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Herding Behavior in the Stock Market of Pakistan

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Abstract

This study aims to investigate the impact of Herding Behavior on Investment Decisions in Pakistan Stock Exchange (PSE) with a moderating role of Financial Literacy & Event Uncertainty. In order to examine this relationship, a total of 200 questionnaires were distributed among the investors, out of which 177 investors returned the fully filled questionnaires on the basis of which results are generalized by using correlation and regression analysis. The previous studies reveal the presence of herding behavior in emerging markets of Asian Economies. However, the findings of this study also endorse the fact that herding exists in Pakistan Stock Exchange and it turns intense with the higher level of uncertainty while financial literacy is reported to mitigate its effects. Adequate levels of financial knowledge and skills are the key prerequisite for investors to achieve optimal outcomes in this complex decision-making environment. More precisely, increase in financial literacy weakens the relationship between herding behavior and investment decisions while event uncertainty is responsible for strengthening the effects of herding behavior as investors prefer to herd when they are uncertain about the future events. Findings of this study can be supportive for policy makers to formulate different strategies on government level for refinement of economy from these biases and provide guidelines to the investors to overcome these biases in personal capacity as well. The scope of the study is limited because only one bias is addressed here while there are a number of biases that can significantly affect the investment decisions. Moreover, study is carried out by incorporating two key factors, "event uncertainty" and "financial literacy", to assess the effects of herding behavior on stock market whereas other factors like informational inefficiencies, noise traders, market sentiments, high trade volume, emotional and social influence, economic environment, flexible prices, decision of predecessor and high incentive cost also have great influence on the investors so future researchers can consider these factors.

Key Words: Herding Behavior, Event Uncertainty, Financial Literacy

Introduction

The socio-economic factors influencing the investment decision process may include an element of uncertainty, level of income, invention and innovation, growth of population, state policy, political climate, etc. According to traditional finance theory, individual investors are supposed to be rational and well informed while making an investment decision with the consideration of optimal returns. But in developing countries like Pakistan, the complexity of the financial environment is increasing and is exceptionally volatile due to uncontrollable external socio-political factors such as security threats, terrorism, inflation, unethical practices, corruption, energy crises and political instability. This has led to the failure of the assumptions of traditional finance approach in Pakistan. Investors in Pakistan are not

able to take rational decisions, predominantly due to this macro socio-political uncertainty and the lack of publicly available information, because of unethical practices and corruption. Therefore, investors in Pakistan rely heavily on tacit knowledge and have little to go on explicit knowledge, diminishing their ability to make valid rational investment decisions. To address this shortcoming in traditional finance approach, the behavioral finance approach plays a seminal role. It is well accepted that decision makers are often influenced by multiple psychological biases that distort their decision making and economic outcomes (Barber & Odean, 2001, 2002; Kahneman & Riepe, 1998; Raghunathan & Corfman, 2006). Herding is one of the cognitive biases because, for many reasons including cognitive constraints, environmental cues and/or framing effects, individuals may be following the ill-judged decisions of a group (Baddeley, Bayliss, Jarrold, & Leigh, 2005; Tversky & Kahneman, 1974).

Modern psychological and economic research has identified herd behavior in humans to explain the phenomenon of large numbers of people acting in the same way at the same time. Keynes (1930) conceived herding as a response to uncertainty and individuals' perceptions of their own ignorance: people may follow the crowd because they think that the rest of the crowd is better informed. From the viewpoint of Finance, herding is a collective irrationality of investors originated from copycat behavior that can generate instability in financial markets and the investor may be prone to making errors of judgment, being inconsistent and irrational in their decisions. In Finance, these judgments and decisions pertain to the composition of individual portfolio, the choices of the securities, the expectations, the investment style, the horizon of investment, the turnover of the portfolio and the way investors react to the news. All human beings, individual investors use heuristics in the making of those judgments and decisions (Abreu, 2014).

Herding behavior is one of the major factors contributing to the financial meltdown which led the financial and real estate markets of the world to immense financial disaster.

Hott (2012) explained that herding behaviors are formed by those who are "imperfectly informed" and "learn from the decisions" of others and that people tend to "overestimate the likelihood of an event" to occur to them when they hear it happened to someone else (expecting the same experience that someone else had).

