WHO GETS BELIEVED? TRUST AND INVESTOR REACTION TO EARNINGS ANNOUNCEMENTS IN SHARĪʿAH-COMPLIANT VS. SHARĪʿAH NON-COMPLIANT FIRMS

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ABSTRACT

Purpose – Considering the proclamations of trustworthiness within the Islamic financial system and the positive relationship between stock market reaction and earnings announcement of the trustworthy firm, this paper aims to empirically test the presence of trust in Sharīʿah-compliant listed firms in Pakistan.

Design/Methodology/Approach – The research question has been addressed by investigating firms listed on the Pakistan Stock Exchange (PSX) from 1 July 2019 to 30 June 2020. Event study method has been used by taking Abnormal Return Variance (ARV) and Abnormal Trading Volume (ATV) as proxies to measure the investors' reaction following earnings announcements.

Findings – The results suggest that stock price variations around earnings announcements are negatively related to trustworthy firms compared to less-trusted firms (i.e., Sharīʿah non-compliant firms). For ATV, it was found that traders react to annual earnings announcements for both types of firms in a similar way.

Originality/Value – This research is an attempt to evaluate the Islamic financial system from its trustworthiness perspective. Sufficient literature has already documented that being trustworthy is obligatory for Sharīʿah-compliant firms. This study contributes to the literature by examining whether the market/investors trust such firms or not.

Research Limitations/Implications – This research is based on a single-country analysis with a research span of one year. Cross-country analysis with a broader time horizon may give further clarity.

Practical Implications – This paper has made a valuable contribution to the literature by providing the guideline on how investors' reactions to Sharīʿah-compliant firms differ from their reactions to Sharīʿah non-compliant firms. It also indicates how religious elements may subdue other social factors such as trust. This paper has also explored the market reaction by assessing both the liquidity and volatility of the stock market in Pakistan.

Keywords – Earnings announcement, Pakistan Stock Exchange, Sharīʿah-compliant firms, Stock market reaction, Trust

Article Classification – Research paper

INTRODUCTION

Trust is the most essential feature when individuals or entities work together (Viljanen, 2005). The importance of trust has been recognised by experts in almost every sphere of life (e.g., Hall, 2005; Singh *et al.*, 2015; Boies *et al.*, 2015). The significance of trust is even more important in financial matters. For any financial system, trust works as a 'lubricant' (Arrow, 1974). Trust can simplify transactions and increase the proficiency of a system, especially in the case of market crises. It acts as an invisible hand in facilitating market exchange by reducing doubts and suspicions (Özcan & Çokgezen, 2006).

As in many other religions, Islam emphasises trustworthiness as a religiously mandated trait, which it associates with righteousness and honesty. Likewise, the Islamic financial system gives high importance to the element of trust (Harningtyas, 2015). This encourages Muslim investors to believe that, the managers of Sharīʿah-compliant firms would not exploit their discretion over financial matters. Hence, maintaining stakeholders' trust is considered a fundamental responsibility of managers in Sharīʿah-compliant firms, in order to align with Islamic divine rules (Abuznaid, 2009).

Along with the importance of trust, which acts as a key factor in strengthening the investor-manager relationship, researchers have also found a positive relationship between trust and investors' perception and application of financial disclosure, precisely in the case of earning announcements made by firms (Dorner, 2005). In the presence of trust, the investor finds financial results more truthful and reliable. The same reason lies behind making another association between stock market reactions and earnings announcements. Prior research articulates that the greater the perceived integrity of a company, the more the stock market will react to its earnings announcements (e.g., Miao & Yeo, 2009; Pevzner *et al.*, 2015; Cao *et al.*, 2016; Jung *et al.*, 2017; Eugster & Wagner, 2021).

Keeping in consideration both the proclamations of trustworthiness of the Islamic financial system and the positive relationship between stock market reaction and earnings announcement in the presence of trust, this paper hypothesises that Sharīʿah-compliant firms always refrain from following any practice which may cause distrust among their stakeholders. Therefore, a sound bond of trust is present between investors and these firms. That bond of trust creates an environment in the market where stock prices and trading volumes are directly dependent on the news about the company.

The relationship between stock market reaction and market news is more pronounced in the case of earnings announcements made by the managers of the company (Bouteska & Regaieg, 2017). Therefore, whenever any Sharīʿah-compliant company makes an annual earnings announcement, the market should respond to it through changes in security price and volume. Researchers have documented that being trustworthy is obligatory for Sharīʿah-compliant firms. However, there is a gap in the literature in terms of assessing whether the market (i.e., investors) trusts such firms or not. To the best of the authors' knowledge, no study has been undertaken to examine the relationship of earnings announcement on the stock market reaction by comparing both Islamic and conventional listed firms. To cover this gap, this research aims to answer the following research question: Do the earnings announcements of trustworthy Sharīʿah-compliant firms have a higher stock market reaction compared to those of Sharīʿah non-compliant firms?

To investigate this primary research question, this paper has examined the hypotheses on Pakistan Stock Exchange (PSX) listed firms. Because theory and empirical studies suggest that trading turnover and return volatility increase in response to earnings announcements in trusted societies, Abnormal Return Variance (ARV) and Abnormal Trading Volume (ATV) are used as proxies to measure the investors' reaction. Considering Sharīʿah-compliant firms as trustworthy and as having an impact of trust on the investor, this research expects a positive relationship between stock market reaction and earnings announcements made by Sharīʿah-compliant firms.

Surprisingly, the evidence of this research has revealed a different narrative. While assessing ARV, the results suggest that investors in Sharīʿah-compliant firms respond less to annual earnings announcements in comparison to Sharīʿah non-compliant firms. The evidence is consistent with Guiso *et al.* (2008) suggesting that investors in Pakistan trust the managers of Sharīʿah-compliant firms and thus pay less attention to accounting information. Thus, ARV is subdued when Sharīʿah-compliant firms reveal corporate earnings announcements relative to their Sharīʿah non-compliant counterparts. On the other hand, for ATV, trustworthy firms show insignificant market reaction following earnings announcements; that is, traders react to annual earnings announcements for both types of firms in a similar way.

