of the likelihood of bank failure (Demirguc-Kunt & Huizinga, 1989). Likewise, fast extension of loaning exercises tends to increment credit risk (Keeton 1999). More expound displaying, which recognizes the probability of default and time to default, finds that fundamental pointers of a bank's condition, for example, capital, net income and retained earnings are likewise imperative determinants of the timing of bank default (Cole & Gunther, 1993).
The relating question here is, can a bank that keeps up a decent capital adequacy ratio and great productivity level file for default? The answer is yes. Global financial crisis of 2009 saw the calamity of banks with an appropriate capital adequacy ratio and profitability levels, petitioned for chapter 11. In such a situation, what is the prescient limit of capital adequacy ratio and profit efficiency as standalone supporters to execution assessment? There must be something missing. The answer is resource quality, influence and liquidity. These are the viewpoints terribly overlooked by a number of the productivity and benefit scientists.

Another rather intriguing issue is whether non-money related pointers like ownership status of a bank have the capacity to foresee its strength and benefit? Little proof is found to bolster the hypothesis that exclusive establishments will return moderately higher financial benefits. (Short, 1979) is one of only a handful few studies offering cross-country confirmation of a solid negative relationship between government proprietorship and bank profitability. In his late work, (Barth, 2001) claims that administration responsibility is surely adversely connected with bank effectiveness. Interestingly, (Bourke, 1989) and (Molyneux & Thornton, 1992) report that proprietorship status is insignificant for clarifying productivity. In any case, this territory needs more investigation and constitutes an intriguing part of study that may not just give an understanding on the corporate administration structure of bank additionally choice making systems.

Therefore, prime objective of study is to analyze whether IBs are different with respect to their Commercial Banking counterparts regarding financial resilience. The specific objectives contributing to this are as follows:

- To analyze if there exists any difference between short term financial resilience of Islamic and CBs.
- To analyze if there exists any difference in Long term Financial Resilience of Islamic and CBs.
- To analyze how Financial Resilience is affected by firm and industry specific factors in comparative banking paradigms.

The paper is organized as follows. Section 2 briefly discusses the literature on resilience and its use to measure stability of a banking firm. Section 3 describes Z-Score as the financial resilience quotient measurement model and its application to Islamic as well as conventional commercial banks. Section 4 discusses the results of application of Z-Score and normative differences of both the paradigms ascertained through it, over the period of 1998-2014. Finally, Section 5 concludes.

2. Brief Review of the Literature

What can be described as the foundation of Islamic financial system was, till the end of the nineteen-seventies, to a great extent a supplication for supplanting enthusiasm for bank credit by profit and loss sharing. This would change the way of money related intermediation, making the asset proprietors and additionally the budgetary delegates impart the risks of investments to the asset clients. Early literature in this aspect has focused on accentuation of reasonableness. Making the investor and the bank share the risk of business and bank guarantee a foreordained return was termed unfair. Since the manner in which the venture was led did not assurance a positive return, so there was no legitimization for cash capital guaranteeing a positive return regardless of the aftereffects of operations, it was contended by the protagonists of Islamic banking (Siddiqui, 2006).

Quite missing were hypothetical contentions to guarantee the investors with respect to the security of their finances, past the general contention that some sort of 'mutual insurance' will deal with the issue. Additionally, little consideration was paid to what later was known as 'trade based modes of finance' (Hussein, 2004).

In the advancement of hypothesis of Islamic finance, the late seventies and the eighties saw numerous critical commitments. Murabahah or cost in addition to financing, recognized just grudgingly in records, for example, the Islamic Ideology Council of Pakistan Report on Elimination of Interest from the Economy, earned full acknowledgment and additionally respectable method of reasoning. The debate around its authenticity (Vogel and Hays 1998; Warde 2000) or its adequacy scarcely had any effect on the velocity with which it vanquished the scene of Islamic money.

IBs are additionally confronted with operational risks in running a framework in compliance with Shariah rules. The majority of the analysts place IBs at a more risky position than the CBs with respect of operational and credit risks especially in markets where there is less acquiescence for religiosity (Hasan & Dridi, 2010).
The majority of the studies on capital adequacy and profit efficiency are observed to be the most helpful predictors of the likelihood of bank failure (Demirguc-Kunt & Huizinga, 1989). More in depth studies focusing on the probability of default and time to default, find that fundamental indicators of a bank's efficiency, for example, capital, net income and retained earnings are likewise imperative determinants of the timing of bank default (Cole & Gunther, 1993). In any case, the nub of the matter has been for the most part lost. Capital adequacy proportion is to a greater degree a conformance issue. Banks need to consent to the prudential regulations and keep up a point of confinement of capital adequacy proportion. Same is the case with profitability. Banks seek all means to accomplish most extreme profit efficiencies. The most relevant question here is, can a bank that keeps up a decent capital adequacy ratio and an adequate productivity level file for default? The answer is yes. Global financial crisis of 2009 saw the calamity of banks with an appropriate capital adequacy ratio and profitability levels, petition for chapter 11.

There is, however, broad exploration in the elements that might influence bank performance and their relative impact on bank stability. There are two types of bank performance determinants: macroeconomic variables (systemic risk) and firm-particular elements (non-systemic). There is a broad body of literature that looks to distinguish bank variables which may prove to be the best indicators of bank execution. Subsequent to the main part of this examination has been done in the US (with its vast populace of banks and long history of bank disappointments), the work for the most part spotlights on displaying the probability of bank disappointment.

The Macroeconomic variables ordinarily used to determine performance volatility are the inflation rate, the interest rate and/or the development rate of cash supply. Revell (1979) presents the issue of the relationship between bank profitability and interest and inflation rate. Most studies, including those by Bourke (1989) and Molyneux and Thornton (1992) have demonstrated a positive relationship between either inflation or interest rate and yields.

3. Research Methodology
Banking research around the world has made an extensive use of bank level data provided by Thompson’s Bankscope. On similar notes, this research relies primarily on data from Bankscope. For the purpose of this study the IBs’ data is utilized which have been licensed as IBs compared with a comparable sample of Commercial banks. The total population of active IBs on Bankscope is 157. This study takes into consideration a total of listed IBs and 100 non listed IBs in 22 countries and their commercial banking counterparts for the period from 2000-2013.

The research framework developed for the purpose of this study builds on Z-score, recently used by Hesse & Cihak (2007) along with ratios from Basel II and Basel III accords taken at risk adjusted foundations and ownership analysis by Bonin et al (2005). Cihak and Hesse & Cihak (2007) use z – score as a measure of individual bank risk, following its utility for other similar studies carried out by Boyd and Runkle in 1993 among others.

As per Basel II, resilience can be divided into two components; Long term financial resilience and Short Term financial resilience and could be constituted through Capital and Liquidity buffers, Profitability and Good governance.

In order to promote the Short-term resiliency of liquidity risk profile of institutions by ensuring that they have sufficient high quality liquid resources to survive an acute stress scenario lasting at least for one month, the Basel Committee developed Liquidity Coverage Ratio.

\[
LCR = \frac{\text{Stock of highly liquid assets}}{\text{Net Cash Outflows over a 30 day time period}} \geq 100 \% \quad (\text{Eq. 4.1})
\]

Since Net Cash outflows are not being publicly maintained by banks, total current deposits would perform as proxy of monthly cash outflows. The ratio will be ascertained to have warranted significance through Independent sample t test applied to it. Independent sample t test will provide for the total amount of error involved in using 2 sample means to estimate 2 population means. It signifies the average distance between the sample difference (x1 – x2) and the population difference (μ1 – μ2), therefore succor in achievement of the afore mentioned objective.
The variable used for determination of Long term Financial Resilience is z score. Z-Score has become an important measure of bank soundness (Beck et al., 2013). Its popularity stems from the fact that it is inversely related to the probability of a bank’s insolvency. i.e the probability that value of its assets falls lower than the debt it carries. The z – score can be summarized as \( z = \frac{(k+u)}{s} \), where \( k \) is the equity capital and reserves as a percentage of assets, \( u \) is average return as a percentage of assets and \( s \) is standard deviation of returns on assets as a proxy for return volatility.

The z-score measures the number of standard deviations a return realization has to fall in order to deplete equity, under the assumption of normality of bank’s returns. A higher z-score corresponds to a lower upper bound of insolvency risk- a higher z-score therefore implies a lower probability of insolvency risk (Beck et al, 2013).

The definition of z-score (Yeyati and Micco, 2007) is as follows:

\[
Z_{it} = \mu_{ROA} + \left( \frac{E_{it}}{A_{it}} \right) / \sigma_{ROA_{it}} \quad \text{(Eq. 4.2)}
\]

Where \( Z_{it} \) is the proxy variable for the probability of insolvency of the bank I at time t, \( ROA_{it} \) is the ratio of return on assets of bank I at time t, \( E_{it} / A_{it} \) is the amount of equity to assets ratio of bank I at time t, and \( u \) and \( s \) are the mean and variance of the ROA it distribution.

4. Results

4.1 Short term Financial Resilience

The LCR is characterized as the proportion of the highly liquid assets for the aggregate net outflows throughout the following 30 schedule days in crisis:

\[
\text{Highly Liquid Assets/Total net outflows for 30 days} > 1
\]

The numerator of the LCR is the "load of Highly Liquid Assets (HQLA)". Under the standard, banks must hold a load of unengaged HQLA to cover the aggregate net cash outflows (as characterized underneath) over a 30-day period under the endorsed crisis situation. With a specific end goal to qualify as "HQLA", resources ought to be liquid amid a period of financial distress and, in a perfect world, be central bank qualified. These are the essential characteristics that the liquid assets ought to have in order to be qualified for being highly liquid assets.

This proportion is required to be above 100%. The estimation of LCR relies on upon the estimation of supply of liquid assets and the aggregate net money outflows. These presumptions incorporate the order of "Level 1" and "Level 2" resources, the weights relegated to these advantage classes, the arrangement of distinctive risk classifications, and the rates of money outflows and inflow for diverse liability classifications. The graph also negates the widely held belief that Islamic banks face higher liquidity risk than their commercial counterparts, as 2006 to 2013 witnesses a relatively stable liquidity conversion ratio, keeping in range of 2 to 3.5, which is well above the basic requirement set by BASEL III of 100%, but still manageable in the liquidity and profitability tradeoff. A linear extrapolation of the LCR trend line reveals a stabilized coverage of all liquid current liabilities, keeping above 2.5 times coverage range.
Figure: 1 LCR of Conventional Commercial Banks
This shows that there was a downfall in bank liquidity even before the Global Financial Crisis of 2009. The situation had started worsening as early as late 2005 and escalated quickly to a financial crisis in 2009. Comparing both the alternative banking systems, it is evident that Conventional commercial banks witnessed a sharp surge in LCR from year 2003 to 2005, which corrected itself in 2005 and onwards, plunging down much to burst the bubble created by hiked overvaluation of assets of commercial banks, marking a financial crisis in 2009. On the other hand, Islamic banks do not show any signs of turmoil during the period and maintain relatively resilient liquidity levels.

Table: 1

<table>
<thead>
<tr>
<th></th>
<th>LCRISL</th>
<th>LCRCM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>2.674</td>
<td>3.482</td>
</tr>
<tr>
<td><strong>Standard Deviation</strong></td>
<td>0.739</td>
<td>1.290</td>
</tr>
</tbody>
</table>

As per periodogram, the Islamic banks show lesser variation in time series of LCR even if the crisis effect was ignored. Moreover, Islamic banks seem to attain better liquidity coverage after crisis, therefore showing more resilience. These results are also confirmed by the higher mean and higher standard deviation on Conventional banks. Conventional banks have almost 3.5 times coverage of the current outflows for a period of at least a month, improving drastically in the post crisis period whereas Islamic banks have a mean LCR of little above 2.5. The variability in liquidity coverage by Conventional commercial banks is more, exhibited by the standard deviation of 1.29 as compared to 0.739 in Islamic banks.

Figure: 2 Periodogram of LCR for Commercial Banks

The above analysis has proven LCR to be an important apparatus in gauging the financial distress of a banking company however it must be used with tremendous care to ensure the efficacy of the forewarning signals for financial rigor. The dimensions of LCR render it diminutive efficiency with respect to efficiency, and must be controlled for the compliance prejudice.

Basel III supported haircuts to different categories of assets may be applied to craft the risk weighted portfolio of liquid assets to the variance witnessed in the LCR of banks over time, as not only the shortage of liquidity but variance in liquidity levels may also lead to liquidity stress in financial institutions.
Figure: 3 Periodogram of LCR of Islamic Banks

However, there is a marked decrease in Islamic bank liquidity, as compared to conventional banks in recent couple of years, bring the average liquidity down to 2.674 as compared to 3.482 of conventional commercial banks. However, the volatility and variability of LCR is low in Islamic banks over the period taken into consideration as marked by a standard deviation of 0.739, compared to 1.290 of Conventional Commercial Banks, parading stability with respect to short term liquidity.

Table: 2 Factors affecting LCR of banks

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized</th>
<th>Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>0.3441</td>
<td>2.380</td>
<td>1.446</td>
<td>0.151</td>
<td></td>
</tr>
<tr>
<td>OWNR</td>
<td>0.879</td>
<td>1.104</td>
<td>0.076</td>
<td>0.796</td>
<td>0.151</td>
</tr>
<tr>
<td>ROA</td>
<td>0.104</td>
<td>0.124</td>
<td>0.078</td>
<td>0.842</td>
<td>0.402</td>
</tr>
<tr>
<td>CARWTD</td>
<td>0.097</td>
<td>0.033</td>
<td>0.286</td>
<td>2.984</td>
<td>0.004**</td>
</tr>
<tr>
<td>TOTASSETS</td>
<td>0.001</td>
<td>0.000</td>
<td>0.129</td>
<td>1.427</td>
<td>0.157</td>
</tr>
<tr>
<td>NPLTOGL</td>
<td>0.024</td>
<td>0.049</td>
<td>0.053</td>
<td>0.485</td>
<td>0.629</td>
</tr>
<tr>
<td>ROE</td>
<td>0.094</td>
<td>0.057</td>
<td>0.200</td>
<td>1.651</td>
<td>0.100*</td>
</tr>
<tr>
<td>COSTTOINC</td>
<td>-0.034</td>
<td>0.019</td>
<td>-0.221</td>
<td>-1.770</td>
<td>0.080*</td>
</tr>
</tbody>
</table>

LCR = β + β1Bijt−1 + ε

Model Summary:

R2 : 0.403
Dependent Variable: LCR
Predictors: (Constant), OWNR (Ownership), ROA (Return on Assets), CARWTD (Capital adequacy ratio calculated on risk weighted assets of the bank), TOTASSETS (Total Assets of the bank), NPLTOGL (Non-performing loans to gross loans), ROE (Return on equity), COSTOINC (Calculated by dividing cost to income).

However, since liquidity needs to be held for the committed undrawn products, banks have to manage it in order to avoid a bank run. Therefore, it may or may not be a product of banking institutions’ operations, as is evident by the regression analysis.

Analysis of Firm specific factors affecting liquidity of a banking company, highlight some important corollaries. First and foremost being the fact that it’s not only firm specific factors that may impact the liquidity of a bank, but also the presence of a good money and call market, as well as country wide liquidity reserve requirements, interbank lending arrangements, and Government borrowing. Macroeconomic factors may also have a significant impact on liquidity of a banking firm, however, segregating that impact from business specific factors may be very difficult for the purpose of analysis owing to maturity mismatch.

These reasons account for the low explanatory power of the model, as R2 lies barely above 0.403, highlighting that just little above 40% of overall variation is explained by the business specific factors. The banal power of R2 however is debatable some of the variables stand significant at a level of 10% and 5%. Weighted capital adequacy ratio (CARWTD) stands significant in as a determinant of LCR stands significant at a level of 5% which exhibits the effect of not only capital adequacy requirements but also the risk appetite of the firms. ROE and Cost to Income also stand significant at a level of 10%, whereas the direction of impact of Cost to Income is negative in case of banks, translating to an escalated impact on bank liquidity with control of cost of operations.

![Z-Scores of IB vs CB](image)

**Figure 5** Z-Score of IB vs CB

The average z-scores of Islamic banks are compared to Conventional Commercial banks operational at least over the period of last decade are taken into consideration, for an average trend of mature financial institutions from both the domains. The foremost in the basic observations in the long term resilience trend is that most of the Islamic banks started with a very strong financial position. The capital base was larger as compared to the mainstream banks as well as liquidity portfolio. Returns were also significantly higher as compared to the commercial counterparts, partly owing to the Islamic brand name. The asset liability management practice seems to tone the financials down to a more realistic level.
The trend line seems to suggest that the historic belief that Islamic banks are more resilient than Commercial banks is true. The graph shows the efficacy of z-score as an early warning signal of firm’s deteriorating financial health and low resilience. Before crisis, the z-scores of commercial banks started decreasing in 2007, which marked the onset of crisis.

\[ Z_{ijt} = \beta + \beta_1 B_{ijt-1} + \beta_3 M_{jt-1} + \varepsilon \]

Model Summary:

- R²: 0.788
- Dependent Variable: Z score

Predictors: (Constant), OWNR (Ownership), ROA (Return on Assets), CARWTD (Capital adequacy ratio calculated on risk weighted assets of the bank), TOTASSETS (Total Assets of the bank), NPLTOGL (Non-performing loans to gross loans), ROE (Return on equity), LCR (Liquidity coverage ratio), COSTOINC (Calculated by dividing cost to income).

The weighted capital asset ratio (CARWTD) was expected to have a positive sign (Pasiouras & Kosmidou, 2007), which has been proven by analysis. The implication of weighted CAR being significant for z-score is quintessential to the idea of corporate and regulatory controls exercised on the bank. Return on Assets (ROA) is taken as a measure of profitability in the model. The profitability of banking company with respect to assets is theoretically supposed to improve the financial health of the firm and result in better financial resilience. Return on Equity (ROE) is another measure of profitability. It has more implication in case of Islamic banks as most of arrangements of Islamic finance have a real asset base. It is also worthy of discussion how ROE of banking companies may serve both as profitability as well as efficiency measure. The ROE in this model isn’t significant and implies a nonlinear relationship with the dependent variable z-score.

Table 5.4 Z-Score of IB vs CB
Non-Performing Loans to Total Assets is another measure of efficiency of the banks. The sign of the relationship between $z$-score and NPL is negative which is in line with the expected results, since more non-performing loans only mean lesser efficiency and in turn, lesser resilience on part of banks. NPL for this model however hasn’t turned significant, which may reflect on efficiency of banking recovery operations regardless the type of banks. The Macroeconomic vector, consisting of interest rate, inflation, exchange rate and is significant for the bank resilience, which elucidates on banking sector strength and resilience being explained by the macroeconomic indicators. However, it is still a question whether Ownership signifies the nature of control exercised over the banks. It has also turned out to be insignificant, owing to the fact that most banks are not allowed to fail, especially Islamic banks in Islamic republics are usually supported by their respective Governments in event of financial distress.

The overall explanatory power of the model is 78.8 % which parades the elucidatory dominion of the model. Business vector (BV) has been shown to have a positive relationship with the $z$-score. BV is calculated by developing a vector of all business related factors. According to the vector, the mean of all variables is zero and the standard deviation is of 1. This creates a log normal distribution with no white noise. This positive and direct relationship between BV and $z$-score validates the idea that business related factors have a direct and significant impact on $z$-score of banking firms.

The variance of Oscillations exhibit a more positive momentum in the safe precinct as compared to the hazard precinct, which may be a sign of relative financial resilience as the bank experiences more frictions sliding in to the hazard precinct from the safe precinct.

The effect of business vector on Islamic and Conventional Commercial banks is segregated to have a better look at the degree of impact business related factors may have on both the categories of financial institutions and the differences thereof.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z-Score ISL</td>
<td>-7.39</td>
<td>101.44</td>
<td>8.722</td>
<td>16.18</td>
</tr>
<tr>
<td>Z-Score Com</td>
<td>-0.66</td>
<td>59.43</td>
<td>4.42</td>
<td>9.66</td>
</tr>
</tbody>
</table>

![Business Vector and Z scores of Banks](image)

*Figure: 5 BV vs Z-Scores*
5. Conclusion
This study took into consideration the LCR of Islamic and Conventional Commercial banks and discovered that Conventional commercial banks operated on a significantly higher liquidity frontier than the Islamic banks. Most Islamic banks started with higher liquidity, but with the passage of time, there was a downward trend observed in liquidity ratio, primarily because at initiation all banks have highly liquid assets, its only after operational corrections that liquidity ratios are adjusted at an optimal level. Amongst the factors affecting liquidity most were Return on Equity (ROE) and Weighted Capital Adequacy Ratio (CARWTD). However, it was noticed that none of the business specific factors predicted liquidity levels to an illustrious extent. The reason behind this was excessive management of the liquidity ratio by the banks. In most of the countries, banks are expected to comply with regulations that require maintenance of a certain liquidity level, and banks try to manage these by mauling the cash inflows or cash outflow components of the Liquidity Conversion Ratio. Therefore, it is highly unlikely that bank performance would dictate the LCR.
Long term resilience quotient of banks was determined by z-scores of the comparative regimes. The average z-scores of Islamic banks were quite high, placing them in a safer zone than Commercial banks.

Not only did Islamic banks have a higher z-score, but also they maintained a less volatile range of z-score as compared to their conventional counterparts. The Islamic banks showed multiple equilibria and extended period of stability as compared to Commercial banks.

References
Mediating Role of Customer Trust in Predicting Customer Commitment through Automated Service Quality in Commercial Banking

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ABSTRACT

The automated service quality is a critical decider to scale customer commitment in commercial banking industry. Customer trust mediates the direct relationship among automated service quality and customer commitment. Customer trust in banking can be a competitive advantage for a service firm to compete in the market. Customer trust creates customer commitment and helps a bank to have new customers and sustain the existing ones. Current study explains the mediating role of customer trust while describing the relationship among automated service quality and customer commitment. Survey technique is used to collect data using an adopted questionnaire. Data analysis is done using Preacher and Hayes mediation method to prove the deducted hypothesis. The results demonstrate that features of online banking services create customer trust. Customer commitment of banking customers is mediated by the elements of customer trust, built on automated service quality features. These results have managerial and research implications for operations and strategy formulation in the banking industry. Results are valuable to smooth the provision of online services in the banks and financial institutions where information technologies are being used.