Previous researches on this topic pointed out certain factors that affect herding behavior like informational inefficiencies, noise traders, market sentiments, high trade volume, emotional and social influence, economic environment, flexible prices, decision of predecessor, high incentive cost, event uncertainty and financial literacy etc. This research will focus on two main factors i.e. "Financial literacy" and "Event Uncertainty" that are affecting the herding decisions in positive or negative way. According to Nye, Pete, and Cinnamon (2013), "Financial literacy is a measure of the degree to which one understands key financial concepts and possesses the ability and confidence to manage personal finances through appropriate short term decision-making and sound, long-range financial planning, while mindful of life events and changing economic conditions." Financial literacy refers to the skills that investors should have while making decisions on the basis of mathematical, factual, and economic factors such as annual reports, market analysis, and the prevailing mood of investors rather than taking decisions irrationally based on others' behaviors. From a broader perspective, investors having financial skills are more competent in managing their finances effectively that ultimately create a more competitive and efficient market. A low level of financial literacy may lead to a poor financial decision. Calvet, Laurent, John, & Paolo (2009) found that poor financial sophistication is associated with common investment mistakes, such as under-diversification, portfolio inertia and the tendency to sell winning stocks and hold losing stocks.

In addition to financial literacy, the addition of a new dimension i.e. Event Uncertainty is analogous in this study to enriching the outcomes of the relationship between herding behavior and investment decisions. According to Tversky and kahneman (1974) a decision about uncertain events mostly depends upon individual liking or disliking, and investor decision is affected by so many biases. Investors act irrationally while investing in stock exchange (Elton, Gruber, & Busse, 2004). In unstable markets like Pakistan, the level of uncertainty is very high. Avery and Zemsky (1998) found that herding does occur if there is "Event uncertainty" in the market, that is, uncertainty on whether an information event (i.e., a shock to the asset value, on which informed traders receive a signal) has occurred. Hence, event uncertainty is a normal way to create herding in an economy.

There are a number of studies available to examine herding behavior and its impact on the investment decisions. But the majority of literature is available on impact of herding on investment decisions in context of financial markets especially targeting the stock markets of the developed economies that are relatively stable as compared to the markets of developing economies. The material on impact of behavioral biases on investment decisions in financial markets of Asian countries, where markets are relatively volatile is limited. This study is conducted in order to investigate whether investors in Pakistan are biased emotionally or cognitively while making their investment decisions. Furthermore, the study aims to analyze whether investors of Pakistan are rational or irrational toward investment decisions. This study intends to provide a tool for identifying the impact of behavioral bias i.e. "Herding behavior" on the investment decisions of investors more precisely in the stock market. The study will also observe the role of "financial literacy" and "event uncertainty "in reinforcing herding behavior. This research article contributes to the literature encapsulating behavioral concepts of finance in the stock market. Keeping in view, the volatile financial markets of Pakistan, the findings of this study will be fruitful in educating stock exchange investors to beat the cognitive traps while making decisions and suggest them ways to be rational in their behavior.

Literature Review

Investment Decisions:

Behavioral Finance is a field in which investors are involved in ignoring or deleting the base level assumptions of traditional finance of expected utility maximization phenomenon where investors react rationally in markets which are efficient in nature (Ritter, 2002). Kahneman and Tversky (1973) found that investors systematically violate Bayes rule and other maxims of probability theory in predicting uncertain outcomes. The study of Thaler (1994) documented that there are two types of investors in the financial markets; the peoples who are making rational decisions and the peoples who make decisions on the basis of their prediction which makes them irrational. Much of the basic theories of behavioral finance are concerned with a series of new concepts under the general heading of 'bounded rationality,' a term associated with Herbert Simon (1947, 1983). The term bounded rationality relates to cognitive limitations on decision making. As a result, human behavior is made on the basis of simplified procedures or heuristics (Tversky & Kahneman, 1974).