No prior research has examined Sharīʿah-compliant firms from the perspective of their trustworthiness. This research is therefore a valuable addition to the existing literature from three dimensions:

1. It provides important information on how investors' reactions to Sharīʿah-compliant firms differ from their reactions to Sharīʿah non-compliant firms as well as providing details about the orientation of PSX investors towards Sharīʿah-compliant entities.
2. It indicates how religious elements may subdue other social factors such as trust.
3. It explores the market reaction by employing both liquidity and volatility of the stock market in Pakistan.

The remainder of this research is outlined as follows: the second section discusses the literature which facilitates the development of hypotheses in the third section. The data and methodology are explained in the fourth section, while empirical results are discussed in the fifth section. The last section concludes the paper.

LITERATURE REVIEW

This study involves two strings of literature. One speaks about trust and its importance in financial matters, particularly in the case of Islamic finance along with the factors which affect trust in institutions. The other discusses the impact of earnings announcements on the stock market reaction in the presence of trust.

Trust

The literature defines trust as an anticipation of the fulfilment of due obligations by the counterparty, in accordance with implied assurances (Collard & Gambetta, 1989). Trust has also been considered a mental heuristic, which at first processes information and then simplifies decision-making (Wei & Zhang, 2014). Ohtsuka (1975) defines trust as conviction of the counterparty's trustworthiness. Trust plays a key role in the development of commitment in customers, which eventually creates customer loyalty (Tabrani *et al.*, 2018). Societal trust shapes

the behaviours of individuals of any society and can be considered an informal institution to partially substitute formal institutional monitoring mechanisms (Cao *et al.*, 2016). In countries where the institutional environment is less satisfactory, trust works substitutionally (Abdelsalam *et al.*, 2021).

Studies also consider trust as an 'invisible hand' that lessens the suspicions and overcomes the problem of asymmetric information, especially when regulatory frameworks and institutions are not strong enough (Özcan & Çokgezen, 2006). During financial crises, trust greases the financial and social systems by facilitating transactions and raising the efficiency of the systems (Arrow, 1974). For example, during the outbreak of COVID-19, stock market volatility was considerably low in high trust regions (Engelhardt *et al.*, 2021).

In the literature, two schools of thought define the origin of trust. The first states that attributes of any individual as well as social and demographic characteristics are the reasons for trust to prevail. The other holds that in any society, trust is based on the strength of social and political institutions. Wei and Zhang (2014) disregard trust as an extrinsic element; rather, they define trust as an element of social capital that is positively linked with the reputable performance of the institution. La Porta *et al.* (1997) consider the basis of trust to be a 'horizontal network of association' among people working together for civic and commercial activities.

Importance of Trust in Islamic Finance
The significance of trust increases immensely in the case of the Islamic economic and financial system. The reasons behind this are twofold. Firstly, the transactions in Islamic finance should be established through joint ventures based on profit-and-loss sharing, which carries inbuilt higher chances of opportunism and agency cost. Therefore, trust, which is based on interpersonal and intra-organisational understanding, takes on increased importance (Nawaz, 2013). Another reason for the noteworthy position of trust in Islamic banking and finance is the emphasis that the divine teachings of Islam have given to trustworthiness, particularly in the case of financial matters. Additionally, since *maqāṣid al-Sharīʿah* (objectives of Islamic law) are the essence of Islamic banking and finance, the system aims at developing 'human wellbeing centered towards developmentalist objectives' (Harningtyas, 2015), which ultimately gives rise to the incomparable importance of trustworthiness.

Earnings Announcements, Stock Market Reaction and Trust
A vast body of literature is available to validate the strong relationship between the level of trust and stock market reaction. By creating an analogy of the stock market with a 'three-card game', Guiso *et al.* (2008) claim that before investing, investors need to gain trust in the transparency and objectivity of the game as well as in the reliability of the numbers presented to them. While making any decision about investment in the stock market, the authors define an act of trust as an important assessment of the risk-return trade-off.

When deciding to invest in the stock market, trustworthiness of the market is generally perceived in two ways. The first relates to the trust that prevails in stock market elements, such as the transparency of the process, the credibility of agents involved, and others. Another relates to the trustworthiness of the corporation in which the investor wants to invest (Nofsinger, 2008). Trust, when it is coupled with the element of sociability, can further make a more significant impact on stock market participation (Georgarakos & Pasini, 2011). While examining this

relationship between trust and sociability and stock market participation, Balloch *et al.* (2015) explain that stock market decisions are dependent on stock market literacy and trust levels. According to the findings, individuals who are knowledgeable about the stock market and wholly trust it are more inclined to invest a larger share of their money in equities.

Holding the preposition of 'better trust, more growth', Ng *et al.* (2015) empirically demonstrate that stock market liquidity can have a positive impact on Gross Domestic Product (GDP) and Total Factor Productivity (TFP) only when strong trust and confidence in the stock market exist.

Qiu *et al.* (2020) further investigate the relationship between societal trust and stock price synchronisation and provide evidence that the two are positively related. Their research claims that the risk of stock price crashes is lower in markets where societal trust is high; hence, trust works as a catalyst for firm-specific information to get capitalised into stock prices. Consistent with this, Cao *et al.* (2016) also document the negative correlation between societal trust and stock price crash, revealing that the effect is drastic for firms which have more analyst coverage or have a high proportion of institutional owners.

Earnings Announcements and Stock Market Reaction

Management makes earnings announcements through official public statements about the financial progress and profitability of firms during a certain period (Angelovska, 2017). It is mandatory for all listed firms to make earnings announcements. The latter may be used by a manager to update existing and potential shareholders about the financial position of the company, which they can use as a yardstick to evaluate the operational strength of the company (Mlonzi *et al.*, 2011).