ARTICLE DETAILS

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1. Introduction

Service quality is a vital concept in marketing literature and it is considered as a tool to measure organizational performance and to shape the success of a business unit (Duncan & Elliott, 2004; Litvin, Blose, & Laird, 2005). Better quality of services gives positive outputs i.e. customer retention, customer attraction, positive word of mouth, increased productivity, growth in market share, decrease in staff turnover, decrease in operational cost and increase in employees’ financial and moral performance (Johnston & Kong, 2011). Therefore, service quality has become competitive edge for the services
industries i.e. several banks provide the same products but the level of service they provide, differs largely. It is observed that service delivery is influenced by the use of technology (Dabholkar & Bagozzi, 2002) and resultantly creates a substantial effect on service quality (Meuter, Ostrom, Roundtree, & Bitner, 2000). Literature supports that the features of electronic commerce directly affect the gauge of service quality (Santos, 2003). Use of technology is critical in shaping buyer-seller experience (Parasuraman & Grewal, 2000). Therefore, Automated Service Quality (ASQ) apprehensions in the banking industry are gaining importance day by day due to their ability to attract & retain customers, increase sales & profit and grab competitive advantage for the financial firms (Moutinho & Smith, 2000; Nguyen & LeBlanc, 1998). Combination of automated service delivery channels offers a user friendly package to the customers, instead of only one option i.e. manual or conventional banking services (Lang & Colgate, 2003). Literature classifies internet, Automated Teller Machine (ATM) and phone banking as the basic automated service delivery channels in conventional banking industry (Joseph & Stone, 2003). These automated services are used as complementary options to each other in the banking sector (Dabholkar & Bagozzi, 2002). Banking customers use multiple automated services delivery options in a balancing way. Therefore, banks understand the need to motivate the customers for using automated services instead of off-line services (Berenson, Boyles, & Weaver, 2008).

From a marketing perspective, banks must analyze customer perceptions and so design a service delivery mechanism to meet customers’ needs & optimize the level of service quality and performance in order to retain customers and further gain competitive advantage (Ramayah, Samat, & Lo, 2011). Customer relationship building process is linked with the quality of automated services (Patrício, Fisk, & Falcão e Cunha, 2003). Customers do evaluate these automated service options and mostly the decision to opt a particular service is affected by the quality of attributes attached with it (Dabholkar & Bagozzi, 2002). Here we can say that automated services quality is important for banks to achieve organizational goals i.e. developing the competitive advantages, revenue generation, customer creation and customer retention (Fitzsimmons, Noh, & Thies, 1998). It has been found in different studies that ASQ directly impacts Customer Commitment (CC) and Customer Loyalty (CL) (M. Al-Hawari & Ward, 2006; Johnston & Kong, 2011; Parasuraman, Zeithaml, & Malhotra, 2005a).

State Bank of Pakistan (SBP), Pakistan’s first central bank was established in 1948. Finance act of SBP was introduced in 1956 to encourage the private sector banking in the country. These financial reforms have improved the efficiency and performance of banks in Pakistan (Burki & Niazi, 2003). Later on, the banking sector in Pakistan has succeeded to grow in 21st century, particularly in the past few years. Before the technology came into Pakistani banking, the policies and procedures of the banking were lengthy and difficult. In 90’s banking systems were introduced by the information technology structures and this helped the customer to complete their financial and non-financial transactions without going to financial premises. Currently, phone banking, online banking, internet banking and virtual banking all are the latest baking channels being used by banking customers in Pakistan (Akhlaq & Ahmed, 2013).

Modern technology in today’s banking sector of Pakistan has increased customer attachment to the banks (Raza, Jawaid, & Hassan, 2015). Technology factor has an impact on financial performance and customer services of the banks (Abubakar & Tasmin, 2012). Online banking adoption attracts customers and leads to customer satisfaction which ultimately saves the time of the customers (Sikdar, Kumar, & Makkad, 2015). The cost and time factors effect customer satisfaction while using automated services (Singh & Kaur, 2013). Commitment factor is important for banking customers against the services being provided to them (Saleem, Zahra, Ahmad, & Ismail, 2016). Therefore, the service quality options based on information technology modalities are critical in shaping customers’ commitment (Mols, Nikolaj D. Bukh, & Flohr Nielsen, 1999). Moreover, in developing countries like Pakistan, banking customers are more inclined by the factor of trust while dealing with internet banking (Akhlaq & Ahmed, 2013).
Commercial banking in Pakistan is having an intense competition since the privatization of the banking sector. The internet-based banking services are still in the beginning phase in Pakistan. Therefore, banks are facing the issues of CT and CC deficit. The banks need customers who are committed, loyal, and can create positive words of mouth for them. This deficit can only be decreased by establishing a relationship of trust between these stakeholders. Thus, there is a need to study ASQ of banks and its critical role in establishing the customers’ commitment by enhancing their trust level.

**Research Questions:**

- What is the role of Automated Service Quality in influencing Customer Commitment in commercial banks?
- Does Customer Trust mediate the relationship between Automated Service Quality and Customer Commitment?

**Significance of Research**

The study would benefit the scholars and researchers who wish to explore different outcomes of ASQ. The study’s empirical findings will enlighten the effective role of ASQ in enhancing CC of commercial banking customers. Additionally, the study’s result will critically explain the mediating role of CT to affect the relationship between ASQ and CC. The findings of the study are valuable for banking authorities. They will be able to understand the critical importance of an efficient automated service system that can retain the trust of the customers and increase their commitment.

**2. Literature Review**

**2.1 Service Quality and Banking Services**

Service quality has great influence on a firm’s business performances, i.e., lowering business expenses, enhancing business income, and producing committed and trusted customers (Guru, Shanmugam, Alam, & Perera, 2003; Sureshchandar, Rajendran, & Anantharaman, 2002). Service firms must know their dynamic business requirements and should possess the market knowledge to sustain in a global market place (Sangeetha & Mahalingam, 2011). In particular, service quality is now being treated as one of the major factors for measuring organizational performance, especially in the banking industry (Eisenberg, Hunt, Speer, & Zivin, 2011). The banking sector is a growing sector, and banks are concerned with their repute and market share (Kumar, Mani, Mahalingam, & Vanjikovan, 2010). Theoretical and empirical researches have established a strong relationship between firms’ competitiveness and quality of services in banking (Sureshchandar et al., 2002). Service quality has been considered as an element for successful business growth in banking (Litvin et al., 2005) because customer sensitivity and shopping desire are fine-tuned by the bank’s service delivery system (Ramayah et al., 2011). The literature has produced rigorous empirical and conceptual investigations of traditional service quality practices in the banking industry. A list of such conceptual models is being shared here for further clarity.

**Table 1 Service Quality Models**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Model Name/Title</th>
<th>Author</th>
<th>Short description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GAP model</td>
<td>(Parasuraman et al., 2005a)</td>
<td>Differences of customers’ expectations and organizational performance along quality dimensions decide the service quality of a firm.</td>
</tr>
<tr>
<td>2</td>
<td>Attributes of Service quality from customers’ perspective</td>
<td>(Mersha &amp; Adlakha, 1992)</td>
<td>Identification and categorization of quality attributes from the customer’s perception.</td>
</tr>
<tr>
<td>3</td>
<td>Service quality and performance</td>
<td>(Ennew, Reed, &amp; Binks, 1993)</td>
<td>Measurement of service quality relies on the interaction of services to customer expectations</td>
</tr>
<tr>
<td></td>
<td>Analysis</td>
<td>Reference</td>
<td>Description</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>4</td>
<td>Satisfaction factor and Service quality</td>
<td>(Johnston, 1997)</td>
<td>Distributive service quality factors effect on customer satisfaction and dissatisfaction.</td>
</tr>
<tr>
<td>5</td>
<td>Technology and service quality</td>
<td>(Joseph, McClure, &amp; Joseph, 1999)</td>
<td>Impact of technology on service quality perception in the banking industry.</td>
</tr>
<tr>
<td>6</td>
<td>Service quality model for banking</td>
<td>(Bahia &amp; Nantel, 2000)</td>
<td>Measuring perceived quality of banking services through banking service quality scale.</td>
</tr>
<tr>
<td>7</td>
<td>SYSTRA-SQ</td>
<td>(Aldlaigan &amp; Buttle, 2002)</td>
<td>Service quality perceived by consumers through a four dimension scale.</td>
</tr>
<tr>
<td>9</td>
<td>Service quality scale for banking</td>
<td>(Karatepe, Yavas, &amp; Babakus, 2005)</td>
<td>Measurement of service quality provided to bank customers’ through their perception with the help of four dimensional scales.</td>
</tr>
<tr>
<td>10</td>
<td>Perceived service quality and customer expectations</td>
<td>(Osayawe Ehigie, 2006)</td>
<td>Perceived service quality of customer expectation and customers’ loyalty prediction from the bank.</td>
</tr>
</tbody>
</table>

Source: (Sangeetha & Mahalingam, 2011)

Although multiple angles of service delivery constructs have been discussed in the literature, however, there is a notable difference in the context of e-banking (Abubakar & Tasmin, 2012). Automated service delivery options in banking services includes ATM service, customer perception of price, telephone banking, banks’ core service and internet banking (M. A. Al-Hawari, 2011). It has become deliberately vital for the banking sector to use these cheaper and faster automated services as alternative banking service delivery channels for high customer satisfaction and retention (Nui Polatoglu & Ekin, 2001).

### 2.2 Automated Service Quality

There is a shift from conventional to automated service practices in recent years, as automated services have become effective distribution channels for banking customers (M. A. Al-Hawari, 2011). Banking customers are using multiple service delivery channels, i.e. manual and electronic in a complementary way (M. Al-Hawari & Ward, 2006). Banks tend to craft few customer services which are available online and manageable through specific electronic means (Herington & Weaven, 2007). An organization can strengthen its new service strategies and service improvements through automated services (Henderson, 2003). Automated service is defined as a web-based service, where customer’s interaction with the firm is inevitable to the use of information technology (Surjadjaja, Ghosh, & Antony, 2003). Furthermore, automated service is a visual based and internet built customers’ service (Bloemer & De Ruyter, 1998). Its qualities and attributes are different in the nature of each automated service delivery channel (Dabholkar & Bagozzi, 2002). Within this context, ASQ has become a necessity for banks to provide timely and quality services to build and maintain successful, workable relationships with their valued customers.

### 2.3 ASQ Model

Automated Service Quality (ASQ) model is proposed by (Ibrahim, Joseph, & Ibeh, 2006). This model includes factors of electronic service quality and summarizes all types of electronic banking into one account: responsiveness, convenience, personalization, security and queue management.
Figure 1: Automated Service Quality Model no.2

Source: (M. A. Al-Hawari, 2011)

2.4 Dimension of Automated Service Quality

There are five factors of the ASQ model presented by (Ibrahim et al.).

2.4.1 Convenience
Convenience is considered a vital aspect of customers’ satisfaction (Dabholkar & Bagozzi, 2002). Convenience is elaborated as ease & usability of automated services, availability of services and service accuracy (Lovelock, Wirtz, & Chew, 2009).

2.4.2 Queue management
Queue management is the ability of banking services to complete an automated transaction in a certain time limit. Bank customers review the quality of service from the speed of service delivery (Ibrahim et al., 2006).

2.4.3 Personalization
Personalization refers to the ability of an automated service to deal with a customer on individual basis. Personalization is an important factor in ASQ (Ananthanarayanan Parasuraman et al., 2005a). ASQ can be tailored according to the customers need and this accounts in the benefit of service quality (Yang, Jun, & Peterson, 2004).

2.4.4 Responsiveness
Responsiveness is the measure of the ability of an automated service system of quickly handling customer complaints and problems. The act of response to the customer's objections has a major portion in customer satisfaction element (M. Al-Hawari & Ward, 2006).

2.4.5 Security
Security means the ability of an automated service to keep the transaction safe and sound by keeping the confidentiality of the customers intact. Services with better security attract more customers (Rust & Kannan, 2002).

2.4.6 Automated Service Quality and Customer Commitment
CC and CL have been discussed simultaneously as outcomes of ASQ in the literature (M. Al-Hawari & Ward, 2006; Johnston & Kong, 2011; Ananthanarayanan Parasuraman, Zeithaml, & Malhotra, 2005b;
Ribbink, Van Riel, Liljander, & Streukens, 2004). CC and CL although seem connected but these are two different concepts (Chumpitaz Caceres & Paparoidamis, 2007). Current study is focused to discuss CC instead of CL. Therefore, researcher needs to differentiate between these two adjacent concepts. CC is an stable desire of a customer to keep a valued relationship with the service provider (Moorman, Zaltman, & Deshpande, 1992). Whereas; CL is a deeply held form of CC which motivates the buyer to repeat the previous buying, despite situational and marketing influences (Oliver, 1999). In the context of the problem statement of the current study, the writer is discussing the concept of CC here. CC is also important in comforting the behavior of customers irrespective of the changing situational conditions (Dash, Bruning, & Ku Guin, 2009). There is no doubt that relationship strength is important for adding value to the business attitude of a service firm (Dash et al., 2009). For this, mutual commitment is a base to build strong relationships (A. Parasuraman & Berry, 1991).

Above discussion concludes that CC is different from CL. In Pakistan, automated services being provided by the banks are still recent and most of its features are newly introduced. Therefore, it is more realistic for the banks to eye for CC rather than CL when dealing the customers who use ASQ tools frequently. It is also noticeable here that CC has been considered a very useful construct in the literature while measuring CL, forecasting consumers’ purchase intentions and studying inter-organizational relationships.

Theoretically and empirically, literature gives the notion that ASQ creates progressive experiences among the users and increase the chances of continuing business with the bank (Zhu, Wymer, & Chen, 2002). In a banking service, timely communication with customers, sharing the investment status, disclosing future opportunities & risk, and expected financial outcomes add to the relationship commitment. CC between the banks and the customers is increased with a stronger communication in regard to their transactions handling, loan deposits, investments (Sharma and Patterson, 1999). Automated bank services are considered as an efficient method for providing timely and accurate information to customers. Bank customers can be updated with the information regarding their different financial transactions all the time. Nature of automated media, i.e. telephone, internet banking and ATM services push bank to timely inform customers and bridge the gap between customers and banks (Lang & Colgate, 2003). CC between the banks and the customers is increased with a stronger communication in regard to their transactions handling (Sharma and Patterson, 1999). Attributed to computerized media, phone and electronic banking, the connections between customers and organizations have turned out to be nearer than any time in recent memory (Huff, 2012). Quality of automated service channels and their use decide the pattern of commitment by customers, loyalty of the customers and organization’s overall increase in the market share (Brun, Rajaobelina, and Ricard, 2016). It is again emphasized that the quality of automated channels’ services is an important way of maintaining CC and increase the market share (Joseph and Stone, 2003). The relationship between service quality and CC has been investigated only in some Business-2-Business (B2B) contexts or within the tangible goods services (Caceres & Paparoidamis, 2007). However, less work has been done to investigate the relationship between bank ASQ and CC to their banks, especially in the case of developing economies.

Automated Service Quality and Customer Trust:

Trust is an essential ingredient in the relationship building process and being widely discussed in business studies (Ribbink et al., 2004). Trust is the name of confidence in someone’s intentions and motives (Lewicki, McAllister, and Bies, 1998) and a key factor to establish long term relationship between an organization and its customers (Dash et al., 2009). Similarly to CC, the CT is another important factor for both business and the customers to have a good relationship. It enables to retain customers as if the CT is shaking so is the CC. CT is considered essential for building good relationships in terms of business discipline, (Dina, Reil Allard C.R., Veronica, and Sandra, 2004).
Coulter and Coulter (2002) proposed that good signs of the service quality reduce the level of uncertainty among buyers. In the financial services sector, services are more complicated, and it is always not possible for customers to conclude and even remember their financial transactions. Therefore, clients are motivated on trust basis to retain a relationship with their banks (Sharma & Patterson, 1999). Trust is a basic ingredient to balance the difference between customers’ expectations and banks’ offering, emerged due to the high risk factor in the services business and particularly in banks’ automated services (Herington & Weaven, 2007). The elements of risk within the automated service modules are higher than those within the traditional ones, so trust is considered as a critical factor to influence customer intentions within the context of e-commerce (Becerra & Korgaonkar, 2011; Sahadev & Purani, 2008). It is observed that a few studies have directly linked factors of e-service quality with CT (Sahadev & Purani, 2008). There is a positive and significant relationship between banks’ ASQ and CT (Ribbink et al., 2004).

2.4.7 Customer Trust and Customer Commitment

In accordance with the theory of (Morgan & Hunt, 1994) it is clear that in a trust-commitment relationship, trust is a prerequisite of commitment. The trust is significant to build commitment (Chenet, Dagger, & O’Sullivan, 2010) and this is particularly critical in the financial services context; where clients are more eager to continue their relationship, once having built trust and confidence in their bank’s service ability (Sharma and Patterson, 1999). In the sector of business, it is known as an essential builder of a good relationship (Dimitriadis and Kyrezis, 2011; Dina et al., 2004; Trunfio et al., 2007). Banks must offer superior services to their valued customers as compared to their competitors and create a trust based relationship with their customers (Caceres & Paparoidamis, 2007). When it comes to online services, the element of “lack of trust” becomes the main reason for not purchasing products and even services (Ribbink et al., 2004). Bank transactions done through automated services contain the risk of data theft, forgery or any other cyber-crime, so trust building is essential in creating a sustained and long-lasting relationship when there is a high perceived purchase or service risk (Herington and Weaven, 2007). (Chenet, Dagger, and O’Sullivan, 2010) found that trust has a direct relationship with commitment. In a services business, trust has been seen as particularly essential in retaining a long-lasting relationship (Amin, 2012; Chemingui & Ben lallouna, 2013) particularly if we talk about bank automated services. Here we can argue that ASQ creates CT which is essential to generate CC. Although, ASQ positively increases CC but it is only possible when the element of CT is involved in the process.

3. Theoretical Framework

The researcher has crafted the following research framework in accordance with the literature and discussion.

Figure 2: Theoretical Framework of the study
H1: Automated Service Quality has a significant effect on Customer Commitment
H2: Customer Trust mediates the relationship between Automated Service Quality and Customer Commitment

4. Research Methodology
In the current study, the researcher is following positivist approach to test the deduced hypothesis. Existing theory helps to deduct hypotheses which are tested using statistical measures (Bell, Bryman, & Harley, 2018) by involving a highly structured methodology (Gill & Johnson, 2010). Current study is a basic research. The researcher explains the mediating role of CT between ASQ and CC by testing the deduced hypothesis (Xia et al., 2003). Non-access to banks’ customer database directs the use of non-probability, convenience sampling technique (Farrokhi and Mahmoudi-Hamidabad, 2012). The sample size is 300 customers, determined by widely-cited rule of thumb from (Munro, 2005) specifying that the subject item ratio should be at least 10:1. The questionnaire has 28 items so sample size is rounded off to 300. The survey effective response rate is 81% with 245 valid returned questionnaires out of 300. The researcher has adopted valid and well utilized questionnaires having 7 point likert scale.

The adopted survey contains the measurement of variables (automated service quality, customer trust and customer commitment). Automated service quality construct has five measuring dimensions i.e. convenience, queue management, personalization, responsiveness, and security) identified from the literature (Ibrahim et al., 2006; Ribbink et al., 2004; Loonam and O’Loughlin, 2008). Convenience has four items extracted from various studies such as Ibrahim et al. (2006) and Sahadev and Purani (2008). Queue management’s has three items drawn from the studies of (Ibrahim et al., 2006; Al-Hawari and Ward, 2006). Four distinct items on personalization were produced from different studies such as (Ribbink et al., 2004; Coulter and Coulter, 2002; Herington and Weaven, 2007). Fours items for the measurement of responsiveness were extracted from the studies of (Yen and Lu, 2008; Loonam and O’Loughlin, 2008; Coulter and Coulter, 2002). Four items were extracted from the studies of (Loonam and O’Loughlin, 2008; Sahadev and Purani, 2008; Yen and Lu, 2008) to gauge security as a prominent factor of automated service quality measurement.

Five items were used in this study to measure customer trust were mainly adapted from Morgan and Hunt (1994), Sharma and Patterson (1999), and Caceres and Paparoidamis (2007). Four items were extracted from the literature to measure customer commitment (Dash et al., 2009; Morgan and Hunt, 1994; Sharma and Patterson, 1999; Caceres and Paparoidamis, 2007).

The scale’s overall reliability is excellent with 0.946 cronbach alpha value (George & Mallery, 2003).

Table: 2 Measurement Items

<table>
<thead>
<tr>
<th>Variable</th>
<th>Dimensions</th>
<th>Items</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automated Service Quality</td>
<td>Convenience</td>
<td>Banking requirements are available in the E-banking menu.</td>
<td>Ibrahim et al.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E-banking services are very easy to use.</td>
<td>(2006)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E-banking services have a user-friendly system.</td>
<td>Sahadev and Purani</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E-banking services are available 24/7.</td>
<td>(2008)</td>
</tr>
<tr>
<td>Queue management</td>
<td></td>
<td>E-banking provides a friendly environment, including musical</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>entertainment, to</td>
<td></td>
</tr>
</tbody>
</table>
The researcher uses Preacher and Hayes method for mediation analysis to explain the mediation effect between the variables. It has further explanations for direct effect and indirect effect (Preacher & Hayes, 2004; Coulter and Coulter, 2002; Herington and Weaven, 2007).

4.1 Preacher and Hayes Method
The researcher uses Preacher and Hayes method for mediation analysis to explain the mediation effect between the variables. It has further explanations for direct effect and indirect effect (Preacher & Hayes, 2004; Coulter and Coulter, 2002; Herington and Weaven, 2007).
2004). Direct effect \((c')\) estimates the direct relationship between dependent and independent variables. Indirect effect estimates the relationship between independent and dependent variables via mediating variable. Indirect effect is consisted of the following sub parameters. Path a measures the change in mediating variable due to the independent variable. Path \(b\) measures the change in dependent variable due to the mediating variable. Total effect \((c)\) estimates the effect of the dependent variable on independent variable in the absence of mediator variable. It is to remember here the basic rule of mediation is that, the mediation occurs if strength of the relationship between the independent variable and dependent variable is reduced by including the mediator (Field, 2013).

4.2 Sobel test Method

Furthermore, sobel test is used to affirm the mediation effect of a variable under discussion. It tests whether the relationship between a predictor variable and an outcome variable is significantly reduced when a mediator is included in the model. It tests the indirect effect of the predictor on the outcome. Sobel test is also known as product of coefficients approach to inference or the delta method (Preacher & Hayes, 2004).