Herding Behavior& Investment Decisions:

Both market participants and financial economists reportedly still believe that imitative behavior is widespread in financial markets (Devenow & Welch, 1996). When individual forecasters know that their ability is judged by comparing their forecasts to the aggregated forecasts of others, herding can become a dominant strategy for every. Herding Behavior in the Stock Market of Pakistan is forecaster in the market (Scharfstein & Stein, 1990). This has led some researchers to assert that market participants

engage in non rational herding behavior (Alan & Kirman, 1993; Shleifer & Summers, 1990). Herding may occur among both irrational and rational investors (Chandani & Sharma, 2000; Devenow & Welch, 1996; Leifer & Teoh, 2003). Additionally, De Long, Shleifer, Summers, & Waldmann, (1990) suggested that rational players can anticipate the presence of feedback trading among irrational investors. Banerjee (1992) and Chandani et al. (1992) presented models in which rational decision makers act in risky circumstances, apply the Bayes' rule correctly, and make decisions based on their own information and information signals deduced from the behaviors of others.

A majority of the investors value the immense flattering prognosis of analysts and the interpretations of professional market players, as the investors have a rational belief that these analysts and professionals have very accurate information that might be wrong. For example, Trueman (1994) argued that financial analysts, acting rationally in their own opinion, may aspire to publish forecasts and recommendations concurring with other analysts' predictions. Hence, the rational professionals may also tend to engage in irrational mania like herding. Their actions may be based on premises related to the fear of loss of reputation as the result of making claims that contradict the general market consensus (Scharfstein & Stein, 1990). Investors comprehend it really troublesome in differentiating between a market composed of well-informed traders and one with poorly informed traders who are herding. This preponderance of activity on one side of the market creates asset mispricing that permits herd behavior and push prices to extremely unsustainable levels leading to bubbles and bursts. It is evident from the literature that herding behavior affects the investors' decisions in making investment.

H1: *Herding Behavior has a significant direct relationship with Investment Decisions.*

Event Uncertainty & Investment Decisions:

Major factors contributing to herding behavior are market inefficiencies, such as weak market regulations, frequent government and central bank intervention, less-educated investors and lower requirements regarding listed companies' information disclosure. These inefficiencies play the role of a catalyst in creating uncertainty in the markets of developing country that induce the investors to make incorrect decisions. The loss as a result of inaccurate forecast reduces the ability of the investor to evaluate rationally and ultimately the investor indulges in replicating the decisions of others. In addition to this, factor to event uncertainty. Herding is also defined as socially inefficient reliance on public information (Vives, 1997). The lesser the quantity and accuracy of the information available to the market players, the higher their propensity will be to disregard private signals and to indulge in copycat behaviors of other players.

Lee (1998) presented a model in which large quantities of cumulated private information, previously blocked as the result of a cascade, could suddenly appear in the market as a reaction to a relatively insignificant event, creating an unexpected information avalanche and leading to sudden price changes. Although, this model was developed a long time ago, it is a well demonstration of sudden market breakdown during the financial meltdown in 2008. In the light of the literature, this study seeks to determine the relationship of event uncertainty and investment decisions in the stock market, as the market of Pakistan is characterized as highly inefficient, with low standards of information disclosure.

H 2: *Event Uncertainty has a significant positive association with Investment Decisions in the Stock Market.*

Financial Literacy & Investment Decisions:

Financial literacy has been discussed by many researchers from different aspects. A growing literature has established a strong relationship between financial literacy and investment behavior. Bondt,

Muradoglu, Shefrin, and Staikouras, (2008), for example, shows that households with higher levels of financial literacy are more likely to plan for retirement, invest in securities and that planners arrive at retirement with substantially more assets than non-planners. Similarly, Lusardi and Mitchell (2007) found that those who display low financial literacy are less likely to plan for retirement and as a result accumulate much less wealth. Different researchers have done research to investigate the level of financial literacy of investment decision makers. Monticone and Chiara (2010) found that in order to succeed at the stock market, investors engaged in online trading should be more knowledgeable and informed as compared to other investors, because they lack information about what is happening inside the stock market and they may also become the victims of information asymmetry. This study is carried out to conclude the role of financial literacy while making investment decisions in the stock market of Pakistan.