The Efficient Market Hypothesis claims that efficient capital markets incorporate all the available information into stock prices (Marwala & Hurwitz, 2017). One of the key sources of such information is earnings announcements. Extensive literature is available to validate the strong relationship between earnings announcements and stock price reactions (e.g., Kakiya *et al.*, 2013; Bizri, 2014; Bouteska & Regaieg, 2017). Similarly, Syed and Bajwa (2018) have checked the announcements' effect on the stock market of Saudi Arabia by considering quarterly announcements and found that the stock returns were significantly abnormal around their respective earnings announcements date. They further explained that the impact can be different between good or bad news announcements. The market response to earnings announcements can also vary depending on certain factors, such as market capitalisation, liquidity, transaction cost, number of analysts following the company to make predictions about it, arbitrage risk, information uncertainty, and institutional ownership (Miao & Yeo, 2009).

Earnings Announcements, Stock Price and Trust

Association between earnings announcements and stock prices becomes more robust if the element of trust prevails in the market. The same piece of information may force different rational investors to exert different outcomes, depending upon the level of trust they possess about the source of information (Jia *et al.*, 2015). Wei and Zhang (2014) checked this influence of trust in stock price reactions after earnings announcements are made by examining the data of the United States. The research endorses the notion that in the absence of societal trust or where the trust level is low, the stock market tends to under-react to the earnings announcement. By taking trust established by the

financial reporting style, Eugster and Wagner (2021) documented that market reaction in response to earnings announcements is stronger from the firms that had low earnings in the past.

The same evidence has been proved by Jia *et al.* (2015), where they provide the base of trust as cultural and social association with the source of information. Their paper highlights trust as a driving force by using the data of two types of shares issued by Chinese firms, one of which is issued to local investors and another to foreign investors. Furthermore, by analysing two types of events, i.e., earnings announcements and financial analysts' earnings forecasts, the paper argues that local investors have a high level of trust in such information because of social and cultural connections. For the same reasons, it was empirically tested that when the analysis is made by local analysts, the locally held shares react more as compared to securities held by foreign investors.

Based on philosophies such as contract theory and the theory of firms, which propose that society-oriented and philanthropic behaviour of firms positively affect the perception of trustworthiness, Lins *et al.* (2017) judged the element of trustworthiness by gauging the corporate social responsibility (CSR) of firms. Using the time span of 1998 through 2011, the research examined that under-reaction to earnings news can be affected by the perceived trustworthiness of the firm, or alternatively, whether stock market reactions and earning announcements become stronger for such firms. The research suggested that, particularly in times of financial crises, firms that do not have sophisticated information to disseminate or that encounter information asymmetry risk, should focus on subjective beliefs about the firms. The research further added that when investors have low or no trust in the firms, then doubts about the reliability of information may arise. These reservations eventually result in underreaction to the figures provided (Jung *et al.*, 2015).

One of the most prominent research efforts to validate this association was conducted by Pevzner *et al.* (2015). A sample of 53,000 firm-year observations from 25 countries was considered to gauge the difference in the level of trust that leads to a difference in the responses to earning announcements. This research examined ATV and ARV over the event window of (0, +1) of earnings announcement and find that both variables are significantly higher in countries where the trust level is greater. The results also changed considerably with a few country-level characteristics/controls, such as educational level, presence of investor protection laws, and disclosure requirements. By analysing the cross-sectional variation, Pevzner *et al.* (2015) further contributed that trust can be a good auxiliary for the financial system with fewer formal institutions or with a lower level of literacy rate. Thus, in environments with high asymmetric information risk, a less-educated investor can make economic decisions based on trust. In a nutshell, the research presented that trust is the force that draws the perception of the investor about company financial reporting and shapes the reaction to earnings announcements. The research also touches upon the relationship between a country's religion and societal trust.

CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

Based on the literature, two propositions can be developed. Firstly, Sharīʿah-compliant firms are considered to be more trustworthy and they surpass Sharīʿah non-compliant firms in terms of credibility and trustworthiness. Secondly, in the case of a trustworthy firm, the impact of earnings announcements on stock prices and trading volumes is significantly higher than the less trusted counterpart. Therefore, it is expected that if the market also considers Sharīʿah-compliant firms as

more trustworthy, then whenever any earnings announcement is made by such firms, an investor should believe in the credibility and accuracy of the information and consequently a strong reaction in share prices and trading volume should come from the market. Accordingly, the following hypotheses have been developed to validate this phenomenon:

H1: A trustworthy Sharīʿah-compliant firm has significantly higher stock price reaction following its earnings announcement compared to a Sharīʿah non-compliant firm.

H2: A trustworthy Sharīʿah-compliant firm has a significantly higher stock price reaction after its earnings announcement compared to its Sharīʿah non-compliant counterpart after controlling for other firm-specific characteristics.

H3: A trustworthy Sharīʿah-compliant firm has a significantly higher trading turnover following its earnings announcement compared to a Sharīʿah non-compliant firm.

H4: A trustworthy Sharīʿah-compliant firm has a significantly higher trading volume following its earnings announcement compared to its Sharīʿah non-compliant counterpart when controlling for firm-specific characteristics.

DATA AND METHODOLOGY

Sample Construction
All publicly traded financial and non-financial firms of the PSX have been taken to corroborate the hypotheses. For each company, one annual earnings announcement from 1 July 2019 to 30 June 2020 has been taken into consideration. Initially, data of 525 active firms of PSX have been obtained. However, firms with no annual accounting announcement (i.e., stocks on default or suspended counter) and firms with less than 36 days of trading during the estimation and sample period are considered highly illiquid and have been excluded from the sample. Hence, the final sample size of 358 stocks from PSX is used to analyse the data.

Data
For analysis, the Karachi Stock Exchange index (KSE-100) is used as a market index. Stock market data such as daily closing price, market index closing value, trading volume, and common shares outstanding have been downloaded from Thomson Reuters DataStream. For earnings announcement dates, the official data portal (website) of PSX is used. Following the methodology of Pevzner *et al.* (2015), the date of the earnings announcement is treated as the event date (t=0), while the announcement day and next trading day after the announcement are taken as the event window (0, +1) since the announcement is fully revealed on all media networks within 24 hours of its announcement. To mark the largest blue-chip firms in the market, constituent firms of the Karachi Stock Exchange Index (KSE-30) and Karachi Stock Exchange Meezan Index (KMI-30) are employed as a dummy variable because the literature suggests a different market reaction for large capitalised firms. To create a dummy variable for the reporting frequency of firms, the availability of quarterly reports of the firm, either on PSX or the respective firm's official website, have been assessed. Some other firm-specific data are also obtained through Refinitiv DataStream, such as market-to-book value, leverage ratio, firm size, and operating losses. Moreover, data were hand-collected from the financial statements of firms, in cases where data were not available on DataStream.