5. Data Analysis

5.1 Correlation Analysis

Correlation investigation measures the connection between factors under examination. Table 4.1 tells the values of Pearson correlation (r) among study variables along with their significance values.

<table>
<thead>
<tr>
<th>Table 2: Correlations</th>
<th>Convenience</th>
<th>Queue Management</th>
<th>Personalizing</th>
<th>Responsiveness</th>
<th>Security</th>
<th>Customer Commitment</th>
<th>Customer Trust</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convenience Pearson Correlation</td>
<td>1</td>
<td>.573**</td>
<td>.460**</td>
<td>.383**</td>
<td>.354*</td>
<td>.433**</td>
<td>.490**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>245</td>
<td>245</td>
<td>245</td>
<td>244</td>
<td>245</td>
<td>245</td>
<td>245</td>
</tr>
<tr>
<td>Queue Management Pearson Correlation</td>
<td>.573**</td>
<td>1</td>
<td>.594**</td>
<td>.384**</td>
<td>.422*</td>
<td>.530**</td>
<td>.381**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>245</td>
<td>245</td>
<td>245</td>
<td>244</td>
<td>245</td>
<td>245</td>
<td>245</td>
</tr>
<tr>
<td>Personalizing Pearson Correlation</td>
<td>.460**</td>
<td>.594**</td>
<td>1</td>
<td>.539**</td>
<td>.481*</td>
<td>.628**</td>
<td>.416**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>245</td>
<td>245</td>
<td>245</td>
<td>244</td>
<td>245</td>
<td>245</td>
<td>245</td>
</tr>
<tr>
<td>Responsiveness Pearson Correlation</td>
<td>.383**</td>
<td>.384**</td>
<td>.539**</td>
<td>1</td>
<td>.564*</td>
<td>.497**</td>
<td>.480**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>244</td>
<td>244</td>
<td>244</td>
<td>244</td>
<td>244</td>
<td>244</td>
<td>244</td>
</tr>
</tbody>
</table>
Table 2 depicts that correlation between CT and CC is 0.679. This level of correlation indicates that CC and CT are positively related to each other in bank automated services. Furthermore, table 4.1 depicts the correlation between all dimensions of ASQ. A positive but moderately significant correlation is found between security and personalizing (r = 0.481, p = 0.000). The result indicates that if security is given, then the customers move for personalizing. Lowest correlation is found between customers' trust and queue management that is r = 0.381 this means queue management can have a negative impact on customer trust.

**Correlation is significant at the 0.01 level (2-tailed).**

5.2 Multi-Collinearity
Correlation analysis initially inspects the multicollinearity among the variables. The extreme values must not exceed the terminal point of 0.80 to avoid multicollinearity. The analysis reveals clearly that none of the mentioned variables has the correlation coefficient valuing 0.80 or more hence multi-Collinearity doesn’t exist among the listed variables.

5.3 Frequency Analysis
In the below table 3 it describes the frequency data analysis of bank customers who use automated service of the bank. Table shows that 106 people are having age 20-30 years who use bank automated services having high percentile of 43.3. 73 respondents are having age between 31-40 years making 29.8%. Here the lowest age group is first one that is below the age of 20, and only 13 people use ASQ options here with the percentile of 5.3.

Table 3 Age Statistics

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;20</td>
<td>13</td>
<td>5.3</td>
<td>5.3</td>
<td>5.3</td>
</tr>
<tr>
<td>20-30</td>
<td>106</td>
<td>43.3</td>
<td>43.3</td>
<td>48.6</td>
</tr>
<tr>
<td>31-40</td>
<td>73</td>
<td>29.8</td>
<td>29.8</td>
<td>78.4</td>
</tr>
<tr>
<td>41-50</td>
<td>35</td>
<td>14.3</td>
<td>14.3</td>
<td>92.7</td>
</tr>
<tr>
<td>51-60</td>
<td>18</td>
<td>7.3</td>
<td>7.3</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Given below frequency table 4 is for monthly income of the customers who use automated services of their banks, here again we see that the second group is having high frequency regarding salaries between the range of 30000-50000 and their percentage is 35.9. The second high frequency is of the persons who are having salaries between 50000-70000 and that is near to 2nd group of salary income, this third group is having percentile of 29.8 as compare to first and fourth group of salary income that are on 22.0% and 12.2% respectively.

Table 4 Monthly Income Statistics:

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;30000</td>
<td>54</td>
<td>22.0</td>
<td>22.0</td>
<td>22.0</td>
</tr>
<tr>
<td>30000-50000</td>
<td>88</td>
<td>35.9</td>
<td>35.9</td>
<td>58.0</td>
</tr>
<tr>
<td>50000-70000</td>
<td>73</td>
<td>29.8</td>
<td>29.8</td>
<td>87.8</td>
</tr>
<tr>
<td>&gt;70000</td>
<td>30</td>
<td>12.2</td>
<td>12.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>245</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

In the frequency table 5 we see that the male persons are more in frequency that is 147 as compared to female persons which is 98, who use automated service of their banks. Male are having 60% while female are having 40% this also shows that male customers are more active in using bank automated services.

Table 5 Gender Statistics:

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>147</td>
<td>60.0</td>
<td>60.0</td>
<td>60.0</td>
</tr>
<tr>
<td>Female</td>
<td>98</td>
<td>40.0</td>
<td>40.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>245</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

The last frequency table 6 is qualification here. By analyzing this table we have found that majority of customers are master degree holder who are using automated services of the bank with the percentage of 46.1 and it is having frequency of 113 persons. Second most users of automated service from the banks are graduate persons with the frequency of 83 and their percentile is 33.9. The lowest frequency is 15 that is considered in other qualification.

Table 6 Qualification Statistics:

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Matric</td>
<td>18</td>
<td>7.3</td>
<td>7.3</td>
<td>7.3</td>
</tr>
<tr>
<td>Intermediate</td>
<td>16</td>
<td>6.5</td>
<td>6.5</td>
<td>13.9</td>
</tr>
<tr>
<td>Graduation</td>
<td>83</td>
<td>33.9</td>
<td>33.9</td>
<td>47.8</td>
</tr>
<tr>
<td>Master</td>
<td>113</td>
<td>46.1</td>
<td>46.1</td>
<td>93.9</td>
</tr>
<tr>
<td>Other</td>
<td>15</td>
<td>6.1</td>
<td>6.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>245</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
5.4 Mediation Analysis
The researcher has used Process macros embedded in SPSS to perform the mediation analysis as directed by (Preacher & Hayes, 2004). Mediation analysis is being presented here step by step. Studied variables are tagged as:

- Automated Service Quality (ASQ) Independent Variable
- Customer Commitment (CC) Dependent Variable
- Customer Trust (CT) Mediating variable

Table 7 Direct effect (Path c)

<table>
<thead>
<tr>
<th>Outcome: CC</th>
<th>Predictor: ASQ</th>
</tr>
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<tbody>
<tr>
<td>Model Summary</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>R-sq</td>
</tr>
<tr>
<td>.7615</td>
<td>.5800</td>
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</table>

Table 7 describes Path c i.e. direct effect of ASQ on CC. The given values show that there is a direct and positive relationship between ASQ the CC. The value of R2 = .5800 which shows that ASQ explains 58.00% variance in CC. P values is .0000 which shows that the relationship between ASQ and CC is significant. The value of coefficient beta is .1161 which shows that there is a positive relationship between ASQ and CC and one unit change in ASQ brings 11.61% or .1161 units positive change in CC.

Table 8 Path a
Outcome: CT predictor: ASQ

| Model Summary | | |
| R | R-sq | MSE | F | df1 | df2 | p |
| .5897 | .3478 | 15.5857 | 129.0383 | 1.0000 | 242.0000 | .0000 |

Table 8 path a shows the values for the predicted relationship between ASQ and CT. These values show that ASQ positively explains the CT. The R2 = .3478 which shows that ASQ explains 34.78% variance in CT. P values is .0000 which shows that the relationship between ASQ and CT is significant. The value of coefficient beta is .2266 which shows that there is a positive relationship between ASQ and CT and one unit change in ASQ brings 22.66% or .2266 units positive change in CT.

Path b:
Path b is shown in table 8. This is about the relationship between CT and CC. P value is .0000 which shows that the relationship between CT and CC is significant. The value of coefficient beta is .3041 which
shows that there is a positive relationship between CT and CC and one unit change in CT brings 30.41% or .3041 units positive change in CC.

**Table 9** Indirect Effect (ab):
Indirect effect of ASQ on CC through CT

<table>
<thead>
<tr>
<th>Effect</th>
<th>Boot SE</th>
<th>Boot LLCI</th>
<th>Boot ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT</td>
<td>.0689</td>
<td>.0487</td>
<td>.0952</td>
</tr>
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</table>

Table 9 explains the indirect effect of ASQ on CC through CT. The beta value is .0689 and it falls between 0.0487 and 0.0952. The beta value interval does not contain zero, meaningfully, there is a genuine indirect effect. This notion confirms CT as a mediator variable between ASQ and CC.

**Table 10** Total Effect (Path c):
Outcome: CC

<table>
<thead>
<tr>
<th>Model Summary</th>
<th>R</th>
<th>R-sq</th>
<th>MSE</th>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.6784</td>
<td>.4602</td>
<td>6.4977</td>
<td>206.3459</td>
<td>1.0000</td>
<td>242.0000</td>
<td>.0000</td>
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</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Coeff</th>
<th>se</th>
<th>t</th>
<th>p</th>
<th>LLCI</th>
<th>ULCI</th>
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<tr>
<td>Constant</td>
<td>5.4463</td>
<td>.8335</td>
<td>6.5343</td>
<td>.0000</td>
<td>3.8045</td>
<td>7.0881</td>
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<tr>
<td>ASQ</td>
<td>.1851</td>
<td>.0129</td>
<td>14.3647</td>
<td>.0000</td>
<td>.1597</td>
<td>.2104</td>
</tr>
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In above table 10 path c is being explained. It is also called total effect of ASQ on CM through CT. The given values show that there is a direct and positive relationship between ASQ the CM when coming through CT. The R2 =.4602 which shows that ASQ explains 46.02% variance in CM. P values is .0000 which shows that the relationship between ASQ and CM is significant. The value of coefficient beta is .19 which shows that there is a positive relationship between ASQ and CM and one unit change in ASQ brings 18.51% or .1851 units positive change in CM.

**Figure 3:** Mediation Results Interpretation:
The above mediation model is the same as (Field, 2013) and it is explaining the direct and indirect effects with the relationship among the variables whereas ASQ is independent variable, CM is dependent and CT is a mediating variable. The relationship of ASQ to CT and CM is direct as well as relationship of CT to CM is also direct and positive as the level of significance p=0.000 in both cases: direct and indirect effects. It means as ASQ increases then the CT will increase and this will subsequently lead to increase CM. This result initially testifies the role of CT as a mediating variable. For cross verification it is necessary to check that.

Indirect effect (0.07) = (Path a 0.23) x (Path b 0.30)
Total effect c (0.19) = (Direct effect c’ 0.12) + (Indirect effect 0.07)

These statistics prove H2 “Customer trust mediates the relationship between automated service quality and customer commitment”

5.5 Sobel Test
Sobel test statistics are being presented here to further affirm the mediating role of the variable under discussion. Table 11 tells that we are getting the same beta value as effect .0689 and level of significance p=0.000. This is compelling evidence that CT is a mediating variable.

Table 11 Sobel test

<table>
<thead>
<tr>
<th>Effect</th>
<th>se</th>
<th>Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>.0689</td>
<td>.0103</td>
<td>6.6783</td>
<td>.0000</td>
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</table>

6. Discussion
6.1 Research Question1
What is the role of Automated Service Quality in influencing customers’ commitment in commercial banks?

According to table 7 direct effect(c’) we see that ASQ is having a significant influence on CC. The table describes regression value of 58.00% and level of significance is 0.000. It proves H1 i.e. there is positive relationship between ASQ and CM. Descriptive statistics of the study indicate that convenience, queue management, personalizing, responsiveness and security elements contribute to ASQ and these dimensions subsequently affect the magnitude of commitment of banking customers. Automated services facilitate customers by increasing user convenience level in banking services. Better quality of automated services increases system responsiveness towards customers. Better queue management reduces time delays in service delivery and it saves customers time and extra effort to complete their banking transactions. It also helps customers to get resolve their customer service issues and increases the effectiveness of grievances handling complaints. These results are in line with the previous studies of (Hoehle, Scornavacca, & Huff, 2012; Lang & Colgate, 2003) found that the increased availability of electronically mediated self-service technologies in the banking industry has customers’ inclination trend towards a bank. It has been found in various studies that the presence of a user friendly banking environment increases customer commitment. Being the residents of an underdeveloped area the southern Punjab customers find it attractive to have all their banking needs online and readily available.

Customers’ commitment towards a particular bank is influenced by the volume of agility and effectiveness of bank’s response towards their queries and nonstop service provision. Study results verify that the element of security in terms of customers’ personal data usage, data sharing and surveillance is a deciding factor to gauge the quality of automated services. System’s security factor has emerged as a prompt factor among the dimensions of automated service quality. A secure network increases customers’ commitment towards using that particular bank’s services in the future. The same relationship has been
discussed by (Chemingui & Ben lallouna, 2013) that trust is based on security and responsiveness of the service providing firm.

6.2 Research Question 2

Does customer trust mediate the relationship between Automated Service Quality and customer commitment?

In data analysis section table 8 path a shows the values for the predicted relationship between ASQ and CT. These values show that ASQ positively explains with R2= .3478 and P = .0000 with beta= .2266. From the analysis we see that customers’ trust mediates the relationship between automated service quality and customer commitment directly and indirectly as well. Here ASQ predicts customer trust; each dimensions of ASQ are linked with customer trust except queue management. Results show that ASQ dimensions i.e. convenience, responsiveness, security and personalization have significance impact on customers’ trust as if these dimensions are not provided to customers or any of them is lacking to provide what they are meant to, the level of trust will decrease as the trust will decrease the relation between ASQ and CT will decline ultimately. The findings of the study are in line with studies of (Chemingui & Ben lallouna, 2013; Chenet et al., 2010; Henderson, 2003) who collectively argue that banking customers’ trust is effected by the quality of automated services being offered by the bank.

The table 9 explains the indirect effect of ASQ on CT through CM. The given values show that there is a direct and positive relationship between ASQ the CM as indirect effect is .0689 with beta = .116. The given analysis of this research shows that quality automated service increases the trust and the customer commitment also increases. These results relate to the previous studies such as indirect effect explains, the combined effect of ASQ and CT on CM is evident to enhance customers’ commitment through customers’ trust (Becerra & Korgaonkar, 2011; Sahadev & Purani, 2008). Here mutual commitment is inspired by the amount of trust and it is a base to build strong relationships and then convert it in a valued relationship (Dash et al., 2009). Our results are perfectly in accordance with the theory of Morgan and Hunt (1994) arguing that trust is a prerequisite factor for commitment. Trust has direct relationship with commitment (Chenet et al., 2010).

7. Conclusion

This study is aimed to explain the impact of ASQ on CC via mediating role of CT among banking customers of southern Punjab Pakistan. The study is conducted in the banks where automated services like ATM, internet banking, telephone banking and mobile banking are being provided to the customers. The study concludes that as ASQ increases, the CT increases and subsequently CC is increased. ASQ has a significant effect on CC and CT simultaneously. Precisely, CT mediates the relationship between ASQ and CC.

8. Limitations and Recommendations of the Study

Limitations and future suggestions of the study are as below.

- Current study is focused only on banks with technology based service quality options. The financial sector also includes non-banking organizations such as investment banks, insurance companies, brokerage houses etc. More scientific studies can be conducted in a broader scope for banking and non-banking organizations and where information technologies are being used as a core service medium. Apart from sector specific study, generalized studies can also be conducted by keeping generic definition of automated services in non-banking industries.
- Moreover this study was conducted on the banking industry of southern Punjab and it can be further extended to other under-developed areas of Punjab. The study conducted in the under-developed area may posit unique results.
• The construct of automated service quality being studied in the current study have five dimensions. Furthermore, model of automated service quality can add or further extend the scope of the study by including the factors such as cost and rapid change in technology factor etc.
• This study can serve as a base to the new and existing organizations which are planning to launch their automated service technologies in market, as in this age of competition, no one would like to take blind step, as cost of IT is too high for implementation.
• The impact of customers’ trust on the automated services can be investigated by taking other directing (moderating) or intervening (mediating) variables in the model like culture, monetary conditions, item life cycle etc.

References


### Appendix

<table>
<thead>
<tr>
<th>Construct/Variable</th>
<th>Dimensions</th>
<th>Items</th>
</tr>
</thead>
</table>
| Automated Service Quality | Convenience       | All my banking requirements are available in the electronic banking menu options  
Electronic banking services are very easy to use.  
Electronic banking services have a user-friendly system  
Electronic banking services are available 24/7  
Electronic banking provides a friendly environment, including musical entertainment, to customers in the queue |
|                    | Queue management  | Electronic banking provides other relevant information about financial services to customers waiting in the queue  
There is no waiting time involved in obtaining electronic banking services |
| Personalizing      |                   | I feel that my personal needs have been met when using my bank’s different automated options  
My bank’s automated options provide me with information and products according to my preferences  
My bank individualizes its e-mails regarding the latest financial offers  
Electronic banking acknowledges me by name during the transaction |
| Responsiveness     |                   | My bank is always interested in feedback through the electronic channels  
My bank quickly replies to online requests  
My bank constantly offers electronic complaint forms  
My bank’s automated services offer a real-time communication option |
| Security           |                   | Elements of security are incorporated and the customer is made aware of these  
My bank’s automated services are trustworthy  
I feel secure that my private information will not go to another party  
The confidentiality of customer data is ensured |
| Commitment         |                   | I intend to maintain the relationship with my bank indefinitely  
My relationship with my bank deserves maximum efforts to maintain  
The relationship that I have with my bank is something I am very committed to  
I am very proud to have this bank as a financial service provider |
| Trust              |                   | My bank can be trusted always.  
My bank can be counted on to do what is right  
My bank has a high moral soundness.  
My bank can be relied on to keep its words.  
I have feeling of trust in my bank |

(M. A. Al-Hawari, 2011)
Disclosure of Corporate Social Responsibility Practices

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2 School of Management, University of Science and Technology of China: ddh188@gmail.com
3 Nanjing Audit University, China: arif.morshad@gmail.com

ARTICLE DETAILS

<table>
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<th>ABSTRACT</th>
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</thead>
<tbody>
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<td>Revised format: November 2019</td>
<td>This study aimed to depict the disclosure of corporate social responsibility (CSR) practices of commercial banks in Bangladesh. The sample included annual reports for the year 2018 of twenty-eight commercial banks out of thirty commercial banks listed on the Dhaka Stock Exchange (DSE) as of June 30, 2019. The data were analyzed using the content analysis technique. The findings indicate that commercial banks have made CSR contributions to eight sectors and disclosed CSR information through thirteen sections of the annual report covering a mixture of four tools. Moreover, although most of the commercial banks have disclosed some quantitative data, the aggregate amount of qualitative and mixed types of CSR disclosure is higher than that of purely quantitative ones. Additionally, all commercial banks have utilized ‘other expense' section for CSR expenditures in the body of ‘financial statements', but most of the commercial banks have ignored 'corporate social responsibility' sub-head and preferred ‘Donation' or ‘Subscription and Donation' sub-heads in the ‘notes to financial statements'. The overall finding indicates that the CSR disclosure issue in Bangladesh has not received sufficient attention from the commercial banks. This study, therefore, recommends that CSR reporting should be formalized and regulated to enhance stakeholders' confidence in an entity's CSR practice.</td>
</tr>
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<td>Available Online: December 2019</td>
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</tbody>
</table>

Keywords

CSR, CSR Practice, CSR Contribution, CSR Disclosure, Commercial Banks

JEL Classification:

M14, G21, G29

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DOI: 10.26710/jafee.v5i2.868

1. Introduction

In competitive global markets, the stockholders, as well as, other stakeholders are taking their investment decisions by evaluating both financial and non-financial performances. Carrying out corporate social responsibility (CSR) is one of the most common non-financial performances of a company (Vartiak 2016). Thus, there created a necessity for information about CSR performance along with the financial indicators of a company. In this sense, as a vital route of communicating the social and environmental impacts on society and stakeholders caused by the business operations CSR reporting is becoming critical for a company (Vartiak 2016). According to Reynolds and Yuthas (2008), CSR reporting is an integral part of a corporation’s overall set of CSR activities, and CSR disclosure has been emerging over the past years (O’Dwyer, Unerman, and Bradley 2005; Gray, Owen and Maunders 1988). In other words, CSR
reporting is not only influenced by dominant stakeholders, but also by a combination of the prevalent institutions, values, culture, and history of a particular country (Momin and Parker, 2013). The terminology deploys for such reporting, and disclosure practice is varied worldwide and termed as corporate social disclosure, social accounting, socially responsible accounting, sustainable reporting, and social and ethical accounting (Islam 2012). Additionally, although some companies publish separate CSR reports, most of the companies likely prefer to disclose CSR information through their annual reports because the annual report is a vital document to build the social image of an organization (Luethge and Han 2012; Deegan, Rankin, and Tobin 2002; Gray, Kouhy, and Lavers 1995b; Gray, Kouhy, and Lavers 1995a). In this aspect, a large number of empirical studies investigated the companies’ CSR disclosures in the annual report. According to Belal (2001) most of these studies were in the context of developed countries from America, Europe, and Australia (e.g., Fernández-Gago, Cabeza-García, and Nieto 2018; Burritt and Schaltegger 2010; Othman and Ameer 2009; Gray 2006; Adams C., Hill W., and Roberts C. 1998; Kong 1996; Gray et al. 1995a; Roberts 1991; Zeghal and Ahmed 1990). Few types of research explored CSR disclosure practices of companies in developing countries like Bangladesh, India, Malaysia, Singapore, and Thailand (e.g., Mohammad and Kamal 2016; Momin and Parker 2013; Sobhani, Amran, and Zainuddin 2012; Belal and Cooper 2011; Belal and Roberts 2010; Wise and Ali 2009; Murthy 2008; Belal and Owen 2007; Hamid 2004; Kuasirikun and Sherer 2004; Belal 2001; Belal 2000; Imam 2000; Tsang 1998). Evidence from the previous studies indicates that the extent of CSR disclosures in annual report of companies in developing countries is lower than that in the developed countries and in case of Bangladesh, the level of CSR reporting is small and inadequate (Belal and Cooper 2011; Belal 2001; Imam 2000). Only a few of these studies have explored the CSR activities and disclosure sections, contents, and nature. In addition to these, no particular research has addressed the usage of the account head and sub-head for CSR expenditure in the body of the ‘financial statements’ and the ‘notes to financial statements’in the annual report of a company respectively. The present study, therefore, is an attempt to fulfill the above gaps in the CSR literature, especially for Bangladesh.