H 3: *Financial Literacy has a significant positive association with Investment Decisions in the Stock Market.*

Moderating Role of Financial Literacy between Herding Behavior Bias & Investment Decisions:

Rooij, Lusardi and Alessie (2007, 2011) documented that financial literacy assists individuals in making investment decisions and helps them to make unbiased decisions. Lusard and Mitchell (2007) also documented that financial literacy positively affects the investment decisions which are made by investors in stock market. Presented literature proved that financial literacy affects the relationship between cognitive biases and investment decisions. Keeping in view the findings of past researches, this study is aimed at finding out the effects of financial literacy on herding behavior and investment decisions addressing the stock market in Pakistan.

H 4: *Financial Literacy has a moderating effect on the relationship between herding behavior and Investment Decisions, so that it weakens the relationship.*

The Moderating Role of Event Uncertainty between Herding Behavior Bias & Investment Decisions:

It is evident from the recent global crises that extreme herding behavior was observed in the financial market due to high level of uncertainty that leads to misalignment of prices as compared to normal market prices. Social psychologists believe that people have a need to follow others in order to feel assured in their decision-making when they encounter uncertainty, ambiguous information and disagreements (Vaughan & Hogg, 2005). The literature presented that when markets are volatile either due to economic and political instability or due to informational inefficiencies in the market, the investors prefer to be irrational and follow those who are well informed in their opinion. Christie and Huang (1995) say that regarding irrational perspective of herding behavior, believe that investors are more likely to herd during market stress. Consequently, during the period of high level instability, investors are inclined to imitate crowd-wisdom instead of trusting their own abilities. The financial markets of Pakistan are highly uncertain because of instable economy, that induce me to explore how event uncertainty effects the relationship between herding behavior and investment decisions in stock market of Pakistan.

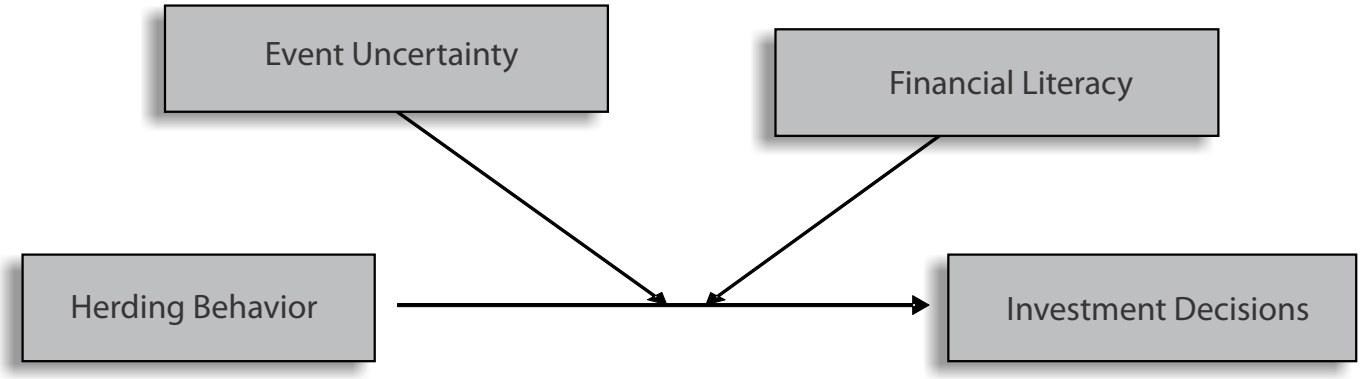
H 5: *Event uncertainty has a moderating effect on the relationship between herding behavior and Investment Decisions, so that it strengthens the relationship.*

Theoretical Framework

In this study, one key variable "Herding Behavior" has been identified as having an impact on the

dependent variable i.e. "Investment decisions pertaining to *Stock Market*". In addition, two variables *"Financial Literacy "*and *"Event Uncertainty"* will also be focused upon to study their effects on relationship of herding behavior and decisions regarding investment. From a literature review of several studies, it is evident that these two variables act as a catalyst in developing a relationship between herding behavior and investment decisions. Theoretically, this personality trait of herding has a major influence on the investors' decisions, if financial literacy of investors is low and markets are highly uncertain.