Methodology

This research applied the event study methodology, which takes time as a function of an event and is used to test abnormal performance. This methodology seems to be the most appropriate to gauge the rapidity in the movement of stock prices, which arise due to the floatation of any new financial information in the stock market (Angelovska, 2017). To test the hypotheses, this research has adopted the model of Pevzner *et al.* (2015), as follows:

$$ARV_{i,t} = \beta_0 + \beta_1 Trust_{i,t} + \beta_2 Leverage_{i,t} + \beta_3 F\_Size_{i,t} + \beta_4 R\_Lag_{i,t} + \beta_5 L30_{i,t} + \beta_6 Loss_{i,t} + \beta_7 Q\_Rep_{i,t} + \beta_8 Info\_asym_{i,t} + \varepsilon_{i,t} \tag{1}$$

$$ATV_{i,t} = \alpha_0 + \alpha_1 Trust_{i,t} + \alpha_2 Leverage_{i,t} + \alpha_3 F\_Size_{i,t} + \alpha_4 R\_Lag_{i,t} + \alpha_5 L30_{i,t} + \alpha_6 Loss_{i,t} + \alpha_7 Q\_Rep_{i,t} + \alpha_8 Info\_asym_{i,t} + \varepsilon_{i,t} \tag{2}$$

where

1. *Firm leverage* (Leverage) is the ratio of total debt to total assets of the firm; it is used to control the other dimensions of the company. Broad literature suggests low announcement reaction for highly leveraged firms (Pevzner *et al.*, 2015).

2. *Firm size* (F_Size) is calculated by taking a natural logarithm of the market capitalisation of the firm at the start of the fiscal year for which the earnings announcement has been taken. It is relevant to control the firm size because stock market reactions can significantly be affected by the size and lead-lag return effect (e.g., Wei & Zhang, 2014).

3. *Reporting lag* (R_Lag) represents the number of days between the fiscal year-end and earnings announcements made by the company. Delay in announcements can be a factor to alter the stock market reaction (Laidroo & Joost, 2018).

4. *Largest 30* (L30) is a dummy variable that is equal to '1' for the firms which come under the largest 30 Sharīʿah-compliant firms in the Pakistan financial market. This research considered both the constituent firms in KMI-30 and KSE-30 as the largest 30 Sharīʿah-compliant firms.

5. *Loss* (Loss) is another binary indicator variable that will have a value of '1' if a firm has declared financial losses through public announcements in the particular time *t*, and '0' otherwise. Conrad *et al.* (2002) claimed that markets are more sensitive to bad news as compared to good news.

6. *Quarterly Reporting* (Q_Rep) has been assigned the value of '1' if firms reported their earnings every quarter; otherwise, it is '0'. Investors tend to react less to the firms which report their earnings more frequently (Pevzner *et al.*, 2015).

7. *High information asymmetry* (Info_asym) is a proxy for market-to-book-value; its value is equal to '1' if the firm has a market-to-book ratio above the median sector value and '0' otherwise. High information asymmetry has a positive impact on stock price volatility following the announcement (Kong *et al.*, 2011; Pevzner *et al.*, 2015).

Variables Definition
Market Reaction Measure
Market reaction is a dependent variable that denotes the reaction of the local financial market in response to the annual financial announcement made by the firm. Following the previous literature (e.g., Pevzner *et al.*, 2015), stock market reaction has been assessed through two dimensions/proxies: ATV and ARV. 'Event window' has been defined as the date of earnings announcement and following trading day to earnings announcement (0, +1). The 'estimation window', on its part, is a 100-trading-day period, from the 21st to 120th day before the earnings announcement date (-120, -21). Market reaction is a dependent variable that denotes the reaction of the local financial market in response to the annual financial announcement made by the firm.

Abnormal Return Variance
ARV is calculated as the average daily squared market model adjusted over the event window divided by stock return variance over the estimation window (-120, -21). To estimate the market model, an estimation window (-120, -21) has been used. Market model adjusted on day t of firm i is calculated as follows:

$$M_{it} = R_{it} - (\alpha_i + \beta_i R_{mt}) \tag{3}$$

Where M_{it} = Market model adjusted
   R_{it} = Daily stock return of firm i at day t
   R_{mt} = Daily return of market at day t
   α_i = Intercept estimation of firm i market model overestimation window
   β_i = Coefficient estimation of firm i market model overestimation window

Stock return is defined as the continuously compounded percentage change in price and is calculated as the natural logarithm of the stock price at day t scaled by the stock price at day $t-1$. The average of the squared market-adjusted return M_{it}^2 of event window (0, +1) is taken as the stock return variance over the event window. The stock return variance over the estimation window (-120, -21) is calculated as the variance of residuals of firms' market model over the estimation window.

Abnormal Trading Volume
ATV is calculated in two steps. Firstly, the trading volume of any firm is calculated as the number of shares traded at day t scaled by total common shares outstanding at day t (i.e., trading turnover). ATV is then calculated by taking an average of trading volume over the event window (0, +1), divided by the average of trading volume over the estimation window (-120, -21).

Trust Measure
Extant literature suggests that firms working according to Islamic principles use Sharīʿah as a term of reference for conducting business and are considered trustworthy firms. Therefore, in Pakistan's financial environment, societal trust denotes Sharīʿah-compliant firms. To pick firms that are Sharīʿah-compliant, constituent firms of Karachi Meezan All Share Index (KMI) are taken. 'Trust' equals one if the firm is declared as Sharīʿah-compliant and is a constituent of KMI-All Shares Index; and zero otherwise (i.e., Sharīʿah non-compliant listed stocks). KMI is an Islamic market index that evaluates firms on six different criteria, which include evaluation of the firm's core

business, the maximum level of debt to total assets, the ratio of non-compliance income to total assets, the ratio of non-compliance revenue to total revenue, the percentage of illiquid assets to total assets, and the ratio of net liquid assets to share price. KMI gets revisited bi-annually, and inclusion or exclusion from the index serves as the indication that the firm is working in accordance with Sharīʿah principles or not. During the research time span, an average of 221 firms was marked as Sharīʿah-compliant by the KMI-All Shares Index from the total 556 listed firms at PSX. After excluding illiquid firms, default, and suspended counter stocks, the sample consists of 178 Sharīʿah-compliant firms out of a final sample of 358 total firms.