For several reasons, as are described below, the current researchers have selected Bangladesh and CSR disclosure practices of commercial banks as a study area. Firstly, having grown and fostered in the developed world, CSR issues are also getting its popularity as a research area in developing countries like Bangladesh (Quazi, Rahman, and Keating 2007). Secondly, for her recent remarkable progress from an economic perspective, Bangladesh holds the typical characteristics of a developing country, and like Hossain and Alam (2016) and Haque and Azmat (2015) many authors are recognizing Bangladesh as “a role-model of developing the world” and “an emerging economy in South East Asia”. Thirdly, although Bangladesh has already shifted its position “from a low-income country to a middle-income country”, it is still facing several social problems (Hossain and Alam 2016). Thus, as development co-partners with the government of Bangladesh, corporations are giving exceptional attention on philanthropy-driven CSR activities to mitigate the social issues and implementing CSR policy to form social equity within their relevant stakeholders such as employees, suppliers, and society-at-large (Karim and Kasim 2018). Fourth, national and multinational corporations in Bangladesh are facing massive pressures to consider the social consequences of their activities and the stakeholders are gradually becoming more attentive to the CSR activities and its disclosures (Belal 2001). Fifth, although CSR concepts have become a focal point among business, academia, and civil society in Bangladesh (Rahim 2013), there is no particular regulatory law in this country exclusively addressed CSR practices. However, since 2008, Bangladesh Bank (BB)-the central bank of Bangladesh, has been monitoring CSR adoption and practices of commercial banks by issuing various circulars and guidelines from time to time (Ullah 2013; Mahbuba and Farzana 2013). Most of the commercial banks, as per the instructions of BB, are providing donations in the areas of patronizing education, poverty lessening programs, sponsoring in sports and social functions, undertaking low-cost housing projects, creating job opportunities for unemployed youth and addressing other community issues (Sobhani et al. 2012). Finally, as the most important and flourishing industry in
Bangladesh, banking companies have accomplished global attention in the last few years, and they are continuing their enormous contribution to the economic success of the country (Sobhani et al. 2012; Sarker 2000).

2. Literature Review
Global pressure and competition as well as the demand for a scandal-free ethical business community are revolutionizing ideal business practices. Institutional reinforcement such as “the Sarbanes Oxley Act” and other regulations are providing an impetus for increased reporting voluntarily. In this sense, government officials, business leaders, and academics are focusing with the intensive attention to the concept of “corporate social responsibility” which denotes the sacrificing profits for the social interest (Reinhardt, Stavins, and Vietor 2008). Previously, firms acted merely as a valuable tool to its shareholders, remained obedient to the laws of the land, and felt no need to become socially responsible (Friedman 2007). But, Carroll (1979) observed that firms have ethical and philanthropic responsibilities apart from those financial and legal obligations. Since then, firms, willing to create a socially responsible image for itself, are expected to operate their economic activities that can hold the environmental sustainability concept while recognizing the interests of its numerous stakeholder groups (Carroll 1999). Reputed firms worldwide, especially in the developed economies, have already moved from the classical ‘profit maximizing’ approach to a ‘socially responsible’ approach. They are not only responsible to its stockholders but also its consumers, employees, suppliers, community, and society at large (Rahman 2015). Moreover, companies are now far more concerned about CSR activities and the disclosures thereof to the general public. The scope of disclosure by firms has expanded to satisfy the needs not only of their share or debenture holders but also of other stakeholders, including customers, suppliers, and the government, as well as the general public (Kiliç, Kuzey, and Uyar 2015). The aim is to satisfy the stakeholders while remaining competitive because evidence proves that a company can secure its existing market share and enhance its competitiveness by spending in CSR activities (Jones 1996). Previously, few companies made some voluntary disclosures about social and ethical issues about their economic activities. But now stakeholders have become much aware of their rights, and as a result, they observe firms’ CSR activities and disclosures thereof. Thus, companies are now much conscious about their CSR disclosures and whatever they do for the society they want to disclose these in their annual report. In this aspect, Zeghal and Ahmed (1990) examined that the disclosure of social responsibility information of Canadian companies operating in the banking and petroleum industries. Their study indicates that companies provide more qualitative but less quantitative information about their CSR activities. Furthermore, Murthy (2008) utilized the content analysis technique to examine the CSR disclosure practices of the top 16 (sixteen) software companies in India. The study indicates that most of the companies disclose qualitative information and preferred ‘other sections’ of the annual reports for presenting such disclosure and few companies insert separate sections in their annual reports to disclose CSR information. Also, Tsang (1998) conducted a longitudinal study covering the period from 1986 to 1995 on thirty-three listed public companies of Singapore operating in the banking, food and beverages, and hotel industries. The result shows that most of the companies disclose CSR information relating to human resources and community involvement, and although various companies have increased the amount of CSR expenditure over the period, the extent of disclosure is not in large scale. Sobhani, Amran, and Zainuddin (2009) surveyed 100 listed companies in Bangladesh and they concluded that the level and the extent of CSR disclosures are poor. In the same lineup of studies some researchers examined that most of the companies likely prefer descriptive disclosures and focusing on ‘good’ CSR-related information in their annual reports, but the extent of such disclosure is still inadequate (Sufian 2012; Belal 2001; Imam 2000).

Furthermore, Porag (2014) stated that most of the companies practice CSR in their way, and a few companies have separate CSR department. However, Bangladesh has a good number of rules and regulations, e.g. the Environmental Protection Act, 1995; the Companies Act, 1994; the Banking Companies Act, 1991; the Industrial Relations Ordinance, 1969; the Factories Act, 1965; the Employment of Labor (Standing Orders) Act, 1965; the Payment of Wages Act, 1936; and the Workmen Compensation Act, 1923 (Belal and Roberts 2010). But, Khatun (2014) mentioned that the major Bangladeshi laws
related to corporate regulation and responsibility do not have the necessary features to develop a CSR-centered corporate culture in the country. Moreover, although from July 1, 2010, the government has initiated CSR reporting by the banking companies to Bangladesh Bank, still there is a demand for a cleaner environment and social accountability of banking companies.

Due to the heightened interest in the concept of CSR and its reporting and what it entails, particularly in developed countries, many researchers have conducted studies in this field. But the developing countries are far behind in responding to the increased concern about the issue of CSR reporting. Previously, some researchers explored the volume of CSR disclosures in terms of pages devoted to social reporting and concluded that CSR information is descriptive and the quantity of exposure is also inadequate and weak (Belal 2000; Belal 2001; Imam 2000). Furthermore, Hackston and Milne (1996) investigated the pictorial presentation of CSR activities, and Vourvachis et al. (2016) examined the extent and the volume of CSR disclosures in terms of pages, pictures, and graphs inserted in the annual report by a company. Additionally, some authors noticed the nature of disclosure whether it is purely qualitative, purely quantitative or mixed of both (Belal 2001; Williams and Ho Wern Pei 1999; Walden and Schwartz 1997; Zeghal and Ahmed 1990).

Moreover, the above examinations were limited to the number of companies having CSR disclosures with particular purposes. They did not explored CSR disclosures in terms of the CSR activities and its disclosure sections, contents, and nature of information as well as usages of the account head and sub-head for CSR expenditure at the body of ‘financial statements’ and ‘notes to financial statements’ in the annual report of a company as a whole. Accordingly, the present study adds to the growing body of literature in the area by focusing on previous issues.

3. Method
3.1 Data Source
Previously, some researchers investigated the annual reports to explore the extent and the volume of CSR disclosures (Luethge and Han 2012; Deegan et al. 2002; Gray et al. 1995a; Gray et al. 1995; Gray et al. 1988). The earlier researchers marked that the annual report as a vital document of an organization can construct the social image of a particular entity. Thus, CSR performance data is becoming an increasingly important feature of companies’ annual reports (Vartiak 2016). However, in Bangladesh, corporations communicate their primary means of information through the annual report (Hossain, Islam, and Andrew 2006; Belal 2001). Previously many researchers considered the annual report as a secondary source of data for their studies purpose (e.g., Momin and Parker 2013; Sobhani et al. 2012; Belal 2008; Belal 2001). Thus, to conduct this study, we have investigated the annual report 2018 of twenty-eight out of the thirty commercial banks listed on the Dhaka Stock Exchange (DSE) as of June 30, 2019.

3.2 Data Analysis and Presentation
According to Krippendorf (2004), content analysis is one of the standard methodologies in the social sciences for studying the content of the communication. It also refers to a suitable technique for making inferences by objectively and systematically identifying specified characteristics of information. Additionally, content analysis is a well-known technique to quantify the voluntarily disclosed corporate social details (Puncheva-Michelotti, Hudson, and Jin 2018). Previously, many studies, around the world, investigated the content analysis of companies’ annual reports to measure the volume of CSR disclosures (Vourvachis, Woodward, Woodward, and Patten 2016). Additionally, some authors conducted studies based on content analysis of companies’ annual reports to explore the corporate social reporting practices in Bangladesh (Sobhani et al. 2012; Sobhani et al. 2009; Belal 2008; Belal 2001).
Thus, to explore the CSR issue, several times the responsible members of the research team have read the printed version of the annual reports of the sampled commercial banks from the first page to the last one. The researchers have categorized the CSR activities into eight groups and recognized as the CSR section if there is any CSR information throughout the different parts of the annual report. They have also measured the volume of disclosure in term of the number of the sentence, picture, table, graph and page contained CSR information; and determined the nature of data (qualitative, quantitative and mixture) based on whether it is descriptive in nature or figure expressed with taka (Bangladeshi Currency). Furthermore, the study has examined the body of ‘financial statements' and 'notes to financial statements' to get the specific account head and sub-head that contains the amount of CSR expenditure for a particular financial year.

Moreover, to look closely at the nature of the entire aggregate disclosures made by the sampled banks (∑DN) across the vital sections, whether it is (i) purely qualitative or (ii) purely quantitative or (iii) both (qualitative and quantitative) in a particular section (SN), and the entire disclosures made by banks in a particular section, DN, should be the summation of all three types of disclosure. For this purpose, researchers of this study have constructed the following formulae

\[ DN = QLN+QAN+QLAN \] …………………(1)

\[ \Sigma DN = \Sigma QLN + \Sigma QAN + \Sigma QLAN \] ………………..(2)

Where

- DN denotes the total number of disclosures by all banks in a single section
- QLN denotes the total number of purely qualitative disclosures by all banks in a single section
- QAN denotes the total number of purely quantitative disclosures by all banks in one section
- QLAN denotes the total number of mixed disclosures by all banks in a single section

However, utilizing the content analysis technique, this qualitative study has presented its outcome through various tables with a brief description of each of them.

4. Findings

4.1 CSR Activities of Sampled Banks

To assist in the understanding of accurately which types of CSR activities are performed by the commercial banks, an analysis has been done. In 2018 almost every commercial bank has contributed to the educational development of Bangladesh through scholarship programs, stipend package, and granting research funds. Furthermore, all of them have granted donations to hospitals, clinics, arranging free treatment for insolvent patients, etc. Almost every commercial bank has also donated to flood-affected, and cold waves affected people. Moreover, most of them have played very sincere roles in protecting the environment, but some have not mentioned anything in this aspect. Some banks have contributed to sectors other than those included in previous sections, for example, patronization of sports, and cultural functions. A few numbers of banks have allotted CSR funds to construct buildings for schools, colleges, and universities, and an extension of the road. Very few banks have disclosed their human-resource-related packages in their CSR sections. However, we have found out eight particular CSR sectors in which commercial banks in Bangladesh likely prefer to make CSR contributions and hence they have disclosed information related to these CSR activities in their annual reports. In general, the main CSR sectors can be categorized into relating to eight major areas as follows:

Table 1: Common sectors of CSR of commercial banks in Bangladesh

Table 1 indicates that there are eight specific sectors of CSR, i.e., contribution to education, health, humanitarian & disaster management, environment, cultural welfare, infrastructural development,
income-generating activities, and others. As per their statements, the motto of this CSR is to help the underprivileged people and environmental sustainability for sustainable development of the country.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>The sector of CSR of Banks</th>
<th>Specific Activities</th>
</tr>
</thead>
</table>
|         | Education                   | Providing scholarship to insolvent but meritorious students  
                                                      Donating for purchasing study materials such as laptop computer, school bag, exercise books, and so on  
                                                      Providing research fund in tertiary level education |
|         | Health                      | Arranging free medical camp for treatment of distressed community of the country  
                                                      Donating to purchase medical equipment, ambulance, food and medicine to help the needy patients  
                                                      Organizing blood donation camp and supporting acid burn victims |
|         | Humanitarian and disaster relief | Donating to prime minister’s relief fund  
                                                      Distributing relief materials to flood-affected and giving warm cloth to the less advantaged people survive the winter  
                                                      Granting fund to the martyrs of various tragic events such as (BDR Mutiny and Rana Plaza Collapse Tragedy) |
|         | Environment                 | Arranging tree plantation programs and organizing various young climate change competition  
                                                      Adoption of energy efficient, carbon footprint reducing internal processes and practices in own offices and establishments are in progress  
                                                      Developing green school project and city beautification program |
|         | Cultural welfare            | Arranging award giving ceremony to promote Bangla music, literature and arts  
                                                      Sponsoring in sports and cultural events  
                                                      Organizing a book fair program for underprivileged children at the national book fair in Bangla Academy premises. |
|         | Infrastructural development | Donating to construct school & library building, hospital building, and foundations  
                                                      Building senior citizens care centre and daycare centre for children  
                                                      Building extension road |
|         | Income generating activities | Arranging various training sessions to develop the skill of farmer, RMG workers, and other technical sectors' labors  
                                                      Arranging awarding giving ceremony to recognize and honor leadership, entrepreneurial talent, and best practices of individual micro-entrepreneurs in Bangladesh  
                                                      Promoting youth leadership and women empowerment through arranging women’s debate competition in the country |
|         | Others                      | Presenting activities that are aimed at the benefit of society in general, including assistance to charitable and non-profit organizations involving donations to distressed, sponsorships in various activities, steps taken to alleviate poverty, etc. |

Source: Researchers’ compilation from the annual reports of sampled banks

**Table 2: Common CSR activity disclosed in the annual report**
Table 2 is an elaboration of these CSR activities related disclosures by the banks in their annual reports. The calculated percentage (%) indicates the ratio of the banks which have addressed the particular CSR activity and its disclosure in annual reports.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>CSR activities of banks</th>
<th>No. of Banks (out of 28)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Education</td>
<td>28</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>Health</td>
<td>28</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>Humanitarian and disaster relief</td>
<td>28</td>
<td>100</td>
</tr>
<tr>
<td>4</td>
<td>Environment</td>
<td>22</td>
<td>78.57</td>
</tr>
<tr>
<td>5</td>
<td>Cultural welfare</td>
<td>15</td>
<td>53.57</td>
</tr>
<tr>
<td>6</td>
<td>Infrastructural development</td>
<td>9</td>
<td>32.14</td>
</tr>
<tr>
<td>7</td>
<td>Income generating activities</td>
<td>7</td>
<td>25</td>
</tr>
<tr>
<td>8</td>
<td>Others</td>
<td>12</td>
<td>57.14</td>
</tr>
</tbody>
</table>

Source: Researchers’ compilation from the annual reports of sampled banks

Table 2 indicates that in 2018, all sampled banks (100%) have disclosed information about their CSR contribution to education, health, and humanitarian and disaster relief. In addition to this, approximately 78.57% of sampled banks have disclosed their steps taken to protect the environment, and 53.57% of sampled banks have published their contributions toward building a culture based progressive society. But less than half of the total sampled bank has disclosed information about their CSR contribution to infrastructural development and income-generating activities. Moreover, the majority of banks have published their initiatives to address other social issues.

4.2 Sections of CSR Disclosures in the Annual Reports

The study indicates that all sampled banks have made CSR disclosure in the annual report 2018. But they have used a variety of sections of annual reports for such disclosure because there is no standard format for CSR disclosures in Bangladesh.

Table 3: CSR Disclosure Sections in the Annual Reports

Table 3 indicates that the sampled banks have used the thirteen sections in annual reports to disclose CSR information. These sections can be called relevant CSR disclosure sections of banks in Bangladesh.

<table>
<thead>
<tr>
<th>Section Code (SN)</th>
<th>CSR Disclosure Sections</th>
<th>Total No. of Banks making Disclosure (DN), N=28</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>Vision</td>
<td>4</td>
<td>14.29</td>
</tr>
<tr>
<td>S2</td>
<td>Mission</td>
<td>5</td>
<td>17.86</td>
</tr>
<tr>
<td>S3</td>
<td>Strategic Objective</td>
<td>5</td>
<td>17.86</td>
</tr>
<tr>
<td>S4</td>
<td>Core Value</td>
<td>5</td>
<td>17.86</td>
</tr>
<tr>
<td>S5</td>
<td>Bank’s Profile</td>
<td>2</td>
<td>7.14</td>
</tr>
<tr>
<td>S6</td>
<td>Message from Chairman</td>
<td>14</td>
<td>50.00</td>
</tr>
<tr>
<td>S7</td>
<td>Message from President/CEO/MD</td>
<td>17</td>
<td>60.71</td>
</tr>
<tr>
<td>S8</td>
<td>Directors’ Report</td>
<td>23</td>
<td>82.14</td>
</tr>
<tr>
<td>S9</td>
<td>Separate CSR Section</td>
<td>20</td>
<td>71.43</td>
</tr>
<tr>
<td>S10</td>
<td>Sustainability Reporting</td>
<td>14</td>
<td>50.00</td>
</tr>
<tr>
<td>S11</td>
<td>Green Banking</td>
<td>16</td>
<td>57.14</td>
</tr>
<tr>
<td>S12</td>
<td>Other Sections</td>
<td>5</td>
<td>17.86</td>
</tr>
<tr>
<td>S13</td>
<td>Notes to Financial Statements</td>
<td>24</td>
<td>85.71</td>
</tr>
<tr>
<td>Aggregate</td>
<td></td>
<td>154</td>
<td></td>
</tr>
</tbody>
</table>

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Source: Researchers’ compilation from the annual reports of sampled banks

Table 3 indicates that the sampled banks have used the above thirteen sections in annual reports to disclose CSR information. These sections can be called relevant CSR disclosure sections of banks in Bangladesh. If all twenty-eight banks have used all thirteen critical parts of their annual reports for CSR disclosure, there would have been 364 (28×13) disclosures theoretically. But in reality, the sampled banks have made a combined total of only 154 disclosures across these sections revealing the fact that CSR disclosure has not received sufficient attention from the banking industry of Bangladesh. However, the most popular parts are S13, and S8 (used by 85.71% and 82.14% banks respectively) and the least favorite section is S5 (used by only 7.14% banks). Furthermore, most of the sampled banks (71.43%) have dedicated a separate section for CSR disclosure in their annual reports. The overall finding also indicates that most of the sampled banks generally use more than one part to disclose CSR information.

**Table 4: Frequency distribution for usage of CSR disclosure sections**

Table 4 indicates the range of usage of sections by a particular bank. The possible outcome is a maximum of thirteen sections and minimum one section.

<table>
<thead>
<tr>
<th>Section(s) used</th>
<th>No. of Bank(s)</th>
<th>Percentage (%) of Sampled Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Section only</td>
<td>2</td>
<td>7.14</td>
</tr>
<tr>
<td>2 Sections</td>
<td>3</td>
<td>10.71</td>
</tr>
<tr>
<td>3 Sections</td>
<td>3</td>
<td>10.71</td>
</tr>
<tr>
<td>4 Sections</td>
<td>4</td>
<td>14.29</td>
</tr>
<tr>
<td>5 Sections</td>
<td>7</td>
<td>25.00</td>
</tr>
<tr>
<td>6 Sections</td>
<td>2</td>
<td>7.14</td>
</tr>
<tr>
<td>7 Sections</td>
<td>6</td>
<td>21.43</td>
</tr>
<tr>
<td>Eight Sections</td>
<td>1</td>
<td>3.57</td>
</tr>
</tbody>
</table>

Source: Researchers’ compilation from the annual reports of sampled banks

Table 4 indicates that no bank has used all thirteen relevant sections for CSR disclosure in the annual report 2018. Only a particular bank has used a maximum of eight parts, and approximately 92.86% of banks have used two or more sections, whereas about 7.14% have used only one division.

**a. The measurement of contents of CSR disclosures**

The sampled banks generally use four tools such as descriptive, photo, table, and graph to disclose CSR information. The study has also attempted to measure the contents of CSR disclosures in the annual reports in terms of the number of sentences, photos, tables and graphs placed and in addition to these; it has also determined the volume of pages that contains CSR information.

**Table 5: Use of tools (Descriptive, Photo, Table and Graph) for CSR disclosure**

Table 5 carries the tools of CSR disclosure and how many banks have utilized each of them to disclose CSR information.

<table>
<thead>
<tr>
<th>Tools used</th>
<th>No. of Banks</th>
<th>Percentage (%)</th>
<th>Highest Value</th>
<th>Lowest Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sentence</td>
<td>28</td>
<td>100.00</td>
<td>1628</td>
<td>4</td>
</tr>
<tr>
<td>Picture</td>
<td>26</td>
<td>92.86</td>
<td>70</td>
<td>1</td>
</tr>
<tr>
<td>Table</td>
<td>14</td>
<td>50.00</td>
<td>28</td>
<td>1</td>
</tr>
<tr>
<td>Graph</td>
<td>9</td>
<td>32.14</td>
<td>38</td>
<td>1</td>
</tr>
</tbody>
</table>
Source: Researchers’ compilation from the annual reports of sampled banks

Table 5 indicates that all commercial banks have presented CSR information in descriptive form using sentences ranging from as high as 1628 to as low as 4. Moreover, approximately 92.86% of sampled banks have attached pictures (ranging from as high as 70 to as little as 1), and precisely 50% of sampled banks have inserted tables (ranging from as high as 28 to as low as 1) for CSR disclosure. On the contrary, only 32.14% of sampled banks have to prefer to use the graph for their CSR disclosure.