Figure 1: Model of the study



Independent variable (IV): Herding Behavior, Moderators (M): Financial Literacy and Event Uncertainty, Dependent variable (DV): Investment Decisions. On the bases of this research framework, following hypotheses are generated:

Research Methodology

Population, Sample and Data Collection Procedure:

To observe herding behavior in the stock markets of Pakistan, it was decided to data from Islamabad Stock Exchange and several brokerage houses in Islamabad. The data for this research was collected through a questionnaire. A cover letter explained the purpose of the study to the respondents, assured them of the strictest confidentiality and anonymity of the responses, and mentioned that participation was voluntary. Respondents completed the questionnaire that contained items related to investment decisions, herding behavior, financial literacy and event uncertainty. In addition, each respondent reported age, gender, occupational level, qualification, and work experience in the demographics part of the survey.

A total of 200 questionnaires were distributed, out of which 177 questionnaires were received back after proper filling. There were a total of eight demographics used for this study indicating gender, age, qualification, income, investment portfolio, experience in stock investment and membership with any financial body.

Table 1: Gender of Respondents (N=177)

Gender	Frequency	Percent
Male	169	95.5 %
Female	08	4.5 %
Total	**177**	**100**

This table is depicting the total sample size and its distribution on the basis of gender and their percentage value. The table represents the total sample size of this research work (N=177) which is calculated through a statistical package for social sciences (SPSS). Out of the total sample size (N=177), the proportion of males is 169 while there are only 8 female respondents. According to the percentage value, out of 100% respondents 95.5% are male and the remaining 4.5% are female. The majority of respondents (95.5%) were male with an average age of 39 years.

Table 2: Qualification Level of Respondents (N=177)

Qualification	Frequency	Percent
Matric	9	5.1
Bachelors	54	30.5
Masters	72	40.7
MS/M.Phil	31	17.5
PhD	11	6.2
Total	**177**	**100**

As per table to information 72 people (40.7%) were having master degrees while the second largest portion belongs to the participants holding bachelor level education which is 54 (30.5%). The number of participant's holding an MS/M.Phil degree is 31 (17.5%). 11 (6.2%) investors were PhDs and only 9 (5.1%) participants were with only matriculation education.

Table 3: Income Level of Respondents (N=177)

Income	Frequency	Percent
Below 5 lac	49	27.7
6 lac to 10 lac	73	41.2
11 lac to 15 lac	43	24.3
16 lac to 20 lac	09	5.1
21 lac & above	03	1.7
Total	**177**	**100**

Table 3 shows that the earning of 41.2% investors is between Rs. 6 to 10 lacs, while 27.7% participant's earning are less than 5 lacs. The third category of participant's earning was 11 to 15 lacs which 24.3% of the total sample size.

Table 4: Stock Experience of respondents (N=177)

Portfolio	Frequency	Percent
Less than 5 years	54	30.5
6years to 13 years	72	40.7
14 years to 21 years	35	19.8
22 years to 29 years	14	7.9
30 years & above	02	1.1
Total	**177**	**100**

The above mentioned table represents the number of years of experience that the participants have in the stock market. The majority of participants (72) have an experience of 6 to 13 years which is 40.7% of total sample size and the second largest proportion of investors (54) possess experience of less than 5 years which is 30.5% .The third highest category of experienced participants lies between 14 years to 21 years which is 19.8%. The majority of investors (90.4%) prefer to invest in shares while 28.2% choose to invest in real estate. Investors were also questioned about having any membership with any professional financial body (80.8%) of investors did not have any membership. A 5-point Likert scale was used to assess the outcomes with anchors of 1= Not at all, 2=Small Extent, 3=Moderate Extent, 4=Great Extent and 5 = Very Great Extent. Collected data was finalized through correlation and linear regression on SPSS.

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Instrumentation:

The following instruments were adopted and used in this research:

Herding Behavior Bias

The scale used to measure the herding behavior bias was adopted from Saxena, S. (2015).The scale consists of 18 items including "I find it easy to imitate the behavior of other people?" as used to measure this construct. Cronbach's Alpha reliability of this scale was found to be 0.784 and acceptable for a number of 18 items.