Control Variables
For regression analysis, the seven independent/explanatory firm-level variables as defined above under Equation (1) and (2) were considered to control/isolate the partial effect of trust on stock market reaction.

RESULTS AND DISCUSSION
Data Description
The summary statistics of the variables of all final sample firms listed on PSX are depicted in **Table 1**. The data present the means (median) of ARV and ATV as 2.599 (1.282) and 4.407 (1.421) respectively. For control variables, firms in the KSE-All Shares Index have an average (median) firm size of 3.329 (3.369), while the mean (median) value of leverage, represented by debt-to-asset ratio remains at 23.285 (17.175). On average (median), firms show 87.603 (87) days lag to report their annual financial announcements after the end of the financial year within each industry. The least reaction of the market, measured through ARV and ATV remained at 0, which shows no trading during the event window of earnings announcements. The most volatile responses were measured at 73.288, as calculated in terms of ARV and 111.539 for ATV with a standard deviation of 5.321 and 9.527, respectively.

The minimum firm size was 0.748 and the maximum size was 5.805 making a standard deviation of 0.971. The research sample has the highest leverage ratio at 198.15 per cent, while few firms have zero debt-to-equity ratio, which shows no long-term liabilities on the books of the firm. The standard deviation of leverage for PSX firms was 26.336. The earliest annual earnings announcement any firm made was 25 days after the financial year-end, while the most delayed disclosure was after 422 days. The standard deviation of reporting lags was 42.432.

Table 1: Summary Statistics of Firms Within the KSE–All Shares Index

	Mean	STD	Min	Max	Median
ARV	2.599	5.321	0	73.287	1.282
ATV	4.407	9.527	0	111.538	1.421
Trust	0.497	0.501	0	1.000	0.000
L30	0.140	0.610	0	1.000	0.000
Loss	0.279	0.449	0	1.000	0.000
Q_Rep	0.980	0.139	0	1.000	1.000
R_Lag	87.603	42.433	25.000	422.000	87.000
Info_asym	0.483	0.500	0	1.000	0.000
Leverage	23.285	26.336	0	198.151	17.700
F_Size	3.329	0.971	0.748	5.805	3.369

Source: Authors' own

Moreover, 28 per cent of the firms reported losses during the sample period; seven firms; i.e., 2 per cent of the total sample of firms, failed to report their quarterly earnings; 11 per cent of firms are constituents of either KSE-30 or KMI-30 index (the blue-chip firms in both indices); and 48 per cent firms are considered to have high information asymmetry as their market-to-book ratio was lower than the industry median.

Table 2 and **Table 3** present the descriptive statistics of Sharīʿah-compliant firms and Sharīʿah non-compliant firms, respectively. For Sharīʿah-compliant firms, the mean (median) ARV is 2.118 (1.295) and the mean (median) ATV is 3.896 (1.679). On the other hand, Sharīʿah non-compliant firms have a mean (median) ARV of 3.075 (1.282) and mean (median) ATV of 4.913 (1.232). The mean (median) firm size of Sharīʿah-compliant firms and Sharīʿah non-compliant firms are 3.467 (3.491) and 3.193 (3.218), respectively. On average, Sharīʿah-compliant firms announce their earnings with 90 days lag, in comparison to the average of 85 days lag for non-compliant firms. The standard deviation of reporting lags was 52.093 and 29.927 for Sharīʿah-compliant and non-compliant firms, respectively. Since the standard deviation of ARV and ATV for Sharīʿah-compliant firms is 2.534 and 8.537 respectively, it can be concluded that dispersion in the market reaction is lower in the Islamic financial market as compared to the Sharīʿah non-compliant market, which has a standard deviation of 7.046 and 10.412 for ARV and ATV, respectively. The standard deviation for market value is 0.913 for Sharīʿah-compliant firms and 1.009 for those which are non-compliant. Dispersion in leverage ratio remained at 19.108 and 31.346 for Sharīʿah and Sharīʿah non-compliant companies, respectively.

This paper carried out the *t*-test for the mean difference of quantitative variables between Sharīʿah-compliant and non-compliant firms, as presented in **Table 4**. Out of a total sample of 358 firms, 178 were Sharīʿah-compliant while the remaining 180 were Sharīʿah non-compliant firms.

The result shows that only the firm size and leverage ratio of the firms are significantly different in Sharīʿah-compliant and non-compliant firms. Sharīʿah non-compliant firms have on average 8.4 per cent higher debt-to-assets ratio as compared to compliant firms, which indicates that Sharīʿah-compliant firms are more equity-financed (Bilal *et al.*, 2016). Data also revealed that KMI-All Shares Index firms are significantly larger than other firms in PSX, as the average firm size of Sharīʿah-compliant firms is higher relative to Sharīʿah non-compliant firms. However, market reaction surrounded by annual earnings announcements, as calculated by ARV and ATV, is not different from zero in Sharīʿah-compliant and Sharīʿah non-compliant firms (though the mean difference between the two types of firms for ARV—a proxy of investor reaction—is weakly significant at the 10 per cent level). Hence, overall, based on secular initial analysis, this study does not accept hypothesis one (H1) and hypothesis three (H3). However, the concrete results come after running regression analysis with firm-specific control variables that also influence the stock market reaction.