The number of tools has been used by the banks also varied, which are shown in the following table.

**Table 6: Frequency distribution of the number of tools used**

Table 6 indicates that a bank can utilize maximum four tools and minimum 1 and the multiple combinations with the usages of descriptive, picture, table, and graph tools.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>No. of Banks</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used one tool only</td>
<td>2</td>
<td>7.14</td>
</tr>
<tr>
<td>Used two tools</td>
<td>11</td>
<td>39.29</td>
</tr>
<tr>
<td>Used three tools</td>
<td>7</td>
<td>25.00</td>
</tr>
<tr>
<td>Used four tools</td>
<td>8</td>
<td>28.57</td>
</tr>
</tbody>
</table>

Source: Researchers’ compilation from the annual reports of sampled banks

Table 6 indicates that approximately 39.29% of the sampled banks have used two tools, approximately 28.57% of sampled banks have used four tools, and only 25% of banks have used three tools for CSR disclosure. Moreover, not all sampled banks have used all tools.

In the next sub-section, this study has also measured the contents of CSR disclosures in terms of the number of sentences written by the banks to discuss their CSR issue. Researchers have categorized the observations into five closed intervals and one open interval.

**Table 7: Number of sentences written for CSR disclosures**

Table 7 indicates the volume of detailed explanation in term of the number of sentences used for CSR disclosure in the annual report. The range is 1 to more than 200 sentences.

<table>
<thead>
<tr>
<th>Intervals</th>
<th>No. of Bank(s)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 sentence</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>1-50 sentence(s)</td>
<td>10</td>
<td>35.71</td>
</tr>
<tr>
<td>51-100 sentences</td>
<td>11</td>
<td>39.29</td>
</tr>
<tr>
<td>101-150 sentences</td>
<td>1</td>
<td>3.57</td>
</tr>
<tr>
<td>150-200 sentences</td>
<td>3</td>
<td>10.71</td>
</tr>
<tr>
<td>More than 200 sentences</td>
<td>3</td>
<td>10.71</td>
</tr>
</tbody>
</table>

Source: Researchers’ compilation from the annual reports of sampled banks

Table 7 indicates that approximately 39.29% of sampled banks have written 51-100 sentences, followed by 35.71% of the sampled banks have written below 51 sentences. The highest and lowest numbers of sentences are 1628 and 4 respectively. Moreover, only three sampled banks have written over 200 sentences for disclosures their CSR issues.

This study has further measured the contents of CSR disclosures in terms of the number of related pictures posted in annual reports. Five closed intervals and one open interval are developed for this purpose.
Table 8: Number of photo posted for CSR disclosures

Table 8 presents the status of pictorial presentation of CSR activities of banks. The number of photos is varied from bank to bank, and the range is 0 to more than 20 photos.

<table>
<thead>
<tr>
<th>Intervals</th>
<th>No. of Banks</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Photo</td>
<td>2</td>
<td>7.14</td>
</tr>
<tr>
<td>1-5 Photo(s)</td>
<td>9</td>
<td>32.14</td>
</tr>
<tr>
<td>6-10 Photos</td>
<td>7</td>
<td>25.00</td>
</tr>
<tr>
<td>11-15 Photos</td>
<td>2</td>
<td>7.14</td>
</tr>
<tr>
<td>16-20 Photos</td>
<td>3</td>
<td>10.71</td>
</tr>
<tr>
<td>More than 20 Photos</td>
<td>5</td>
<td>17.86</td>
</tr>
</tbody>
</table>

Source: Researchers’ compilation from the annual reports of sampled banks

Table 8 indicates that approximately 32.14% of sampled banks have posted the 1-5 photo(s) followed by 25% of sampled banks’ posting of 6-10 photos and two sampled banks (7.14%) have not posted any photo related to their CSR activities. Moreover, approximately 17.86% of banks have attached more than 20 photos.

Additionally, this study has also measured the contents of CSR disclosures in terms of the number of tables and graphs placed in annual reports. Six closed intervals and one open interval are developed for these purposes.

Table 9: Number of tables placed for CSR disclosures

Table 9 contains the CSR disclosure of sampled banks in term of the number of the table used by the banks. The range is 0 to more than five tables inserted by various banks.

<table>
<thead>
<tr>
<th>Use of Table(s)</th>
<th>No. of Bank(s)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 table</td>
<td>14</td>
<td>50.00</td>
</tr>
<tr>
<td>1 table</td>
<td>5</td>
<td>17.86</td>
</tr>
<tr>
<td>2 tables</td>
<td>4</td>
<td>14.29</td>
</tr>
<tr>
<td>3 tables</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>4 tables</td>
<td>2</td>
<td>7.14</td>
</tr>
<tr>
<td>5 tables</td>
<td>2</td>
<td>7.14</td>
</tr>
<tr>
<td>More than 5 tables</td>
<td>1</td>
<td>3.57</td>
</tr>
</tbody>
</table>

Source: Researchers’ compilation from the annual reports of sampled banks

Table 9 indicates that half of the sampled banks have not inserted any table, and only 17.85% of banks have placed five or more tables (out of the remaining 50%) for CSR disclosures.

Table 10: Number of graphs placed for CSR disclosures

Table 10 shows the number of graphs usually used by the banks to present their CSR issues in the annual report. The range is 0 to more than five graphs that contained CSR related information of banks.

<table>
<thead>
<tr>
<th>Use of Graph(s)</th>
<th>No. of Bank(s)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 graph</td>
<td>19</td>
<td>67.86</td>
</tr>
</tbody>
</table>
Table 10 indicates that approximately 67.86% of sampled banks have not inserted any graph and only 10.71% of sampled banks have placed only three graphs, and the remaining 21.43% of sampled banks have used two or more graphs for CSR disclosures.

Finally, to measure the extent and the length of contents of CSR disclosures, this study has counted the number of pages in the annual report and categorized the observations into five closed intervals and one open interval.

**Table 11: Number of page(s) used in the annual reports for CSR disclosures**

Table 11 measures the utilization of the number of pages to disclose CSR related information of banks. The usages of the page(s) are between 1 to more than 20 pages.

<table>
<thead>
<tr>
<th>Intervals</th>
<th>No. of Bank(s)</th>
<th>Percentage (%)</th>
<th>Highest Value</th>
<th>Lowest Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 page only</td>
<td>0</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5 page(s)</td>
<td>15</td>
<td>53.57</td>
<td>88</td>
<td>1</td>
</tr>
<tr>
<td>6-10 pages</td>
<td>8</td>
<td>28.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11-15 pages</td>
<td>2</td>
<td>7.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-20 pages</td>
<td>1</td>
<td>3.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than 20 pages</td>
<td>2</td>
<td>7.14</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Researchers’ compilation from the annual reports of sampled banks

Table 11 indicates that more than 50% of sampled banks have confined CSR disclosures within 1-5 page(s). Moreover, approximately 28.57% of sampled banks have utilized 6-10 pages, and only 7.14% of banks have applied more than 20 pages to disclose CSR information. The highest number of pages used is 88, and the lowest is 1.

### 4.4 Nature of CSR Disclosures in the Annual Reports

This section of the study has examined, broadly, the nature of CSR disclosures in the annual report 2018 of the sampled banks. Firstly, the researchers have questioned whether CSR disclosures made by all banks contained a mixture of qualitative and quantitative information, at least in one crucial section or not.

**Table 12: Nature of CSR disclosure practices of sampled banks**

Table 12 shows the nature of disclosure, whether it is mixed with qualitative and quantitative information or not.

<table>
<thead>
<tr>
<th>Nature of Disclosure Practice (Mixture or Non-mixture)</th>
<th>No. of Banks</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed disclosure occurred at least in one vital section</td>
<td>26</td>
<td>92.86</td>
</tr>
</tbody>
</table>
No mixed disclosure occurred in any critical part | 2 | 7.14

Source: Researchers’ compilation from the annual reports of sampled banks

Table 12 indicates that the mixed disclosure is the industry practice for banking industry’s CSR reporting as most of the banks (92.86%) have used a mixture of qualitative and quantitative information at least in one central CSR disclosure section.

Secondly, researchers have examined whether the relevant CSR disclosure sections used by the banks are purely qualitative or purely quantitative or a mixture of both.

**Table 13: Nature of CSR disclosure sections**

Table 13 presents the section which contains purely qualitative or quantitative or mixed of both. Among 13 original parts five sections contain purely qualitative, only one section contains strictly quantitative, and seven sections include mixed types of CSR information.

<table>
<thead>
<tr>
<th>Nature of Disclosure</th>
<th>SN</th>
<th>No. of Sections in each Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purely Qualitative</td>
<td>S1 – S5</td>
<td>5</td>
</tr>
<tr>
<td>Purely Quantitative</td>
<td>S13</td>
<td>1</td>
</tr>
<tr>
<td>Mixed</td>
<td>S6 – S12</td>
<td>7</td>
</tr>
</tbody>
</table>

Source: Researchers’ compilation from the annual reports of sampled banks

Table 13 indicates that only one section is purely quantitative out of the thirteen vital parts. The remaining twelve sections contain either purely qualitative disclosures or mixed disclosures.

The findings of Table 3 and Table 13 enable the study to (i) discover which nature of CSR disclosure sections contained how many actual disclosures, (ii) compare those actual disclosures with the theoretically possible number of exposures and (iii) calculate the discrepancies (if any). For this purpose,

**Table 14 is constructed, which is given below**

Table 14: Comparison between the number of actual and theoretically possible disclosures according to the nature of CSR disclosure sections

<table>
<thead>
<tr>
<th>Particular</th>
<th>Purely Qualitative</th>
<th>Purely Quantitative</th>
<th>Mixed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of CSR Disclosure Sections</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>No. of Actual Disclosures Occurred</td>
<td>21</td>
<td>24</td>
<td>109</td>
<td>154</td>
</tr>
<tr>
<td>No. of Theoretically Possible Disclosures</td>
<td>140</td>
<td>28</td>
<td>196</td>
<td>364</td>
</tr>
<tr>
<td>Discrepancies (Actual minus Theoretical)</td>
<td>119</td>
<td>-4</td>
<td>-87</td>
<td>-210</td>
</tr>
<tr>
<td>Actual to-Theoretical Disclosure Ratio</td>
<td>15%</td>
<td>85.71%</td>
<td>55.61%</td>
<td>42.31%</td>
</tr>
</tbody>
</table>

Source: Researchers’ compilation

The previous finding of this study (Table 3) indicates that S13, the solitary purely quantitative disclosure section, is the most popular CSR-disclosure section of the annual report. The actual number of disclosures in this section is 24 compared to the theoretically possible 28 (28×1). The study has also found that the
five purely qualitative disclosure sections (S1 – S5) are among the least favorite CSR disclosure sections of the annual report. The actual number of disclosures in these sections is a total of 21 (4+5+5+5+2) comparing to the theoretically possible 140 (28×5) exposures; the number of real revelation is weak. A meager actual-to-theoretical disclosure ratio, in this case, indicates that the sampled banks are lagging in terms of their CSR disclosures in purely qualitative sections. The study has further found that the seven mixed disclosure sections (S6 – S12) are also the most frequently used CSR-disclosure sections after S13. The actual number of disclosures in these sections is a total of 109 (14+17+23+20+14+16+5) comparing to the theoretically possible 196 (28×7) exposures; it is moderate. The average actual-to-theoretical disclosure ratio, in this case, indicates that the sampled banks are more comfortable to use S6 - S12 than S1 – S5 for CSR disclosure. Finally, an actual meager number of 154 revelations by the banks compared to the theoretically possible 364 (28×13) exposures reveal the fact that the CSR disclosure issue is not received sufficient attention by the banking industry of Bangladesh.

Thirdly, the study has extended its attempt to look closely at the nature of the entire aggregate disclosures made by the banks (∑DN) across the critical sections. A bank may choose to disclose (i) purely qualitative or (ii) strictly quantitative or (iii) both (qualitative and quantitative) information in a particular section (SN). Thus, entire disclosures are made by all banks in a specific segment; DN should be the summation of all three types of exposure. The study, therefore, has reconstructed Table 3, which is shown in Table 15.

Table 15: Breakdown of total disclosures in all sections according to the nature of disclosure (Qualitative/Quantitative/Mixed)

<table>
<thead>
<tr>
<th>SN</th>
<th>DN = QLN + QAN + QLAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>4 = 4 + 0 + 0</td>
</tr>
<tr>
<td>S2</td>
<td>5 = 5 + 0 + 0</td>
</tr>
<tr>
<td>S3</td>
<td>5 = 5 + 0 + 0</td>
</tr>
<tr>
<td>S4</td>
<td>5 = 5 + 0 + 0</td>
</tr>
<tr>
<td>S5</td>
<td>2 = 2 + 0 + 0</td>
</tr>
<tr>
<td>S6</td>
<td>14 = 7 + 0 + 7</td>
</tr>
<tr>
<td>S7</td>
<td>17 = 11 + 0 + 6</td>
</tr>
<tr>
<td>S8</td>
<td>23 = 10 + 0 + 13</td>
</tr>
<tr>
<td>S9</td>
<td>20 = 1 + 0 + 19</td>
</tr>
<tr>
<td>S10</td>
<td>14 = 4 + 0 + 10</td>
</tr>
<tr>
<td>S11</td>
<td>16 = 6 + 0 + 10</td>
</tr>
<tr>
<td>S12</td>
<td>5 = 5 + 0 + 0</td>
</tr>
<tr>
<td>S13</td>
<td>24 = 0 + 24 + 0</td>
</tr>
</tbody>
</table>

Aggregate total number of disclosures by sampled banks across sections according to the nature of disclosures

<table>
<thead>
<tr>
<th>∑DN = ∑QLN + ∑QAN + ∑QLAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>154 = 65 + 24 + 65</td>
</tr>
</tbody>
</table>

Source: Researchers’ compilation

Table 15 indicates that the total number of qualitative disclosures and mixed disclosures made by the banks are precisely equal in 2018. But in the case of seven mixed disclosure sections for CSR (S6 – S12), the scenario is quite different. These seven sections are dominated by mixed disclosures. Out of 109 disclosures in mixed disclosure sections (referring to Table 14), a total of 44 (7+11+10+1+4+6+5) disclosures are purely qualitative whereas a total of 65 (7+6+13+19+10+10) disclosures are mixed (both qualitative and quantitative).

4.5 The Utilization of Head and Sub-Head(s) to Account for CSR Expenditure in ‘Financial Statements’ and ‘Notes to Financial Statements’
All sampled banks have used ‘Other Expenses’ account as an account title in the body of the ‘Profit and Loss Account’ and provided details of ‘Other Expenses’ under some sub-heads in the ‘Notes to the Financial Statements’.

**Table 16: The usages of sub-head(s) to account for CSR expenditure in the ‘notes to financial statements’**

Table 16 shows the different sub-heads which have been used in the ‘Other Expenses” explanation section of ‘Notes to Financial Statements’ to show the CSR expenditure of banks.

<table>
<thead>
<tr>
<th>Sub-heads</th>
<th>Percentage (%)</th>
<th>No. of Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate Social Responsibility</td>
<td>17.86</td>
<td>5</td>
</tr>
<tr>
<td>Donation</td>
<td>42.86</td>
<td>12</td>
</tr>
<tr>
<td>Sponsorship</td>
<td>7.14</td>
<td>2</td>
</tr>
<tr>
<td>Subscription and Donation</td>
<td>32.14</td>
<td>9</td>
</tr>
<tr>
<td>Contribution to Foundation</td>
<td>14.29</td>
<td>4</td>
</tr>
<tr>
<td>Others</td>
<td>10.71</td>
<td>3</td>
</tr>
<tr>
<td>No sub-head</td>
<td>14.29</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: Researchers’ compilation from the annual reports of sampled banks

According to Table 16, approximately 42.86% of sampled banks preferred to ‘Donation’ followed by approximately 32.14% of sampled banks usage of ‘Subscription and Donation’ sub-head to disclose CSR expenses. Moreover, only 17.86% (approximate) of sampled banks have used ‘Corporate Social Responsibility’ sub-head clearly in the ‘Notes to Financial Statements’ to disclose CSR expense. Some of the sampled banks (14.29%) have established Foundations in their names to perform CSR activities and used ‘Contribution to Foundation’ sub-head to show their CSR expense. However, approximately 14.29% of sampled banks have not provided any sub-head to disclose CSR expense. Thus, there is no scope for external users to know the actual CSR expense.

**5. Discussion**

The overall findings of the study indicate that the sampled banks have different CSR disclosure practices. Although there are eight prime sections of CSR contribution, all banks do not contribute to all the sectors and contribution to education, health and humanitarian and disaster relief are common for all. Additionally, large numbers of banks take the initiative to protect environmental, whereas moderate amounts of banks contribute to building a culture based progressive society and a very few numbers of banks think about infrastructure development and income-generating activities and its disclosures.

Moreover, there is no uniformity in the usage of sections in annual reports for CSR disclosures. The study has identified thirteen different parts that contain CSR information, but no bank used all these sections in 2018. Some commercial banks have used only one section while others have used more than one article, and the maximum number of users is confined to eight parts. However, eight commercial banks do not have any ‘Separate CSR Section’ in their annual reports. The sampled banks have options of four tools such as descriptive (writing), pictures, tables, and graphs to provide CSR information, but they don’t focus equally on each instrument. Eight commercial banks have used all four tools, seven banks have used three tools, eleven banks have used two devices, and two banks have used only one tool. Although all banks have used a descriptive tool such as writing several sentences, twenty-six banks have posted the picture(s), fourteen banks have inserted table(s), and only nine banks have placed graph(s) that match to their CSR activities. The usages of pages are also varied, and the range is from 1 page to 88 pages.
Furthermore, these publicly traded commercial banks prefer to disclose a mixture of qualitative and quantitative CSR information. Only one section (‘Notes to the Financial Statements’) contains purely quantitative CSR disclosure, five chapters cover purely qualitative CSR disclosure, and maximum of seven sections reveal a mixture of both. Although actual-to-theoretical disclosure ratio for purely quantitative CSR information as well, a meager actual-to-theoretical disclosure ratio for purely qualitative sections' disclosures and an average actual-to-theoretical disclosure ratio for mixed sections' exposures indicate that the sampled banks are lagging in terms of qualitative and mixed CSR disclosures. However, an actual meager number of 154 revelations by the banks compared to the theoretically possible 364 (28×13) exposures reveal the fact that the CSR disclosure issue is not received sufficient attention by the banking industry of Bangladesh.

Moreover, the sampled banks have utilized ‘Other Expenses’ account head in the ‘Profit and Loss Account’ to show CSR expenditures but the sub-heads to reveal details of ‘Other Expenses' in the ‘Notes to the Financial Statements’ are not identical. Most of the sampled banks prefer to ‘Donation’ or ‘Subscription and Donation’ sub-head, and only five banks have used ‘Corporate Social Responsibility’ sub-head whereas four banks are failed to show any sub-head for CSR expenditures. Thus, it is very tough for external users to know the exact amount of CSR expenditure from the annual reports.

6. Theoretical and Practical Implications
International accounting standard-setting bodies such as International Accounting Standards Board (IASB), as well as, concerned regulatory authorities in Bangladesh such as Bangladesh Securities and Exchange Commission (BSEC), Bangladesh Bank (BB) and the Institute of Chartered Accountants of Bangladesh (ICAB), should come forward to provide appropriate framework and detailed guidelines to ensure uniform CSR disclosure practices by national and international companies in all industries. The authorities mentioned above should pay special attention to provide a basic format for CSR reporting in the annual report. Banking companies also can introduce regular CSR reporting in the annual report through their consensus. BB should make it mandatory for all banks to put the ‘Separate CSR Section’ in annual report and guidelines for more quantitative as well as qualitative CSR disclosures.

7. Limitation and Scope for Further Study
Although numerous studies have been conducted around the world on CSR, it remains a debatable issue in many aspects. The above research is confined to the publicly traded commercial banks of Bangladesh and an attempt to investigate CSR disclosure in the annual report for a particular financial year. Similar further studies can be conducted with longitudinal data on other industries of development as well as developing countries context.

8. Conclusion
Acknowledging their responsibilities to society, the commercial banks of Bangladesh voluntarily practice CSR activities and disclose CSR information in their ways. This exploratory study has analyzed the contents of the annual report of a particular financial year of eighteen banking companies listed in DSE. It is found that their CSR disclosures are not detailed enough to justify their claims about broad CSR scope. The external users of annual reports do not get sufficient quantitative CSR information, particularly CSR expenditure for decision-making purposes. The concerned authorities, therefore, should come forward to make CSR practices and disclosures more accurate, transparent, and fair. Finally, it is hoped that the listed, as well as other banks of Bangladesh, will develop a uniform framework to communicate their respective CSR practices, so that the relevant stockholders, as well as stakeholders, will gain more confidence and trust in the ability of the banks to ethically undertake their economic activities as well as corporate social responsibility.

References


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The Preferences of Non-Governmental Organizations to Sustainable Investment: Evidence from Emerging Equity Market

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ABSTRACT

From December 2015 to August 2018, the shares ownership of NGOs in the Indonesian equity market growing more than 80% for domestic and 120% for foreign. This study is aim to empirically test the NGO investment preferences in the Indonesia Stock Exchange based on the unique data set of free float shares ownership by NGOs in Indonesia Stock Exchange. The authors identify the impact of the firm size, firm liquidity level and recognition of sustainability as factors that imply the preferences of the foreign NGOs ownership in the Indonesia equity market. A new dataset from Indonesia evidence addresses insight of the importance to analyze the preference of NGO investors’ ownership in the stock market. In this study, the researchers examine two models to test the impact of market capitalization, liquidity and recognition of sustainability on the subsequent of NGO shares ownership. The analysis of stock ownership model performs by ordinary-least-squares (OLS) regression approach. Robustness test confirmed that the data do not contain any of window dressing and trade discreteness effects. The main result of this study shows that foreign NGO prefers to hold more ownership on the firms with recognition of sustainability. There were also found that foreign NGOs prefers to holdings fewer variety stocks, bigger market capitalization compared to domestic NGOs. This study contributes to the debate of the important role of NGOs to foster a better investment environment in the emerging equity market. It also may help Indonesia Stock Exchange and Indonesia

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1. Introduction

Investment is a significant element of household behavior. Changing how to invest in a sense would change household behavior. Non-governmental organizations (NGOs) with shareholder power believe that it has the intention of pushing and encouraging businesses in order to adopt more sustainable practices. Refers to (Kong et al. 2002), Shareholder Action Network (SAN) that is initiated by NGOs is seen as a tool to scaling stock ownership power for a good change (i.e. Good governance). The NGOs collaboration with socially responsible investment (SRI) groups addresses to encourage and inform institutional and individual shareholders to exercise their power for the sake of good governance and sustainability of the firm. Furthermore, there is a phenomenon of the active role of institutional and individual investors demanding more SRI group, since it is one of the fastest-growing investment sectors.