Investment Decision

The scale for investment decision was adopted from Saxena, S. (2015). The scale consists of 9 items included "How often did your investment decisions proved to be right?"Four questions were not taken

into account because they are disturbing the reliability of the dependent variable. Cronbach's Alpha reliability of this scale was found to be 0.623 and accepted for 5 items.

Financial Literacy

To measure the construct of financial literacy, the scale was adopted from Vasudevan (2015).The scale consists of 9 items including "I know the meaning of technical analysis and fundamental analysis". Cronbach's Alpha reliability coefficient of this scale was found to be 0.736 and acceptable for a number of 9 items.

Event Uncertainty

To measure financial literacy, the scale was adopted from Vasudevan (2015).The scale consists of 11 items including "Price fluctuation in Pakistan stock market is high". Cronbach's Alpha reliability coefficient of this variable was found to be 0.711 and acceptable for 11 items.

Table 5: Summary of the Measurement Reliability (Cronbach's Alpha)

Measurement Scale	Number of questionnaires	Number of Items	Cronbach's $_{\text{Alpha (α)}}$
Investment Decisions	177	5	0.623
Herding Behavior	177	18	0.784
Financial Literacy	177	9	0.736
Event Uncertainty	177	11	0.711

Results

Correlation Analysis

Correlation analysis is used to examine the association between independent, dependent and moderating variables.

Table 6: Descriptive, Correlations, and Reliabilities

		Mean 4	SD	1	2	3
1. Avg_ID	2.67	0.49	1			
2. Avg_HB	3.03	0.49	.30**	1		
3. Avg_FL	3.20	0.52	.16*	.17*	1	
4. Avg_EU	2.90	0 .52	.37**	.57**	.22**	1

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

*. Correlation is significant at the 0.05 level (2 -tailed).

N=177: Control variables= Age, Gender: ID=Investment Decision, HB = Herding Behavior, FL=Financial Literacy, EU = Event Uncertainty

Table 6 indicates the correlation between herding behavior, investment decisions, financial literacy and event uncertainty. Correlation analysis shows that there is highly significant and strongly positive association between herding behavior and investment decisions with the values of (r = .303**, p = .000). A significant and positive correlation was also found between financial literacy and investment decisions with the values of (r = .164*, p =.030) which shows that the investors who have financial literacy are most likely to make viable decisions. Furthermore, the values of (r = .368**, p = .000) indicates that there is significant association between event uncertainty and investment decisions. It means that event uncertainty greatly affects the investment decisions of the investors. The values of all the variables are indicating that the independent variable has strong positive effects on the dependent variable.

Table 6 also shows that an investment decision has the lowest and financial Literacy has the highest mean. It was also found that "Financial Literacy" and "Event Uncertainty" biases almost have same standard deviation (0.52) while "Investment Decisions" has the lowest standard deviation (0.49). Cronbach's Alpha reliabilities for all variables were also found to be above 0.7 except for the dependent variable i.e. "Investment Decisions" which is .623.

Regression Analysis

Regression analysis is used to examine the impact of independent variables on dependent and the impact of moderation.

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Table7: Regression Analysis with Moderation

	ß	R	R^2	significance
Step I				
Avg_HB	.130			.000
Avg_FL	.076			.03
Avg_EU	.259	0.393	0.154	.000
Step II				
Avg_HB	.235			
Avg_FL	.028			
Avg_EU	.251			
HBxFL	-.419			.001
HBxEU	.300	.435	.189	.000

N = 177, p<.001

Simple linear regression and Hays process version 3.2 were used to analyze the impact of herding behavior bias on investment decisions. Table 2 indicates that in step 1, herding behavior bias has a significant positive impact on investment decisions with the value of β = .130 and p = .000. This may reveal a strong support to the first hypothesis of study. The regression analysis is also supporting H2 of the study because a significant relationship was found between financial literacy and investment decisions. Financial literacy has a significantly positive impact on investment decisions with the value of

β = .076 and p < .05. The results of regression and correlation are also supporting H3 of the study. It means that event uncertainty significantly affects the investment decisions with the value of β = .259 and p =.000. In step 2, there is a minor change in value of coefficient of all three variables i.e. herding behavior, event uncertainty and financial literacy which is due to effects of interaction terms. The interaction term β = -.419 and p < .001 indicates that an increase in financial literacy weakens the relationship between herding behavior and investment decisions by 41.9%. The hypothesis 4 is strongly supported and the negative value of β = -.419 is a clear indication that financial literacy weakens the relationship between herding behavior and investment decisions because of its negative effects. It was also found that a change in event uncertainty strengthens the relationship between herding behavior and investment decisions by 30%. The positive value of β = .300 and p =.000 indicates that event uncertainty strengthens the relationship between herding behavior and investment decisions which is a good support to H5.