Table 2: Summary Statistics – Sharīʿah-Compliant Firms

	Mean	Std. Deviation	Min	Max	Median
ARV	2.118	2.534	0	12.853	1.295
ATV	3.896	8.537	0	85.714	1.679
R_Lag	90.073	52.093	25.000	422.000	86.000
Leverage	18.736	19.108	0	76.960	16.755
F_Size	3.467	0.913	0.748	5.752	3.491

Source: Authors' own

Table 3: Summary Statistics – Sharīʿah Non-Compliant Firms

	Mean	Std. Deviation	Min	Max	Median
ARV	3.075	7.046	0	73.288	1.282
ATV	4.913	10.412	0	111.539	1.232
R_Lag	85.161	29.927	26.000	215.000	90.000
Leverage	27.136	31.346	0	198.15	17.780
F_Size	3.193	1.009	1.007	5.805	3.218

Source: Authors' own

Table 4: Univariate Results

	Sharīʿah-Compliant	Sharīʿah Non-Compliant	Diff	p-Value
	N=178	N=180		
ARV	2.118	3.075	-0.958	0.088
ATV	3.896	4.913	-1.017	0.313
R_Lag	90.073	85.161	4.911	0.276
Leverage	18.736	27.136	-8.401	0.002
F_Size	3.467	3.193	0.275	0.007

Source: Authors' own

To examine the multicollinearity issue, correlation analysis among the variables of interest has been done. The results in **Table 5** show that there is none to very low correlation among the variables. Hence, further work can be done by applying multivariate regression models to test the hypotheses.

Table 6 presents the results of the regression model given in equation (1). In this model, ARV is used to gauge the investors' reaction in response to the annual earnings announcement. Column (1) of the table shows the market reaction when the only explanatory variable is trust. The purpose is to find the impact of Sharīʿah-compliant firms' earnings announcements on stock prices without taking into account the impact of the control variables. In column (2), the model is used by controlling for other explanatory and firm-level characteristics.

Considering the model specified in equation (2), hypothesis four (H4) has been tested by replacing the dependent variable from equation (1) with ATV. The results of the second multivariate regression model are depicted in **Table 6**. In column (3) of the table, stock market reaction to earnings announcements has been checked by taking trust as the only independent variable, while column (4) represents a model with firm-level controls.

Table 5: Correlation Matrix

	ARV	ATV	F_Size	Info_asym	L30	Leverage	Loss	Q_Rep	R_Lag	Trust
ARV	1	0.122	0.169	0.053	-0.010	0.080	-0.056	0.036	-0.053	-0.094
ATV	0.122	1	-0.079	0.001	-0.063	0.045	-0.100	0.047	0.078	-0.054
F_Size	0.169	-0.079	1	0.361	0.272	0.061	-0.374	-0.100	-0.520	0.114
Info_Asym	0.053	0.001	0.361	1	0.002	0.004	-0.123	-0.077	-0.263	-0.012
L30	-0.010	-0.063	0.272	0.002	1	0.111	0.030	-0.053	-0.081	0.009
Leverage	0.080	0.045	0.061	0.004	0.111	1	0.135	-0.012	0.087	-0.157
Loss	-0.056	-0.100	-0.374	-0.123	0.030	0.135	1	0.020	0.225	-0.076
Q_Rep	0.036	0.047	-0.100	-0.077	-0.053	-0.012	0.020	1	0.104	-0.027
R_Lag	-0.053	0.078	-0.520	-0.263	-0.081	0.087	0.225	0.104	1	-0.059
Trust	-0.094	-0.054	0.114	-0.012	0.009	-0.157	-0.076	-0.027	-0.059	1

Source: Authors' own

Table 6: Trust and Stock Market Reactions

	Abnormal Return Variance		Abnormal Trading Volume	
	(1)	(2)	(3)	(4)
Trust	-0.96* (0.089)	-1.18** (0.050)	-1.01 (0.313)	-0.74 (0.473)
Leverage		0.01 (0.355)		0.03 (0.189)
F_Size		1.300*** (0.0021)		-1.49** (0.022)
R_Lag		0.01 (0.505)		0.01 (0.420)
L30		-0.63 (0.201)		-0.43 (0.621)
Loss		0.09 (0.906)		-3.63*** (0.003)
Q_Rep		2.13 (0.383)		2.42 (0.513)
Info_Asym		-0.20 (0.762)		0.64 (0.557)
Observations	358	358	358	358
Adjusted R-Squared	0.005	0.029	0.000	0.019

Note: The number in parenthesis is the p-value. *, **, *** show the significance at 10, 5, and 1 per cent levels, respectively.

Source: Authors' own

Stock Market Reaction Followed by Earnings Announcements

A multivariate regression analysis has been employed to check whether there is any significant change in market reaction for Sharīʿah-compliant and Sharīʿah non-compliant firms, considering the former as more trustworthy. Market reaction proxies are ARV and ATV; hence, two regression models are used for these two dependent variables.

Abnormal Return Variance

By analysing ARV with trust as the only explanatory variable, results show that Sharīʿah-compliant firms have a weakly significant and negative impact on ARV following the earnings announcements. However, when other firm-level controls are added to the model, interestingly, the coefficient becomes negative and significant at a 5 per cent level with an increase in magnitude. It shows inconsistency with the second hypothesis that Sharīʿah-compliant firms will have significantly higher stock price reactions after the earnings announcement as compared to Sharīʿah non-compliant counterparts.

Abnormal Trading Volume

This research has also examined hypothesis 4 (H4) to see if trustworthy firms; i.e., Sharīʿah-compliant firms, have significantly higher trading volume around the earnings announcements, or not. Unlike ARV, the results demonstrate the insignificant impact on trading turnover following the earnings announcements. Based on the evidence, it can be inferred that the reaction to earnings announcements of Sharīʿah-compliant firms is not different from Sharīʿah non-compliant firms; hence, H4 cannot be accepted.

Firm Level Controls

For control variables, results show that the market reacts more strongly in response to the earnings announcements of blue-chip firms. This is inconsistent with the prior literature, which found that the larger the firm the less the investors' reaction to earnings announcements will be (e.g., Wei & Zhang, 2014; Pevzner *et al.*, 2015). Other firm-level variables used in the model were largely found to have an insignificant impact on market reaction, marking another inconsistency with the available literature (e.g., Conrad *et al.*, 2002; Kong *et al.*, 2011; Pevzner *et al.*, 2015). However, reporting losses significantly impact trading volume in a negative manner, which shows that investors usually respond more in case of negative earnings news (i.e., it could be due to selling pressure by traders). Such market behaviour has also been documented by prior studies (e.g., Conrad *et al.*, 2002; Pevzner *et al.*, 2015).