Green and sustainable finance offer a promising future for global stock exchanges. It is seen from the significant growth of green finance products over the decades. In addition, green bond and green equity indices have better performance compare to non-green bonds or equity indices. Notwithstanding, sustainable investment initiatives are still in the early stages. It infers that this phenomenon would arise significant growth opportunities for exchanges and market stakeholders to strengthen their competitive position in sustainability matters (Sustainable Stock Exchange Initiative 2016).

Recognition of sustainable aspect of the corporation through indices has become a feature of the global capital market. Sustainable investment in Asia is growing increasingly 32.5% of the market capitalization from 2012 to 2014. Specifically, in South-East Asia, there are only two stock exchange indices from Indonesia and Malaysia and one combined ASEAN Index (CSR Asia, 2016). The development of sustainable investment in South East Asia countries relies on government policies initiatives and corporate practices. Each country has a different sustainability landscape and approaches regarding policy and regulation, voluntary expectations and government incentives. This study focuses on one of the three aspects of this landscape, which is voluntary expectations that come from NGOs to enhance the sustainability approach to firms and investors in Indonesia.

Previous institutional studies ignore the internal condition of a country, which show has an important role in shaping reforms in ESG (environment, social responsibility, governance) aspects. The presences of ESG in the national context are a complex and dynamic process involving the interaction between different actors with their own interests (Ahmad and Mahmood 2015). These resolutions of sustainable investment are increasing the attention of institutional investors, small and large shareholders, and company executives. NGOs believe has a significant role in this novelty, using their status as advocates, advisors, and push for changing the policy (Guay, Doh, and Sinclair 2004).

In the emerging market, foreign institutional investors would increase their invested capital in preference to profitable, growing and larger firms (Kansil and Singh 2017). Meanwhile, the influential institutional ownership of the firm’s indicators of sustainability depends on the economic condition. There is a demand for a study to measure the extent to which of institutional investors selection on socially responsible investments (Buchanan, Cao, and Chen 2018). There is a lack of study that explores the role and preference of specific institutional investment, especially NGOs in the emerging capital market.

NGOs are known to have an intense concern to the Environmental, Social and Governance (ESG) issues in investment. For that reason, this study is aim to empirically test the NGO investment preferences in the Indonesia Stock Exchange based on the unique data set of free float shares ownership by NGOs in Indonesia Stock Exchange. The authors identify the impact of the firm size, firm liquidity level and
recognition of sustainability as factors that imply the preferences of the foreign NGOs ownership in the Indonesia equity market.

2. Literature Review

2.1 Institutional Ownership

Hester (1994) arises the phenomena regarding the evolving role of institution, instrument, and markets. Allen and Santomero (1997) argued that the cost-benefit of participation in the stock market became an important consideration in understanding the institution activities and particularly their focus on risk management. It supports the argument of different investment pattern of institutional investment regarding the point of view of risk management across nations (Prowse, 1990).

Modern stakeholder’s theory underlined that it is not only about maximizing the wealth, but also unleashing the importance of power, urgency, and legitimacy of stakeholders. Managing that three elements closely related to the corporate environment and governance (Mitchell, Wood, and Agle 1997). Ryan and Schneider (2003) addressed re-concentration of ownership and control spawned by the institutional investing influence the management in the context of the modern firm. Moreover, the shift in foreign institutional investor standing and complexity of corporate landscape has been fundamentally transformed (Huang and Zhu 2015).

Institutional investors seem to prefer to invest in a firm with specific characteristics. Foreign institutions with direct stock investment seem to have a tendency to invest in a firm with large size, high level of liquidity and global recognition (Dahlquist and Robertsson 2001). Firms with higher ownership by institutions with no underlying interests (independent) are seen to have higher in valuations, better financial performance, and efficient in capital allocation, which infers the institution’s actively monitoring corporations (Ferreira and Matos 2008). In addition, macroeconomic factors such as currency return also influence the institutional investors’ money flow in the capital market (Froot and Ramadorai 2005).

The typology of institutional investors which is identified by Ferreira and Matos (2008) characterize institutional investors with differences of “colors” in terms of their ability to actively monitor corporate policies and decisions. The first typology of institutional investors is based on the origin, Domestic and Foreign Institutional Ownership. The second comes from the institution type, Independent Institutional Ownership (e.g. mutual fund managers and investment advisers) and Grey Institutional Ownership (e.g. bank trusts, insurance companies, pension funds and endowments or Non-Government Organization). This study focuses on the preference of domestic and foreign NGOs (grey institutional) ownership.

When the executives behave as rational agents to maximize shareholders wealth, the primary concern will be to create additional values for their shareholder’s interests. Theoretically, executives of the company have to respond to NGOs shareholder’s pressure to balance the profits and environmental aspects (people and planet) with consistency (Spar and Mure 2003). The preferences of shareholder ownership rely on specific variables that affect the perceived value which leads to the decision to invest, hold or sell the shares (Petersen and Vredenburg 2009). Based on that assumption, institutional investors tend to prefer socially aligned organizations to invest in their capital, this study explored to what extent to which the preference of socially linked institution (such as NGO) investment preferences in a stock market.

2.2 Sustainable Investment

Good governance that leading data transparency in this empowered technological era has become easier and cheaper. For that reason, the investment in assets featured with balancing profit and non-profit aspects is driven with promising movement and growing premium during decades. ESG investing allows investors to express their own values and to ensure that their savings and investments reflect their preferences, without compromising on returns (Forbes, 2018).
The term ESG investment par to sustainable investing, socially responsible investing (SRI), mission-related investing or negative investment screening practice. ESG investment is engaged to the mixed stakeholders’ perspective. From a firm perspective, ESG related policy requires complex strategic planning due to its direct relations to decisions with a long-term impact, including production technology, the use natural resources, and the social dimension, which refers to fulfill both interests of the business environment (van Duuren, Plantinga, and Scholtens 2015).

From individuals’ point of view, ESG investing offers the opportunity for sustainable growth and shareholders activism (i.e. voting rights) for good governance and environment. And for policymakers, it should be a welcome market-led development that ensures that the common good does not get lost in short-term profit making at any cost. In general, ESG information is seen as modern tools to manage risk. For that reason, there is a concern from the global investor community to developing various methods for integrating ESG information optimally into investment practices (van Duuren et al. 2015). Related to this study, institutional investors increase the awareness of ESG investment in order to identify companies that are well positioned for the future and to avoid those which are likely to underperform. Many conventional fund managers (i.e. pension fund manager) have already adopted features of responsible investing in the investment process.

Harvard Business School global surveys (Amel-Zadeh and Serafeim 2017) arises the insight for the direction of ESG investment in the future. There is client demand for sustainable investment or as part of their product development process. Investors believe that ESG metrics provide useful information more on risks management. The uniqueness of sustainable investment data leads to ESG investors exhibiting different ESG investment styles. Furthermore, this study expects to identify the ESG investment styles of NGO’s which related to certain preferences of stock selection.

The successful business today emerged from an organization that able to bring an innovative solution that tied to sustainability issues. From a company point of view, there is an effort to become a sustainable business that called “use a global presence” which closely related to recognition of company in a global context. Multinational corporations (MNCs) gained an advantage to experiences sustainability practices overseas in order to make certain alignment to the business. Meanwhile, the governments in developing countries have become concerned about the sustainability aspects and encouraged companies to introduce a sustainable standard (i.e. GRI) and the next level of sustainable products & processes (Nidumolu, Prahalad and Rangaswami 2009). Furthermore, these initiatives lead to strategic Corporate Social Responsibility (CSR) projects that address to solve the problem of the natural environment and society.

Developing countries push voluntary basis sustainability reporting for a corporation (especially public company) which addresses the importance of market education and engagement approach related to sustainable investment. Sustainability reporting closely related to companies’ activities that adopt environmental and ethical management standards and practices. These initiatives lead a corporation to gain credibility for the stakeholders and set the sustainability standard for the industry. Nevertheless, as with sustainability reporting in developed countries, there is a lack of a system delivering market-relevant information related to risk management that is incorporated into decision-making for investors (United Nations Environment Program 2016).

According to Corporate Knights (2016) report series from 2012-2016, stock exchanges sustainability recognition was ranked based on the disclosure, growth, and timeliness. The data used in the analysis was obtained from Bloomberg’s ESG database based on indicators of energy use, carbon emissions, water use, waste generation, rate of employee injury, rate of employee turnover and personnel costs. As shown in figure 1 below, there is a notable improvement of sustainability disclosure ranking in South East Asia.
Region, specifically from Stock Exchange of Thailand and Bursa Malaysia. Meanwhile, Indonesia Stock Exchange is still lagged behind.

Source: Corporate Knights Sustainability Disclosure Ranking

**Figure 1: Ranking the South East Asia’s Stock Exchanges Sustainability Disclosure (2012-2016)**

The key aspect highlighted in global sustainability closely tied to the demands and concerns of foreign institutional investors to demonstrate best practice in corporate governance. Sustainability indices are also a popular way to recognize sustainability initiative among firms in stock exchanges. Many countries are developing indices that integrate social and environmental issues. Meanwhile, the indices tend to operate as a public recognition of good business practice without concern of the basis for a financial mechanism. However, the development of global sustainability indices has driven the development of locally relevant sustainability criteria and the capacity to assess investment practices (United Nations Environment Program, 2016).

As of June 2009, in an effort to develop sustainable initiatives in Indonesia, KEHATI foundation and Indonesia Stock Exchange have launched SRI KEHATI Index. This index follows the standard and regulation based on Sustainable and Responsible Investment (SRI) principles. Interestingly, a selection mechanism for the companies to be included in SRI KEHATI Index conduct every six months by both negative exclusion business practice and fundamental condition including several key financial aspects (KEHATI Foundation 2009). As the result, companies with the highest score declared to eligible into SRI KEHATI Index. This study accounted recognition of sustainable firm in Indonesia by firm appearances on SRI KEHATI Index.

In sum, the uniqueness of NGOs as institutional investors in the equity market indicates potential differences to the preferences of stock selection. However, there is a lack previous study that explains the preferences of NGOs in sustainable investment practices. Due to the high exposure of sustainable investment in emerging market and lack of study explore the role of NGO as an institutional investor in equity market; we propose two hypotheses that would test in the null form:

H1 Recognition of sustainability does not affect NGO shares ownership
H2 Recognition of sustainability does not affect NGO growth of invested capital

**3. Research Methods**

The sample utilized in the study is gathered from The Indonesia Central Custodian Depository (KSEI) and Indonesia Stock Exchange (IDX) in the period of September 2015 – August 2018. The raw data includes monthly shares ownership for domestic and foreign institutions and individual investors, including NGOs.
in all listed firms, stock price, number of shares outstanding, market capitalization and transaction volume of tradable shares. In addition, the recognition of firm sustainability gathered from the firm inclusion on SRI KEHATI index.

As this study is looking for the growth of invested capital, the short period of holding shares and missing month of ownership data are excluded. In addition, the small portion of NGOs invested capital as low as IDR50,000,000 (around $3,000) is excluded from the sample which is an indication of low engagement of shareholders to concern on firm policy and decision making. In addition, firms that present incomplete information on the required variables will be excluded from the sample.

Based on our recent data of free-float shares ownership in the Indonesian equity market during 2015 – 2018, respectively ownership of NGO’s growth more than 80% for domestic and 120% for foreign NGOs. Unique dataset from Indonesia evidence addressing insight of the importance to analyze the preference of NGO ownership in the stock market.

Institutional investors prefer to invest capital into a firm with specific characteristics. The measurement of NGOs preference in this study is shown by the amount of share ownership and the growth of invested capital in a specific period. Meanwhile, the predecessor direct stock investment for NGOs investment modified from Dahlquist and Robertsson (2001) model which are assessing the size, liquidity, and recognition of sustainability firm. Previous study Haladu and Salim (2017) found that the aspect of social recognition to sustainability has better to explain the phenomena in sustainability situation compared to environmental reporting. For that reason, recognition of sustainability of firm chosen instead to GRI (Global Reporting Initiative) performance indicators in this study to represent sustainable investment variable.

Furthermore, two models in this study test the impact of market capitalization, liquidity and recognition of sustainability on the subsequent of NGO shares ownership. The analysis of stock ownership model likely performs with ordinary-least-squares (OLS) regression approach (Abrahamson and De Ridder, 2015) with robustness test in window dressing and trade Discreteness effects (Sias et al. 2006). The regression model is described as follows:

$$Own(ngo\ i,\ t) = \logit\{b0 + b1cap(firm\ i,\ t) + b2liq(firm\ i,\ t)\} + b3sust(firm\ i,\ t)$$

$$\Delta Investcap(ngo\ i,\ t) = b0 + b1cap(firm\ i,\ t) + b2liq(firm\ i,\ t) + b3sust(firm\ i,\ t)$$

Own(NGO i, t)— NGO shares ownership in company (i), month (t).

$\Delta Investcap$(NGO i,t)—the growth of NGO invested capital in company (i), month (t).

Cap(firm i,t)—market capitalization of company (i) in month (t).

Liq(firm i,t) Sust(firm i,t)—transaction volume of company (i) in month (t).

Sust(firm i,t)—a dummy variable for firm recognition of sustainability from the firm (i) appearances on SRI KEHATI Index in month (t).

4. Results and Analysis

4.1 Descriptive statistics

There are gathered 10,899 possible observations from the monthly data of NGOs ownership in Indonesia from 2015–2018. Interestingly, 70% of observations come from domestic NGOs due to diversified shares ownership and tendency to invest a small amount of capital into small or the mid-capitalization firms. Table I reports the descriptive statistics during December 2015 – August 2018 which describes the
difference of preferences between foreign and domestic NGOs ownership in term of amount of invested capital, numbers of firm invested, percentage of big capitalization firms invested, percentage of LQ 45 indexed firms invest the and percentage of SRI KEHATI index firms invested. This study focuses to analyze the foreign NGO’s stock ownership preferences in Indonesia which follow the approach of the previous study that selects foreign institution as research object due to the establishment of specific investment selection in developing countries equity market (Rhee and Wang 2009).

The full panel data consist of 1764 observations with 49 stocks that have 36 months consecutive shares ownership of foreign NGO’s from September 30, 2015, to August 31, 2018.

Table 1: Descriptive Statistics

<table>
<thead>
<tr>
<th>Period</th>
<th>Invested capital (in IDR)</th>
<th>Growth</th>
<th>Firms Invested</th>
<th>Big cap firms</th>
<th>LQ45 Index Invested</th>
<th>SRI KEHATI Index Invested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign NGOs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec-15</td>
<td>2,333,641,704,442</td>
<td>-</td>
<td>87</td>
<td>74%</td>
<td>69%</td>
<td>60%</td>
</tr>
<tr>
<td>Dec-16</td>
<td>4,435,060,718,132</td>
<td>90.05%</td>
<td>79</td>
<td>76%</td>
<td>64%</td>
<td>52%</td>
</tr>
<tr>
<td>Dec-17</td>
<td>5,166,226,909,581</td>
<td>16.49%</td>
<td>104</td>
<td>72%</td>
<td>80%</td>
<td>72%</td>
</tr>
<tr>
<td>Aug-18</td>
<td>6,724,329,800,745</td>
<td>30.16%</td>
<td>89</td>
<td>74%</td>
<td>67%</td>
<td>60%</td>
</tr>
<tr>
<td>Domestic NGOs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec-15</td>
<td>3,721,350,196,807</td>
<td>-</td>
<td>204</td>
<td>44%</td>
<td>89%</td>
<td>80%</td>
</tr>
<tr>
<td>Dec-16</td>
<td>4,845,169,471,570</td>
<td>30.20%</td>
<td>207</td>
<td>47%</td>
<td>91%</td>
<td>80%</td>
</tr>
<tr>
<td>Dec-17</td>
<td>6,507,918,549,785</td>
<td>34.32%</td>
<td>214</td>
<td>49%</td>
<td>91%</td>
<td>96%</td>
</tr>
<tr>
<td>Aug-18</td>
<td>6,475,985,208,392</td>
<td>-0.49%</td>
<td>221</td>
<td>54%</td>
<td>96%</td>
<td>100%</td>
</tr>
</tbody>
</table>

4.2 Findings
The final panel data is tested for whether this assumption is valid for the random effects estimator is based on the Hausman test (Brooks, 2014). The viability of using fixed effect or random effect can be decided using Hausman test having the null hypothesis as, Ho: Random effects are consistent and efficient. This result is shown in table 2 below (Prob.) Cross-section random value < 0.05 for the first and second model, which infer the null hypothesis is rejected by the result. For that reason, the first and second model which simulated from 1764 data sets has a fixed firm effect. Fixed effect models are appropriate to consider a specific set of firms with limited to the behavior of these firms (Baltagi, 2005).

Table 2: Hausman Test: Testing for Fixed or Random Affect

<table>
<thead>
<tr>
<th>Dependent Variable: Shares Ownership (Model 1)</th>
<th>Test cross-section random effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Summary</td>
<td>Chi-Sq. Statistic</td>
</tr>
<tr>
<td>Cross-section random</td>
<td>77.947709</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent Variable: Invested Capital Growth (Model 2)</th>
<th>Test cross-section random effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Summary</td>
<td>Chi-Sq. Statistic</td>
</tr>
</tbody>
</table>
Table 3 reports the coefficients of the regression with a recognition of sustainability as a dummy variable. The coefficient of the dummy variable is positive and statistically significant at the convention level for panel A, which can be interpreted as the positive effect of the firm inclusion on the sustainability index to shares ownership preference of foreign NGOs.

Compared to the previous model of Dahlquist and Robertsson (2001), the adjusted R square is obviously higher and the F-test for the overall model is significant at 1 percent and 5 percent. The result from fixed-effect ordinary least squares analysis of the first model shows the preferences of foreign NGOs on stock ownership in Indonesia equity market significantly influence by the level of liquidity, size, and recognition of firm sustainability.

For that reason, this evidence contributes to the investment preferences for typology institutional investors’ theory (Ferreira and Matos, 2008), which specifically to the NGOs that is classified as grey investors group. This group was defined as investors with more loyal to corporate management and without reacting to management actions that are not in line with the interests of shareholders. In the other words, this type of institution is characterized as ‘‘pressure-sensitive’’ or ‘passive’ institutional investors (Almazan et al., 2005; Brickley et al., 1988).

Table 4 reports the coefficients of the regression of the growth of invested capital as the dependent variable. The result literally shows the preferences of NGOs add or reduce the invested capital in the equity market significantly influence by market capitalization of the firm. In addition, the preferences of NGOs Invested Capital Growth for firms with large market capitalization (more than Rp50 trillion or around $3 billion) is also significantly influenced by the recognition of sustainability. Besides, liquidity level significantly influences NGOs Invested Capital Growth in small and medium firm sizes. For that reason, there are possible monthly trading activities occurred by foreign NGOs in medium and small size stocks.

In theory of trusting the stock market, the lack of trust explains why investors do not participate in the stock ownership in the absence of any friction. There is a difference in trust across investors and countries to invest in the stock market (Guiso, Sapienza and Zingales, 2008). For that reason, findings from panel B confirm that foreign NGO’s investors have differences in trusts when conducting direct investment in the Indonesia stock market.

The results show that foreign NGOs preferences of investment growth only in the stocks with proper liquidity and with relatively big market capitalization. In addition, it can be inferred that the role of NGOs in Indonesia Stock Market is still limited to opportunism or speculator (Bekaert and Harvey, 2000) rather than activism to initiate changes for the firm governance and likelihood of stock market. In the other words, the role of shareholder power that using money becomes a tool for a good change (Kong et al., 2002) is not yet shown in Indonesia stock market.

NGOs is advisedly to work with socially responsible investment (SRI) groups to encourage and inform shareholders to exercise their power (Kong et al., 2002). NGOs need to exercise their incremental role in order to support sustainable stock exchange initiatives. To conclude, NGOs should be taking on a more active role by maximizing the role of ownership by promoting more SRI initiatives, influence the sustainability policy of corporation and address stock exchanges concern regarding sustainability issues.
Table 3: Results of panel least regression for Panel A (fixed effect)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Full Panel</th>
<th>Exclude Window Dressing Period</th>
<th>Large</th>
<th>Middle</th>
<th>Small</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-7.329871***</td>
<td>-8.089349***</td>
<td>13.35838***</td>
<td>27.37329***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.402235)</td>
<td>(2.606778)</td>
<td>(1.017208)</td>
<td>(2.460681)</td>
<td>(8.522928)</td>
</tr>
<tr>
<td>Liquidity</td>
<td>-0.069801**</td>
<td>-0.062581*</td>
<td>-</td>
<td>0.081796</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.029725)</td>
<td>(0.032307)</td>
<td>(0.012967)</td>
<td>(0.067252)</td>
<td>(0.072865)</td>
</tr>
<tr>
<td>Size</td>
<td>0.756456***</td>
<td>0.785081***</td>
<td>2.341771***</td>
<td>0.384469***</td>
<td>-0.430652</td>
</tr>
<tr>
<td></td>
<td>(0.077301)</td>
<td>(0.083085)</td>
<td>(0.027532)</td>
<td>(0.057397)</td>
<td>(0.291403)</td>
</tr>
<tr>
<td>Recognition of Sustainability</td>
<td>2.049662***</td>
<td>1.301656***</td>
<td>0.047885***</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.285149)</td>
<td>(0.309938)</td>
<td>(0.002287)</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Adjusted R-Square</td>
<td>0.815243</td>
<td>0.834039</td>
<td>0.255476</td>
<td>0.108312</td>
<td>0.006093</td>
</tr>
<tr>
<td>F-Statistic</td>
<td>153.5342***</td>
<td>131.2695***</td>
<td>13.31226***</td>
<td>5.123201***</td>
<td>0.999718</td>
</tr>
</tbody>
</table>

Notes: *, **, *** denote significance at the 10%, 5%, 1% level. The value in the bracket (value) is a standard error.

Table 4: Results of panel least regression for Panel B (fixed effect)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Full Panel</th>
<th>Exclude Window Dressing Period</th>
<th>Large</th>
<th>Middle</th>
<th>Small</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-1.97E+10***</td>
<td>-2.31E+10***</td>
<td>-2.32E+09</td>
<td>42685728</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(7.00E+09)</td>
<td>(7.99E+09)</td>
<td>(3.13E+09)</td>
<td>(1.25E+08)</td>
<td></td>
</tr>
<tr>
<td>Liquidity</td>
<td>-3.515399</td>
<td>-5.261625</td>
<td>3.043153</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(4.855289)</td>
<td>(5.919134)</td>
<td>(3.294986)</td>
<td>(1.706263)</td>
<td>(0.071650)</td>
</tr>
<tr>
<td>Size</td>
<td>0.000323***</td>
<td>0.000385***</td>
<td>0.000294***</td>
<td>0.000258***</td>
<td>-2.50E-05</td>
</tr>
<tr>
<td></td>
<td>(5.54E-05)</td>
<td>(6.27E-05)</td>
<td>(1.50E-05)</td>
<td>(4.88E-05)</td>
<td>(2.47E-05)</td>
</tr>
<tr>
<td>--------------------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td>Recognition of Sustainability</td>
<td>-2.70E+09</td>
<td>-1.91E+09</td>
<td>8.65E+09***</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>1.71E+10</td>
<td>(1.89E+10)</td>
<td>3.63E+08</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Adjusted R-Square</td>
<td>0.013679</td>
<td>0.030205</td>
<td>0.008667</td>
<td>0.041552</td>
<td>0.015767</td>
</tr>
<tr>
<td>F-Statistic</td>
<td>1.479425**</td>
<td>1.807348***</td>
<td>1.313699***</td>
<td>2.471622***</td>
<td>0.081282*</td>
</tr>
</tbody>
</table>

Notes: *, **, *** denote significance at the 10%, 5%, 1% level. The value in the bracket (value) is a standard error.

4.3 The Robustness Test

This study follows Sias, Starks, and Titman (2006) approach to confirm the robustness of the data. The approach from Sias et al., (2006) seems to be fit with this study due to the application of monthly data set and the fact that we do not know when exactly the change in ownership occurs. There are two approaches to justify the robustness of the data that applied in this research paper, (1) Potential Bias due to Window Dressing and (2) Trade Discreteness.

To identify whether there any potential bias of window dressing effects, authors excluding the last quarter (October, November, and December) of the year firm i data for shares ownership, market capitalization, liquidity and SRI KEHATI Index Appearing (Dummy). As a result of the fixed effect estimation for the exact same model, respectively table 3 and table 4 in column two shows no significant difference from the full sample (1764 observations) and sample that exclude window dressing periods (1323 observations). In the other words, a window dressing bias is not affected to the stock ownership and the invested capital growth of NGOs in Indonesia stock market.

The aggregate institutional ownership data are available on a monthly basis. The possible bias could be found due to undiscovered when exactly the change in ownership occurs. For a given security, it is possible that the entire change in ownership occurs the first day, the last day, or somewhere in between a month.

Nonetheless, to ensure that our results are not sensitive to such potential patterns, we conducted the analysis for small, medium, and large stocks. Stocks are sorted into three equal-sized groups based on the average annual market capitalization of firm separately. Furthermore, it hypothesizes that institutions account for most of the invested capital in the large stocks, changes in institutional ownership are more likely to be spread out over the months (trade discreteness) in medium and small stocks. In addition, recognition of sustainability variable only exists on large stocks. Thus, the results are systematically biased by the discreteness in changes in NGO ownership, then the small stock analysis should differ substantially from the medium and large stock analysis. Meanwhile, the differences in firm size reveal little evidence that discreteness of ownership changes affects the results of this study. In sum, the estimates by firm size suggest that the relation between monthly changes in NGO ownership and investment preferences is align to the institutional ownership theory that argued institutions has tendency to hold a stock with specifically with bigger market capitalization in relative longer periods in order to control and arise activism (Appel, Gormley, and Keim, 2016; Bushee, 2001; Bushee, Goodman and Sunder, 2018; Gillan and Starks, 2000). In the other words, there is a rising possibility of NGOs as one of the agent to rise activism to foster sustainability practice for public firms and market.
5. Conclusion and Future Research

In this paper, the authors highlight that there is a positive effect on the firm inclusion on sustainability index towards ownership preference of foreign NGOs. The result from fixed-effect ordinary least squares analysis shows the preferences of foreign NGOs stock ownership in Indonesia equity market significantly influence by the level of liquidity, size, and recognition of firm sustainability. However, NGOs growth of invested capital during the observation periods only prefers for a stock with specific bigger market capitalization.

Due to the limitation of observations, this study only observes for respective 36 monthly periods from 2015-2018. Notwithstanding, the result shows free of window dressing effect and trade discreteness on different firm sizes. The selection of Indonesia somewhat become questionable due to the relatively small amount of NGOs investment compare to other institutions. In addition, NGOs investment regulation in Indonesia limited to article 7 section 1, 2 and 3 of the Indonesian Law No. 16, 2001, which does not specifically address the foreign NGO ownership in the capital market. For that reason, authors suggest the Indonesian government body such as Financial Services Authority (OJK) to address this issue regarding the regulation update of NGO shares ownership in the stock market in order to foster the likelihood of Sustainable Stock Exchange in Indonesia.

Additionally, there is lack of ESG related training offers in Indonesia (Sustainable Stock Exchanges, 2018). For that reason, this study encourages academia and practitioner to involve in the ESG investment training in Indonesia. Besides, there are demanding community investment and the development of green investment products (Bonds, Indices and Derivatives) in emerging market in which NGOs is seen as a catalyst for the sustainable related initiatives (Sustainable Stock Exchange Initiative, 2016).

Ultimately, the emerge of positive screening rather than negative screening in sustainable investment (Amel-Zadeh and Serafeim, 2017), segregation of institutional investors related to sustainability issues (Ferreira and Matos, 2008) and activism role of institutional ownership in developing stock market (Guay et al. 2004) become an incremental element to be identified in the further study. Those factors could be significant to the sustainable investment body of knowledge and practices.

References


Does CSR Enhance Young Bank Customers’ Satisfaction and Loyalty in a Developing Economy? The Mediating Role of Trust

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ARTICLE DETAILS

ABSTRACT

The role of corporate social responsibility (CSR) on firm performance is well documented in the literature. Although the majority of the evidence available points to a positive association between CSR and determinants of company performance such as monetary performance, personnel commitment and corporate identity, findings still remain rather inconclusive as negative or no correlation results are also reported. In addition, little is known about how CSR is perceived from a bank customer’s point of view and studies examining its effect on customer satisfaction and loyalty in developing economies are scanty. Drawing insights from the stakeholder and signaling theories, this study examines the effect of CSR on customer satisfaction and customer loyalty. The study also examines the mediating role of trust on these relationships. Data from 348 bank customers in Zambia indicates that CSR positively affects satisfaction and loyalty. It was also established that trust has a significant mediating effect on the relationships. With the increase in complexity and dynamism of today’s business environment banks are advised to be more socially responsible as one way of building trust and customer satisfaction and loyalty.

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1. Introduction

Corporate Social Responsibility (CSR), defined as the obligation of businesses to take actions that protect and improve the welfare of all stakeholders (Friedman, 1970; Davis, 1975), has over the past years attracted much attention from academicians and business managers. Researchers suggest that CSR is an effective strategic tool to create a long-term competitive edge for a firm and has a positive impact on performance (McGuire et al., 1988; Graves and Waddock, 1994; Schwartz and Carroll, 2003; Khan et al., 2013; Carroll, 2016). The understanding is that a firm with policies and practices that protect and contribute to the wellbeing of its various stakeholders such as society, customers, employees, rather than business owners only, is more likely to build a strong reputation and reap a variety of benefits such as
attracting qualified and committed employees, positively influencing buyer behavior and gaining favour from government authorities (Collier and Esteban, 2007; Kim, et al., 2010; Martínez and Rodríguez, 2013). However, other researchers argue that CSR is a costly activity that could harm performance (e.g., Bromiley and Marcus, 1989; Wright and Ferris, 1997; Story and Neves, 2015; Wu and Shen, 2013), and still others claim that CSR does not significantly relate to performance (e.g., Aupperle et al., 1985; Teoh et al., 1999; McWilliams and Siegel, 2001; Paulik et al., 2015). Although relatively more studies have found a positive relationship between CSR and firm performance, results still remain inconclusive (Story and Neves, 2015).

An additional important deficiency in the literature is how CSR is perceived from a customer’s point of view (Kiessling et al., 2016). Indeed, while CSR scholars have called for more CSR research to be directed toward how a company’s CSR activities affect customer bahaviours (Kiessling et al., 2016; Bondy et al., 2012; Harrison et al., 2010; Ziek, 2009), little is known on how CSR affects customers in many developing African countries. More specifically, a review of the literature indicates that the few studies on CSR in Zambia, a developing African country and the setting of this study, have largely focused on the mining sector (Lungu and Shikwe, 2006; Choongo, 2017), to the neglect of not only CSR practices in other sectors such as banking but also other performance outcomes like customer satisfaction and loyalty. To highlight, the role of CSR on customer satisfaction and customer loyalty in the banking sector in most developing economies is not clear in the literature. Besides, although scholars have investigated the relationship between CSR and customer loyalty in developed economies (e.g., Martínez and del Bosque, 2013; Chung, et al., 2015), very few studies examine the role that trust plays as a mediator of the relationship. Yet trust is a fundamental ingredient in building relationships between customers and service providers and has significant implications when it comes to marketing outcomes such as customer satisfaction and loyalty (Yadav et al., 2018).

Accordingly, the aim of this study is to empirically examine the effect of CSR on bank customer satisfaction and customer loyalty both directly and indirectly through trust in a developing-economy. The study draws insights from the stakeholder and signaling theories to posit that CSR has both direct and indirect effects on customer satisfaction and customer loyalty. Our contention is that a firm’s CSR engagement is a basis for consumers to evaluate a company’s products and services. As such, we see CSR as one of the effective ways to retain customers and possibly attract new ones for banks at a time of rising international competition, increased customer expectations, oversupplied and mature markets and lower switching costs (Saeidi et al., 2015). We argue, first, that a firm’s CSR activities customers perceive to be positive can lead to high customer satisfaction and customer loyalty. Second, we contend that a firm with more CSR activities is able to signal a positive image and build customer trust and in turn increase customer satisfaction and customer loyalty. Both the stakeholder and signalling theories, which suggest that greater CSR activities help firms create social legitimacy among its various stakeholders and boost a firm’s reputation assets (Fombrum et al., 2000), support our contention.

By so doing, this study enriches scholarly knowledge explicitly showing how CSR activities of banks in a developing economy help build customer satisfaction and customer loyalty. The fact that prior research has focused mainly on understanding CSR and customer loyalty in firms located in developed-economy markets, means that there is little understanding in the literature of potential variations in CSR outcomes in firms located in developing African markets. Yet, as George et al. (2016) posit, developing African countries such as Zambia present an exciting context and rare opportunity to advance knowledge to existing business theories and to test their relevance beyond the developed economy context. Indeed, since social-economic factors and institutional arrangements in developed countries may be different to those of developing economies, there is ground for research in developing economies (Hoskisson et al., 2000; Visser, 2006; Xu and Meyer, 2013). By testing the conceptual model on Zambian-based banks, the
study provides evidence of the applicability of not only the CSR phenomenon but also Western developed and validated measures beyond the developed economy context and is a timely response to appeals to business strategy researchers to embrace developments in such regional settings to advance the development of theory and practice (George et al., 2016; Jamali and Karam, 2018). Further, the study empirically examines the under-researched mediating role of trust on the relationship between CSR and customer satisfaction and loyalty. Bank managers and policy makers are encouraged to invest more in CSR activities to build customer trust, a relevant ingredient for customer satisfaction and loyalty.

In the section that follows next, we present a review of the literature and theoretical framework as well as the study’s hypotheses. We then explain the methods we used to test our model and later present findings of the study. A discussion of the results in terms of implications to theory and practice is given. The study concludes by suggesting directions for further research.

2. Literature Review, Theoretical Framework and Hypotheses Development

There is consensus in the literature that a firm has a responsibility to not only produce and market goods and services that meet people's needs and make profit but also cooperate with society to solve problems which might have been caused by the side effects of the business activities (Maignan and Ferrell, 2004; Carroll and Shabana, 2010; Mishra and Modi, 2016; Grayson and Hodges, 2017). Accordingly, CSR is a commitment to enhance societal well-being using discretionary business practices as well as contributions of corporate resources (Kotler and Lee, 2005;2008) and is believed to be an irrefutable priority, an opportunity as well as a competitive advantage for most firms around the world (Lam and Lim, 2016). Scholars submit that CSR should be a conscious and consistent commitment to fully comply with the purpose of the company both internally and externally, considering the expectations of all participants which may be economic, social or human and environmental, as well as demonstrating respect for ethical values, people, communities and the environment to build the common good (Aguilera et al., 2007; Murray and Vogel, 1997; Sourvinou and Filimonau, 2018). By so doing, firms gain advantages that are reflected in qualitative and quantitative benefits.

CSR activities can range from pure philanthropic community engagements such as charitable contributions to more strategic activities that enhance firm performance such as employee commitment, increased attractiveness or reputation of the firm to its stakeholders and positive consumer orientation and purchase behaviour (Carroll, 1999; Owen and Scherer, 1993; Cone et al., 2003; Stanwick and Stanwick, 1998; Perez-Batres et al., 2012). For example, studies by Kim et al. (2010), Korschun et al. (2014) and Lee et al. (2013) provide evidence that socially responsible companies record higher performance due to increased employee commitment and productivity. Also, several marketing studies suggest that CSR can positively affect consumers’ attitudes towards the firm and its products and services (e.g., Vlachos et al., 2009; Kotler and Lee, 2005; Ailawadi et al., 2014; Chung et al., 2015; He and Li, 2011; Marin et al., 2009; Brown and Dacin, 1997; Lichtenstein et al., 2004). There is evidence that a companies’ CSR activities such as participation in humanitarian events, cause-related marketing and sponsorship of local events are more likely to influence consumer behavior such as word of mouth advocacy, purchase, and the creation of higher customer loyalty (Alafi and Hasoneh, 2012; Chung et al., 2015).

Within the banking sector, CSR is rapidly gaining importance world over (McDonald and Rundle-Thiele, 2008; Poolthong and Mandhachitara, 2009; Hoang, 2014; Paulik et al., 2015; Alafi and Al sufy, 2012) and is viewed as one way of differentiating one brand from the other and enhancing performance. For example, Mocan et al’s (2015) study indicates that CSR is a relevant strategic tool in the banking industry that improves economic efficiency, enhances company reputation, employee loyalty and communication between the banking industry and society. Shen et al. (2016) also provide evidence that CSR oriented banks outperform non-CSR banks in terms of return on assets and return on equity. Branco and Rodrigues (2008) also reveal that social responsibility disclosure (SRD) on the internet by Portuguese banks is part of the strategies banks use to enhance reputation. Although these studies show that CSR can bring many
advantages for the banking sector, Paulik et al. (2015) study however shows that customers’ perception of CSR does not have significant effect on their satisfaction. Also, a more comprehensive study of 162 banks in 22 countries by Wu and Shen (2013) indicates that while CSR is both positively associated with financial performance in terms of return on assets, return on equity, net interest income, and non-interest income, CSR is negatively associated with non-performing loans.

In Zambia, a developing Sub-Saharan African economy, most banks have become more interested in and have embraced CSR in an effort to differentiate themselves and influence positive customer perception to achieve sustainable competitive advantage (Zambia Daily Mail, 2018) due to the stiff competition from both local and foreign players. For example, the Zambia National Commercial bank (Zanaco), one of the leading banks in Zambia, established a CSR office to specifically focus on CSR activities and issues. As a way of giving back to the community, the bank conducts financial education for its various customer groups and offers direct community support around various areas such as health, education and environment (Zanaco report, 2018). However, while there is a growing CSR interest by banks in Zambia, little is known on how bank customers perceive CSR activities especially its effect on buyer behaviour. A review of the literature indicates that the most of the research that has been done on CSR in Zambia has focused on the mining sector (e.g., Noyoo, 2010; Phiri et al., 2019; Cronje et al., 2017). As such, questions on whether bank customers appreciate CSR activities and how CSR affects buyer behaviour in developing economies in general and Zambia in particular remain unanswered.

Another important research gap in the literature is that the majority of the literature on CSR largely takes a stakeholder perspective (Chung et al., 2015) to the neglect of other theories such as the signaling theory. This study therefore draws insights from the stakeholder theory to examine the effect of CSR on customer satisfaction and customer loyalty and follows the signaling theory to examine the mediating role of trust. Stakeholder theory is essentially a theory about how business works at its best, and how it could work to improve and protect its various stakeholders (Freeman et al., 2010). The theory lists and describes stakeholders as individuals and groups who are affected by the company’s actions and these include customers, suppliers, employees and investors. It is based on the understanding that the interests of groups are joint and that to create value; one must focus on how value gets created for each and every stakeholder (Freeman et al, 2010). As an example, firms incorporate corporate social responsibility into their marketing strategies to obtain customer recognition and loyalty as well as of other key stakeholders of the market (McWilliams and Siegel, 2001).

We draw insights from the signaling theory to postulate that CSR initiatives are tantamount to signals conveyed by a company to condense the uncertainty that can weigh upon consumers’ purchasing decisions (Spence, 1973). Signaling is a notion that one party (termed the agent) plausibly conveys certain information about itself to another party (the principal) (Spence, 1973). According to this theory, high signal fit, that is the extent to which a signal corresponds with the unobservable signaler characteristic, is critical to the effectiveness of an informational cue (Connelly et al., 2011). Although rarely used in CSR studies, we find it reasonable to draw from the signaling theory to argue that building customer trust is a potential benefit for firms of embracing socially responsible practices (Montiel et al., 2012; Ramchander et al., 2012; Turban and Greening, 1996). The logic is that CSR practices may be a signal that reveals supplementary information to relevant stakeholders, customers in this case, to enhance predictability and trustworthiness of a company (Su et al., 2016). Thus, from a customer’s perspective, banks’ CSR activities serve as an indicator of a bank’s reliability and trustworthiness.

2.1 Corporate Social Responsibility and Customer Satisfaction

While researchers have considered the impact of CSR on myriad factors including financial performance, attitudes, intentions, emotional attachment, and brand identification, few studies have considered the
relationship between CSR and customer satisfaction. Yet, the marketing literature recognizes customer satisfaction as a significant part of corporate strategy and a key driver of market value and long-term profitability. Customer satisfaction is defined as the overall assessment based on the customer’s total purchase and consumption experience with a good or service overtime (Luo and Bhattacharya, 2006). It is also the result of the comparison between what the customer anticipates of a product or service and what is actually perceived or delivered (Walsh and Bartikowski, 2013). According to Chung et al. (2015), satisfaction is not only inherent in the attributes of a product or service itself but also in the consumer’s perceptions of a company as a whole.

We draw insights from the stakeholder theory, which recognizes customers as one of the important stakeholders of a firm to argue that CSR has a positive effect on customer satisfaction. The logic is that being stakeholders, customers are likely to take keen interest in a firm’s CSR activities to an extent that they are likely to be happy with a firm that presents itself as socially responsible toward society (He and Li, 2011). A firm that engages in high CSR activities is likely to create a favourable image that enhances consumers’ evaluations and attitudes towards a company. Also, the fact that customers evaluate firms as well as a firm’s products in terms of CSR engagements, it is reasonable to expect that CSR activities in consumers' evaluation situation that are perceived more positively lead to higher customer satisfaction (Perez, 2013; Saeidi et al., 2015). Our argument is also consistent with prior studies that have found a positive relationship between CSR and customer satisfaction (e.g., Perez, 2013; Alafi and Hasoneh, 2012). Therefore we hypothesize that:

H1: There is a positive relationship between CSR and customer satisfaction.

2.2 Corporate Social Responsibility and Loyalty

Customer loyalty is a non-random predisposition exhibited by a customer to keep buying products from the same firm and associate positive images with the firm’s products (Dick and Basu, 1994). Therefore, building a loyal customer base has become a major marketing goal as well as a crucial basis for developing a sustainable competitive advantage (Chung et al., 2015). Prior research has shown that customers consider a company’s CSR initiatives when evaluating the company and its products (e.g., Chung et al., 2015; Dick and Basu, 1994; Choi and La, 2013; Pérez and del Bosque, 2015). To an extent that if customers are satisfied with a company’s CSR activities and view a company to be socially responsible, they will increasingly be inclined to re-purchase its products or services and become loyal customers exhibiting strong customer goodwill. More specifically, studies by Choi and La (2013) and Pérez and del Bosque (2015) demonstrate that CSR commitment has a crucial role to play in generating loyalty among a company’s customers. Hence, we suggest that

H2: There is a positive relationship between CSR and customer loyalty.

2.3 The Mediating Role of Trust

Trust refers to values a firm shares with customers and these values, if upheld by the firm, instill confidence in an exchange and can a signal of a partner’s reliability and integrity (Morgan and Hunt, 1994; Fatma et al., 2015). Coulter and Coulter (2002) conceptualize trust in a service provider as the perception of that service provider’s confidentiality, honesty, integrity and high ethical standards. From the customer’s point of view, trust has been understood as a customer’s belief that the firm will perform in a manner consistent with their expectations (Park et al., 2014). It refers to common values a company shares with customers (Morgan and Hunt, 1994; Fatma et al., 2015). Thus, trust is a fundamental constituent in building and maintaining long-term relationships between a firm and its customers (Morgan and Hunt, 1994; Fatma et al., 2015; Pivotto et al, 2008).

The perception that a company is ethical and responsible stimulates trust-based relationships founded on the belief that all exchange partners’ actions will be credible beyond any contractual or legal constraints (Swaen and Chumpitaz, 2008). As such, a firm’s socially responsible initiatives provide information about its character and values that help in building customer trust in the firm (Fatma et al., 2015). This
study draws insights from the signaling theory to suggest that CSR activities create positive signals to stakeholders about the ethics and values of the company and this should lead to customer satisfaction and customer loyalty (Spence, 1973:1974). The logic is that firms that engage in CSR are more likely to be identified as trustees that act in the interests of the stakeholders, customers in this case, (Dirks and Ferrin, 2001, Rupp et al., 2006; Greser and Balmer, 2007; Kim, 2019) and this will lead to intensification of stakeholders’ trust in the firm.