CONCLUSION

This study hypothesised that, considering Sharīʿah-compliant firms as trustworthy, their earnings announcements should compel the capital market to react more strongly in comparison with Sharīʿah non-compliant firms. To check this phenomenon, ARV and ATV surrounded by earnings announcements of all PSX firms were analysed. On the one hand, no significant difference in the trading volume of Sharīʿah-compliant and Sharīʿah non-compliant firms around earnings announcements was found. On the other hand, this research also presented a very intriguing trend for changes in stock prices of Sharīʿah-compliant firms followed by earnings announcements. Analysis of the multivariate regression model for ARV found a significant negative coefficient of trust, which portrays that return variances of Sharīʿah-compliant firms drop significantly after earnings announcements are made relative to Sharīʿah non-compliant counterparts. These findings contrast with prior studies, which claim that in the case of trustworthy firms, investors respond more positively and strongly as they perceived that financial information reported by the firms is credible (Pevzner *et al.*, 2015). However, this atypical phenomenon supports the narrative of Guiso *et al.* (2008), which points to a casual interpretation that investors consider managers of Sharīʿah-compliant firms to be honest and transparent, so they have less demand of information and give less consideration to earnings announcements; hence, investors' reaction to earnings announcements is subdued (Pevzner *et al.*, 2015). Also, since the investments in Sharīʿah-compliant firms are religiously inspired, investors behave differently from those whose investments are not influenced by religious convictions (Mansour & Jlassi, 2014). Another reason for the anomalies in results can be the confinement of the study to the capital market of Pakistan, which is not very developed and has a low financial literacy rate, and hence may be responding differently (Parveen *et al.*, 2020).

By assessing the liquidity and volatility in the emerging financial exchange of Pakistan, this research has diversified implications. On the one hand, this paper provides a guideline on how investors' reactions to Sharīʿah-compliant firms can be different from Sharīʿah non-compliant firms. On the other hand, it also indicates how religious elements may subdue other social factors like trust.

Nonetheless, this research has paved many avenues for future research. Firstly, there is a need to further explore the reason behind this exceptional financial behaviour. Different surveys from PSX investors and the opinion of market experts can help to delve into the possible causes. Secondly, this research has only considered a single country analysis with a research span of one year. To get more precision, multiple country analyses for more than one year can be done. Moreover, this research has ignored institutional ownership of the Sharīʿah-compliant firms, which may temper capital market reactions followed by financial information disclosure (Hotchkiss & Strickland, 2003). Future research can be done with the consideration of ownership composition.

REFERENCES

Abdelsalam, O., Chantziaras, A., Batten, J.A. & Aysan, A.F. (2021), 'Major shareholders' trust and market risk: substituting weak institutions with trust', *Journal of Corporate Finance*, Vol. 66, https://doi.org/10.1016/j.jcorpfin.2020.101784.

Abuznaid, S.A. (2009), 'Business ethics in Islam: the glaring gap in practice', *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 2 No. 4, pp. 278–288.

Angelovska, J. (2017), 'Investors' behaviour in regard to company earnings announcements during the recession period: evidence from the Macedonian stock exchange', *Economic Research-Ekonomska Istraživanja*, Vol. 30 No. 1, pp. 1–14.

Arrow, K.J. (1974), *The Limits of Organization*, Norton, New York.

Balloch, A., Nicolae, A. & Philip, D. (2015), 'Stock market literacy, trust, and participation', *Review of Finance*, Vol. 19 No. 5, pp. 1925–1963.

Bilal, Z.O., Durrah, O.M. & Atiya, T.M. (2016), 'Comparative study on performance of Islamic banks and conventional banks: evidence from Oman', *International Journal of Economics and Financial Issues*, Vol. 6 No. 4, pp. 1835–1841.

Bizri, R.M. (2014), 'A study of Islamic banks in the non-GCC MENA region: evidence from Lebanon', *International Journal of Bank Marketing*, Vol. 32 No. 2, pp. 130–149.

Boies, K., Fiset, J. & Gill, H. (2015), 'Communication and trust are key: unlocking the relationship between leadership and team performance and creativity', *Leadership Quarterly*, Vol. 26 No. 6, pp. 1080–1094.

Bouteska, A. & Regaieg, B. (2017), 'Earnings announcement effect on the Tunisian stock market earnings announcement effect on the Tunisian stock market', *Cogent Business & Management*, Vol. 47, https://doi.org/10.1080/23311975.2017.1413733.

Cao, C., Xia, C. & Chan, K.C. (2016), 'Social trust and stock price crash risk: evidence from China', *International Review of Economics and Finance*, Vol. 46, pp. 148–165, https://doi.org/10.1016/j.iref.2016.09.003.

Collard, D. & Gambetta, D. (1989), 'Trust: making and breaking cooperative relations', *The Economic Journal*, Vol. 99 No. 394, pp. 201–203

Conrad, J., Cornell, B., & Landsman, W. R. (2002), 'When is bad news really bad news ?', *The Journal of Finance*, Vol. 57 No. 6, pp. 2507–2532.

Dorner, A.W. (2005), 'Stock market reactions to financial information', *Journal of Human Resource Costing & Accounting*, Vol. 9 No. 2, pp. 94–111.

Engelhardt, N., Krause, M., Neukirchen, D. & Posch, P.N. (2021), 'Trust and stock market volatility during the COVID-19 crisis', *Finance Research Letters*, Vol. 38, https://doi.org/10.1016/j.frl.2020.101873.

Eugster, F. & Wagner, A.F. (2021), 'Earning investor trust: the role of past earnings management', *Journal of Business Finance and Accounting*, Vol. 48 No. 1–2, pp. 269–307.

Georgarakos, D. & Pasini, G. (2011), 'Trust, sociability and stock market participation', *SSRN Electronic Journal*, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1397236 (accessed 20 January 2021).

Guiso, L., Sapienza, P. & Zingales, L. (2008), 'Trusting the stock market', *Journal of Finance*, Vol. 63 No. 6, pp. 2557–2600.