Our reasoning is in line with academic literature which identifies trust as a prerequisite for the satisfaction and creation and preservation of long-term relationships between a firm and its customers (Morgan and Hunt, 1994; Martinez and del Bosque, 2013; Choi and La, 2013; Fatma et al., (2015), especially in the context of intangible services marketing such as banks. The relationship marketing literature highlights the importance of trust as basic, fundamental and necessary to establish and develop long-term relationships element in order to implement a strategy of relationship marketing successfully (Bricci et al., 2016). In fact, researchers such as Bricci et al. (2016) and Elena and Jose (2001) have found trust to have a positive and direct effect on customer satisfaction. As Bricci et al (2016) inform, trust is considered by many studies of relationship marketing as essential to take into account in the development of lasting relationships and loyalty. So et al. (2013) agree with this view and add that trust is one of the most crucial and key component to building a relationship and thus is a strong determinant of customer loyalty.

While relatively many studies have tried to understand the trust-satisfaction and trust-loyalty links as they seem to be important relationships in the field of marketing (Furnell and Karweni, 1999; Vlachos et al., 2009), very few studies have examined the mediating role of trust on the CSR-customer satisfaction and CSR-Customer loyalty relationships (Choi and La, 2013; Martinez and del Bosque, 2013). We argue that CSR initiatives are likely to have a direct influence on consumer trust and affect perceptions about the quality of the products/services that a company is offering (Swaen and Chumpitaz, 2008) and in turn enhance customer satisfaction and customer loyalty. Our argument is in line with Fatma et al., (2015) study where trust was found to mediate the relationship between CSR and corporate reputation and brand equity. Therefore, based on these ideas about trust, we propose the following hypotheses:

H3a. CSR positively influences customer satisfaction through trust.
H3b. CSR positively influences Customer loyalty through Trust.

Figure 1- Conceptual Model
3. Methodology

3.1 Sample and Data Collection

To test the conceptual model, data was collected from student bank customers at the Copperbelt University in Kitwe, Zambia. The banking sector remains critical in the economic development of most countries through its ability to gather deposits from savers and distribute it to individuals and firms that need it for investment and production (Ghosh, 2017). In Zambia, this sector is growing at a rapid rate and is experiencing stiff competition from both local and foreign players (Simpasa et al., 2015). As such, a growing number of banks have become more customer focused and are seeking ways of building long lasting relationships with customers, a situation which was not the case before. It is not surprising that most banks in Zambia have become more interested in and have embraced corporate social responsibility (CSR) in an effort to influence positive customer perception and achieve sustainable competitive advantage (Zambia Daily Mail, 2018). Kitwe is not only the second largest city in Zambia in terms of size and population but also commercially rich with almost all banks in Zambia having at least a branch. The Copperbelt University is the second largest public university in Zambia with most of its students being on the government scholarship scheme, which allows them to receive a monthly stipend. As such, most of the students at the university need and use bank services.

We targeted students who had at least one bank account active at the time of answering the questionnaire. These student bank customers were found at the university, in the lodging rooms, classroom and corridors. Being bank customers, it was appropriate to understand students’ reactions to the banks’ involvement in uplifting the living standards of people in communities in which they (banks) operate. In addition, it was easier to generate information from active student bank customers because then the respondents had a service in mind. Therefore, a structured questionnaire was used and administered to students that met the following requirements: (1) they were registered students at the Copperbelt University; (2) the students had an account with one of the banks; and (3) students were aware of the banks CSR activities. Using the Raosoft online calculator with an estimated population of 20,000 registered students (based on records from the University’s academic office), the minimum required representative sample size of 377 was derived. A simple random sampling technique was used to select participants for the survey. Of the 377 questionnaires face-to-face administered, 348 useable questionnaires were returned (response rate of 92.3%). This response rate is impressive and confirms Saunders and Lewis’ (2012) argument that the face-to-face approach is usually associated with high response rate. The response rate is also comparable to previous student research studies (e.g., Mwiya et al., 2018). The sample profile is given in table 1 below.

Table 1: Sample Profile

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Description</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>198</td>
<td>56.9</td>
<td>56.9</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>150</td>
<td>43.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Age Group</td>
<td>16 – 20</td>
<td>45</td>
<td>12.9</td>
<td>12.9</td>
</tr>
<tr>
<td></td>
<td>21 – 25</td>
<td>290</td>
<td>83.3</td>
<td>96.2</td>
</tr>
<tr>
<td></td>
<td>Above 25</td>
<td>13</td>
<td>3.8</td>
<td>100.0</td>
</tr>
<tr>
<td>Faculty</td>
<td>School of Business</td>
<td>159</td>
<td>45.7</td>
<td>45.7</td>
</tr>
<tr>
<td></td>
<td>School of Engineering</td>
<td>95</td>
<td>27.3</td>
<td>73.0</td>
</tr>
<tr>
<td></td>
<td>School of Mathematics and Natural Sciences</td>
<td>61</td>
<td>17.5</td>
<td>90.5</td>
</tr>
<tr>
<td></td>
<td>School of Built Environment</td>
<td>20</td>
<td>5.7</td>
<td>96.2</td>
</tr>
<tr>
<td></td>
<td>School of Natural Resources</td>
<td>13</td>
<td>3.8</td>
<td>100.0</td>
</tr>
</tbody>
</table>
The resulting sample profile shows 56.9% male and 43.1% female. The majority of the respondents were aged between 21 and 25. The average age of between 21 and 25 in the sample is typical of university students in Zambia (Mwiya, et al., 2018). 46% of the respondents were from the School of Business while School of Natural Resources had the least respondents (4%). The School of Business offers business courses such as banking, finance and marketing in which corporate social responsibility issues are discussed. Therefore, we are confident that the majority of the students surveyed have an understanding and knowledge of the study at hand.

3.2 Measures

We derived items used to measure the theoretical constructs from an extensive review of extant literature. This does not only assure us of content validity but also allows for comparison of results with prior studies (Thompson, 2009). However, the items’ wording was adapted, where necessary, to reflect customers’ understanding of the constructs and as applied to the banking sector based on the pilot test of the questionnaire. Each item was measured using a 5-point Likert scale, ranging from strongly disagree (1) to strongly agree (5). Table 2 displays details of the measures used and their sources.

We adapted our CSR measures from Brown and Dacin (1997). Specifically, the instrument measured the extent to which customers perceived their bank to be socially responsible. For example, customers were asked the following question: this bank shows it’s committed towards society by improving the welfare of the communities in which it operates. Trust was measured with 5 items adapted from Morgan and Hunt (1994) and Sirdeshmukh et al. (2002). The measures tap the extent to which customers trust their respective banks. Sample items include ‘The services of this bank make me feel a sense of security. We measured customer satisfaction with 4 items drawn from the original 6 items used by Cronin et al. (2000). The sample items include: ‘I think I did the right thing when I joined this bank’. Customer loyalty was measured using 4 items provided by Zeithaml et al. (1996) and Sirdeshmukh et al. (2002). An example of the items is ‘I shall continue considering this one as my main bank in the next few years’.

The instrument also included questions that sought demographic information such as age, gender, the program the student is enrolled in, and the name of the bank that the student participant mostly used. In fact, age and gender were used as control variables in line with previous studies (e.g., Mwiya et al., 2018). Age was log transformed while gender was measured as a dichotomous variable coded such that 1 was for female and 2 male.

3.3 Reliability and Validity Test of the Instrument

We used principal component analysis with varimax rotation to examine the factor structure of the constructs and to establish construct validity. Results indicate that all the scale items were adequate for measuring the latent variables. For example, Kaiser-Meyer-Olkin measure of sampling adequacy at 0.915 was well above the minimum 0.50 threshold and Bartlett’s Test of Sphericity was significant (Chi-Square = 3013.003, df = 120, sig. < 0.001) (Pallant et al., 2016). In addition, all the four main factors with the Eigen values above 1.0 arose and the four factors altogether explained a total of 67.66% of the variance. Furthermore, all scales showed discriminant validity with each scale item loading on the respective factor and there were no cross loadings. Reliability tests for internal consistency of the respective items in the four latent variables also yielded satisfactory Cronbach alpha scores of above Bagozzi and Yi’s (2012) 0.7 threshold. Specifically, the Cronbach alpha values for CSR, trust, satisfaction and loyalty are 0.744, 0.853, 0.863 and 0.786 respectively as shown in see Table 2.
Table 2: Factor Analysis and Reliability Results

<table>
<thead>
<tr>
<th>Items</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>CSR</strong></td>
<td></td>
</tr>
<tr>
<td>This bank protects the environment</td>
<td>0.786</td>
</tr>
<tr>
<td>This bank shows it’s committed towards society by improving the welfare of the communities in which it operates.</td>
<td>0.823</td>
</tr>
<tr>
<td>The bank directs part of its budget to donations to social causes.</td>
<td>0.762</td>
</tr>
<tr>
<td><strong>Trust</strong></td>
<td></td>
</tr>
<tr>
<td>The services of this company make me feel a sense of security.</td>
<td>0.815</td>
</tr>
<tr>
<td>I trust on the quality of this bank.</td>
<td>0.809</td>
</tr>
<tr>
<td>I trust the quality of the hiring process of this bank</td>
<td>0.844</td>
</tr>
<tr>
<td>This bank is interested in its customers.</td>
<td>0.817</td>
</tr>
<tr>
<td>This bank is honest with its customers.</td>
<td>0.825</td>
</tr>
<tr>
<td><strong>Customer Satisfaction</strong></td>
<td></td>
</tr>
<tr>
<td>My choice to be a part of this bank was a wise one.</td>
<td>0.808</td>
</tr>
<tr>
<td>I think I did the right thing when I joined this bank.</td>
<td>0.804</td>
</tr>
<tr>
<td>This bank offers exactly when I need for my banking services.</td>
<td>0.852</td>
</tr>
<tr>
<td>Overall, I am satisfied with the services of this bank.</td>
<td>0.835</td>
</tr>
<tr>
<td><strong>Customer Loyalty</strong></td>
<td></td>
</tr>
<tr>
<td>I usually use this bank as my first choice compared to other banks.</td>
<td>0.722</td>
</tr>
<tr>
<td>It would be costly in terms of money, time and effort to end the relationship with this bank.</td>
<td>0.813</td>
</tr>
<tr>
<td>I shall continue considering this one as my main bank in the next few years.</td>
<td>0.681</td>
</tr>
<tr>
<td>I would recommend this bank if somebody asked my advice.</td>
<td>0.709</td>
</tr>
<tr>
<td>Cronbach Alpha</td>
<td>0.744</td>
</tr>
</tbody>
</table>

4.0 Results

4.1 Correlations results
Data were analysed in phases using SPSS. First, Pearson’s correlation coefficients were computed to establish whether there was significant linear relationships among CSR, trust, satisfaction, and loyalty before carrying out the hierarchical regression analysis. Table 3 indicates the means, standard deviations of the variables including of the control variables (age and gender) as well as correlations among all these variables. We followed Pallant et al., (2016) to conclude that multicollinearity is not an issue in this study as the all the correlations are less than 0.80.

Table 3. Mean, Standard Deviation and Correlation Matrix
From Table 3, it can be seen that there is a link between loyalty and satisfaction which is strong and significant (r=.744, p<0.01). Other important relations worth noting are those between trust and satisfaction (r=.704, p<0.01) and trust and loyalty (r=.687, p<0.01). The table also shows positive correlations of CSR and satisfaction (r=.400), CSR and Loyalty (r=.401) and CSR and trust (r=.482). It is also important to note that the control variables, actual age and gender, are negatively correlated. However, there is an insignificant correlation between the control variables and the other variables.

4.2 Regression Results

Next, hierarchical regression analysis was conducted to test the hypotheses. To start with, the effect of the control variables, age and gender, on the dependent variables satisfaction, loyalty and trust, respectively was measured in Models 1a, 2a and 3a. Then Models 1b, 2b and 3b were examined measuring the effect of the control variables and the direct effects on the dependent variables. From Table 4, it can be seen that CSR is not significantly related to customer satisfaction (.079, 1.806) and as such H1 of a direct relationship is rejected. H2 is accepted as CSR has a positive and significant effect on loyalty (.090, 2.020*). Although not hypothesized, CSR has a positive effect on trust (.482, 10.213*). Trust has a positive and significant relation on customer satisfaction (.666, 15.283*) and customer loyalty (.643, 14.437*), respectively, suggesting possible mediating effects of trust. The next section gives further test results of this mediation relationship.

Table 4. Regression Results

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Model 1a Dependent variable: Customer satisfaction</th>
<th>Model 1b Dependent variable: Customer satisfaction</th>
<th>Model 2a Dependent variable: Customer loyalty</th>
<th>Model 2b Dependent variable: Trust</th>
<th>Model 3a Dependent variable: Trust</th>
<th>Model 3b Dependent variable: Trust</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
<td>N</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>age</td>
<td>.031</td>
<td>.546</td>
<td>-.004</td>
<td>-.104</td>
<td>.033</td>
<td>.584</td>
</tr>
</tbody>
</table>

**significant at p<0.01**
4.3 Mediation

We followed Baron and Kenny (1986)’s procedure which explains that a variable’s mediation must meet three conditions: 1. the independent variable is a significant predictor of both the dependent and mediator variables; 2. The mediator variable is a significant predictor of the dependent variable, and 3. The effects of the independent variable on the dependent variable are reduced when the mediator variable is added to the regression model. Mediation is completely accepted if the effect of the independent variable on the dependent variable is no longer significant when the mediator variable is added. On the other hand, mediation is partially accepted if the effect of the independent variable decreases, but remains significant (Baron and Kenny, 1986; Preacher and Hayes, 2004). The analysis was done using a three-step procedure suggested by Baron and Kenny (1986) and the three conditions were met. However, considering the shortcomings inherent in Baron and Kenny’s method in that it does not directly test for the mediation effect; has higher type 1 error rates and assumes normal distribution of errors (Preacher and Hayes, 2008; Swickert et al., 2012; Zhao et al., 2010), the Sobel statistical test was performed to determine whether the association between independent and dependent variables were significantly reduced when a mediator variable was included (Soulsby and Bennett, 2015; Zhao et al., 2010; Preacher and Hayes, 2008). This technique directly tests the indirect effect between the independent and dependent variables through a mediator variable and is recommended by scholars (Cardon et al., 2009; Goethner et al., 2009; Khedhaouria et al., 2015).

Results of the Sobel test in Table 5 show that the effect of the independent variable CSR on the mediating variable, trust, is positive and significant (a=0.495, p<0.01). The table also indicates that trust’s influence on customer satisfaction is significant (b=0.704, p<0.01). Further, the table indicates that CSR has a total effect on customer satisfaction which is significant (c=0.435, p<0.01). However, the effect of CSR on satisfaction decreases and is not significant when trust is added to the equation (c=0.435 to c’=0.086). The mediation effect is significant (Z=8.552, p<0.01) and we can therefore deduce from the Sobel test results that trust fully mediates the relationship between CSR and satisfaction.

Furthermore, Sobel test results show that trust’s influence on customer loyalty is positive and significant (b=0.703, p<0.01). The CSR also has a significant positive direct effect on customer loyalty (c’=0.102, p<0.05). CSR’s total effect on customer loyalty is also significant (c=0.45, p<0.01) and so is the mediation effect (Z=8.374, p<0.01). Although the effect of CSR on loyalty decreased when trust was added to the equation, the CSR-loyalty relationship remained significant and we can therefore conclude that trust partially mediates the CSR-customer loyalty relationship.

Table 5. Sobel Mediation Analysis

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Independent variable</th>
<th>Mediating variable</th>
<th>Dependent variable</th>
<th>Effect of IV on mediator (a)</th>
<th>Unique effect of mediator (b)</th>
<th>Direct effect (C’)</th>
<th>Total effect (c)</th>
<th>Sobel Test (Z)</th>
<th>Degree of mediation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3a</td>
<td>CSR</td>
<td>Trust</td>
<td>Satisfaction</td>
<td>0.495**</td>
<td>0.704**</td>
<td>0.086</td>
<td>0.435**</td>
<td>8.552**</td>
<td>Full</td>
</tr>
<tr>
<td>3b</td>
<td>CSR</td>
<td>Trust</td>
<td>Loyalty</td>
<td>0.495**</td>
<td>0.703**</td>
<td>0.102*</td>
<td>0.45**</td>
<td>8.374**</td>
<td>Partial</td>
</tr>
</tbody>
</table>

* p<0.05; ** p<0.01
5. Discussion

Based on the correlation analysis, the findings of this study suggest that there is a link between the independent variable and each of the dependent variables. Specifically, results show that CSR positively and significantly correlates with both customer satisfaction and customer loyalty. This resonates with findings by prior studies such as Chung et al. (2015), Perez-Batres et al. (2012), Alafi and Hasonneh (2012) and He and Li (2011). Hence, we stand to reason that firms that engage in CSR activities are likely to enhance the satisfaction of their customers as well as build customer loyalty.

However, our multiple regression analysis results indicate that while CSR remains positively related with customer loyalty, CSR is not significantly related to customer satisfaction when trust is introduced. Interestingly, trust is found to be positively related to CSR, customer satisfaction and customer loyalty, suggesting mediation. Further, Sobel mediation test results confirm that trust fully mediates the relationship between CSR and customer satisfaction while a partial mediation relationship between CSR and customer loyalty is established.

Our study contributes to the business strategy literature in several ways. First, while the majority of the available evidence point to a positive association between CSR and determinants of company performance such as monetary performance, personnel commitment and corporate identity, our study is among a few studies (e.g., Chung et al., 2015; Perez-Batres et al., 2012; Alafi and Hasonneh, 2012; He and Li, 2011) to empirically demonstrate that bank CSR engagement is linked to positive customer outcomes such as customer satisfaction and loyalty.

Second, by examining trust as a mediator, this research helps to clarify earlier CSR studies that have advocated for a direct link between CSR and customer satisfaction (e.g., Luo and Bhattacharya, 2006; Alafi and Hasonneh, 2012; Chung et al., 2015; Chung et al., 2015; Perez-Batres et al., 2012; He and Li, 2011). Our study extends these studies by providing evidence that the CSR-customer satisfaction and loyalty relationship is more complex than has previously been found. This study reveals that CSR activities influence customer satisfaction and loyalty directly and indirectly through trust. Consistent with the signaling theory our study confirms that CSR initiatives can be used as signals sent by a company to reduce the uncertainty that can weigh upon consumers’ purchasing decisions by enhancing trust (Van Knippenberg and Sleebos, 2006).

Although prior works have noted that CSR affects various kinds of consumer responses, studies that examine trust as one of the outcomes are rare in the literature. As such, this study extends the research stream on trust by uncovering CSR as an antecedent that can increase or reduce a company’s trustworthiness in the eyes of its customer to create satisfaction and loyalty. Given the intangible and risky nature of bank services, trust is a fundamental component in building and maintaining long term relationships between customers and bank service providers (Morgan and Hunt, 1994; Fatma et al., 2015). As suggested by CSR scholars (Brown and Dacin, 1997; Connelly et al., 2011; Homburg et al., 2013; Swaen and Chumpitaz, 2008; Martinez and del Bosque, 2013; He and Li, 2011) CSR initiatives provide information about the character and values of a company and helps build trust among customers and in turn affect perceptions about the quality of the products/services that a company is offering and enhance customer satisfaction and loyalty.

Third, while CSR has been relatively more researched in developed countries, not much has been done on the subject in developing countries. Therefore, this study extends the frontiers of strategy and CSR literatures to a context previously less-examined, a developing Sub- Saharan African economy. By testing the conceptual model on Zambian-based bank customers, the study provides evidence of the applicability of not only the CSR phenomenon but also Western developed and validated measures beyond the
developed economy context and is a timely response to the recent appeal by Jamali and Karam (2018) to CSR researchers to embrace developments in such regional settings to advance the development of theory and practice.

Last but not least, traditionally, the few available studies on CSR in Zambia have largely focused on mining firms and financial performance to the neglect of CSR in other sectors such as banks (e.g., Noyoo, 2010; Phiri et al., 2019) and customer outcomes. As such, very little is known about how CSR is perceived by bank customers located in developing Sub-Saharan markets and bank managers have no basis for developing CSR strategies and setting resource allocation priorities to improve trust, customer satisfaction and Loyalty. Our study highlights that CSR is an important strategic tool for banks not only because of the intense competition and low differentiating factors of the services provided but also because of the intangibility and risky nature on financial service transactions, which call for service providers to continuously send positive signals to build customer trust and in turn enhance customer satisfaction and loyalty.

6. Managerial Implications
In this rapidly changing market conditions, there is need for managers to formulate business strategies that allow easy adaptation and maintenance as well as improvement of their competitive position. This study provides evidence that creation of a business strategy based on the CSR concept is an important opportunity for differentiation and achieving positive customer outcomes. Our study shows that customers are more likely to trust a bank that engages in CSR activities and in turn be more satisfied with the services provided by the bank and become loyal customers. As such, banks stand to benefit, by being trusted, having satisfied and loyal customers if they give back to the society in which they operate. Managers are therefore advised to pay attention and invest more in CSR activities as customers consider these activities when making purchase decisions.

7. Limitations and Direction for Future Research
While this study helps bring understanding of customers’ perceptions of banks’ CSR engagements in a context that remains largely under-researched, some limitations can be noted from the study on which future research can build on. The fact that the research strategy is cross-sectional and quantitative in nature means that the measurement, collection and analysis of data emphasized on quantification (use of numbers) and not gaining deeper understanding of the underlying reasons on customers’ perceptions of CSR. As such, future research can take on the exploratory qualitative strategy in order to uncover trends in thought and gather in-depth viewpoints held by customers about their banks’ CSR activities.

Additionally, since this study used trust as a mediating variable, further studies can look into other variables such as word-of-mouth and customer identification. Also, examining how the variables interact to affect the customer outcomes is another direction for future research. This will allow for a broader perceptive to be taken to provide a better understanding of how the factors could complement each other to enhance customer satisfaction and loyalty.

Finally, further research should aim at conducting a longitudinal study to replicate and extend the research scope on the study constructs. This could provide well-grounded and better-nuanced results. The fact that CSR is fully mediated by trust in this study could be that CSR outcomes need to be studied over a longer period of time. Thus, conducting this study across time could help increase the precision of the findings and enable stronger statistical inferences to be made.

References


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Appendix
Background information, list of respondents, list of companies or questionnaire may be described in this section if required by the editor/reviewer.

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