Hall, M.A. (2005), 'The importance of trust for ethics, law, and public policy', *Cambridge Quarterly of Healthcare Ethics*, Vol. 14 No. 2, pp. 156–167.

Harningtyas, A.F. (2015), 'Developing maqasid al-Shari'ah index to evaluate social performance of Islamic banks: a conceptual and empirical attempt', *Uluslararası İslam Ekonomisi ve Finansı Araştırmaları Dergisi*, Vol. 1 No. 1, pp. 5–64.

Hotchkiss, E.S. & Strickland, D. (2003), 'Does shareholder composition matter? Evidence from the market reaction to corporate earnings announcements', *Journal of Finance*, Vol. 58 No. 4, pp. 1469–1498.

Jia, C., Wang, Y. & Xiong, W. (2015), 'Social trust and differential reactions of local and foreign investors to public news', *National Bureau of Economic Research*, https://www.nber.org/papers/w21075 (accessed 1 May 2021).

Jung, J.H., Kang, J.-K., Lim, S.S. & Yoo, C.-Y. (2017) , 'Perceived firm trustworthiness and market underreaction to earnings news', *SSRN Electronic Journal*, https://ssrn.com/abstract=2544247 (accessed 25 May 2020).

Kakiya, G., Mugo, R., Onyuma, S., Owuor, G. & Bosire, M. (2013), 'Do earnings announcement have an effect on the level of efficiency of the Nairobi Securities Exchange ?', Vol. 4 No. 16, pp. 148–165.

Kong, D., Xiao, T. & Liu, S. (2011), 'Asymmetric information, firm investment and stock prices', *China Finance Review International*, Vol. 1 No. 1, pp. 6–33.

Laidroo, L. & Joost, J. (2018), 'Earnings announcement lags and market responses: does the tone of the news and the market sentiment matter?', *Emerging Markets Finance and Trade*, Vol. 54 No. 8, pp. 1886–1907.

La Porta, R., Shleifer, A. & Lopez-de-Silanes, F. (1997), 'Trust in large organisations', *American Economic Review*, Vol. 87 No. 2, pp. 333–38.

Lins, K.V., Servaes, H. & Tamayo, A. (2017), 'Social capital, trust, and firm performance: the value of corporate social responsibility during the financial crisis ', *Journal of Finance*, Vol. 72 No. 4, pp. 1785–1824.

Mansour, W. & Jlassi, M. (2014), 'The effect of religion on financial and investing decisions', *The Psychology of Financial Planning and Investing*, Wiley-Blackwell, pp. 135–151.

Marwala, T. & Hurwitz, E. (2017), 'Efficient market hypothesis', *Artificial Intelligence and Economic Theory: Skynet in the Market (Advanced Information and Knowledge Processing)*, Springer, Cham.

Miao, B. & Yeo, G.H. (2009), *The Efficiency of Market Reactions to Earnings News*, National University of Singapore, Singapore.

Mlonzi, V.F., Kruger, J. & Nthoesane, M.G. (2011), 'Share price reaction to earnings announcement on the JSE-ALtX: a test for market efficiency', *Southern African Business Review*, Vol. 15 No. 3, pp. 142–166.

Nawaz, T. (2013), 'Blind-trust–a pave stone for Islamic financial institutions', *Research Journal of Finance and Accounting*, Vol. 4 No. 6, pp. 226–235.

Ng, A., Ibrahim, M.H. & Mirakhor, A. (2015), 'Ethical behavior and trustworthiness in the stock market-growth nexus', *Research in International Business and Finance*, Vol. 33, pp. 44–58.

Nofsinger, J. (2008), *It Takes Trust to Invest*, available at: https://www.psychologytoday.com/intl/blog/mind-my-money/200812/it-takes-trust-invest (accessed 24 June 2020).

Ohtsuka, M. (1975), 'A general definition of capacity', *Annales de l'Institut Fourier*, Vol. 25 No. 3-4, pp. 499–507.

Özcan, G.B. & Çokgezen, M. (2006), 'Trusted markets: the exchanges of Islamic companies', *Comparative Economic Studies*, Vol. 48 No. 1, pp. 132–155.

Parveen, S., Satti, Z.W., Subhan, Q.A. & Jamil, S. (2020), 'Exploring market overreaction, investors' sentiments and investment decisions in an emerging stock market', *Borsa Istanbul Review*, Vol. 20 No. 3, pp. 224–235.

Pevzner, M., Xie, F. & Xin, X. (2015), 'When firms talk, do investors listen? The role of trust in stock market reactions to corporate earnings announcements', *Journal of Financial Economics*, Vol. 117 No. 1, pp. 190–223.

Qiu, B., Yu, J. & Zhang, K. (2020), 'Trust and stock price synchronicity: evidence from China', *Journal of Business Ethics*, Vol. 167 No. 1, pp. 97–109.

Singh, R., Wegener, D.T., Sankaran, K., Singh, S., Lin, P.K.F., Seow, M.X., Teng, J.S.Q. & Shuli, S. (2015), 'On the importance of trust in interpersonal attraction from attitude similarity', *Journal of Social and Personal Relationships*, Vol. 32 No. 6, pp. 829–850.

Syed, A.M. & Bajwa, I.A. (2018), 'Earnings announcements, stock price reaction and market efficiency: the case of Saudi Arabia', *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 11 No. 3, pp. 416–431.

Tabrani, M., Amin, M. & Nizam, A. (2018), 'Trust, commitment, customer intimacy and customer loyalty in Islamic banking relationships', *International Journal of Bank Marketing*, Vol. 36 No. 5, pp. 823–848.

Viljanen, L. (2005), 'Towards an ontology of trust', Katsikas, S., López, J. & Pernul, G. (Eds), *Trust, Privacy, and Security in Digital Business*, TrustBus 2005, Lecture Notes in Computer Science, Vol. 3592, Springer, Berlin, Heidelberg.

Wei, C. & Zhang, L. (2014), 'Trust in financial markets: evidence from reactions to earnings news', *SSRN Electronic Journal*, available at: https://ssrn.com/abstract=2469034 (accessed 10 January 2021).

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