Figure 2: Moderation Analysis graph1

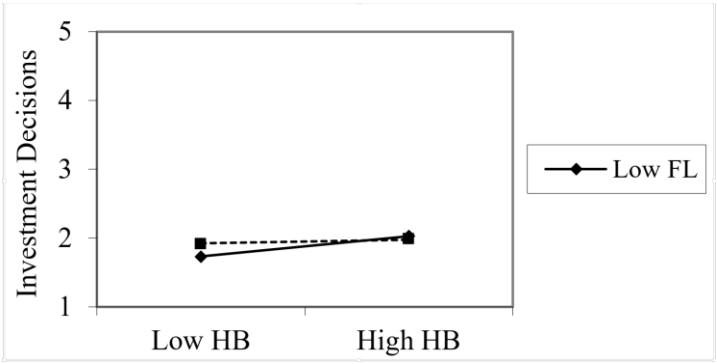
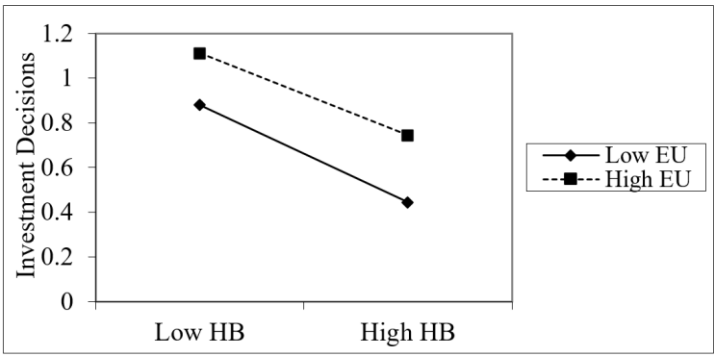


Figure 3: Moderation Analysis graph2



The flattest slope in the graph shows that when the level of financial literacy is high, the relationship between the herding behavior bias and an investment decision will weaken and this lends strong support to H4.The steeper slope in graph shows that when the level of financial literacy is low, the relationship between herding behavior and an investment decision will be stronger. The graph shows that when the level of event uncertainty is high, the relationship between a herding behavior bias and an investment decision will be strong and vice versa.

Discussion

In this part of the article, discussion will be based on the findings of five hypotheses developed to

observe the impact of a herding behavior bias on investment decisions and the moderating role of financial literacy and event uncertainty in context of Pakistan. The First hypothesis of the study was based on the assumption that herding behavior has significant direct relationship with investment decisions and the results of regression and correlation analysis supported this hypothesis. The findings of the study are in alignment with the citation in literature review of Tversky and Kahneman (1974) and Baddeleyet al. (2005) in which they argue that investors are biased cognitively with herding behavior while making investment decisions. In addition to this, it was concluded that herding may occur among both irrational and rational investors (Bikhchandani & Sharma, 2000; Devenow & Welch, 1996; Hirshleifer & Teoh, 2003). It can be concluded that the investors make investment decisions on the basis of their past performance and overestimate their skills and abilities. In this study, the percentage of the investors who take investment decisions on the basis of past performance of a stock is 61%.

The second hypothesis of study was investigation of significant positive association between event uncertainty and investment decisions in the Stock Market. This hypothesis was supported during the analysis and a significant positive association was found between event uncertainty and investment decisions. The findings of this study are also supportive of the literature, as according to Tversky and kahneman (1974), decisions about uncertain events mostly depend upon individual liking or disliking and an investor decision is affected by so many biases. The results of the study are a clear demonstration that event uncertainty, either in the form of political or economic conditions or in the form of inefficiencies in informational cascade, affects the decisions of the investors to a great extent.

Third hypothesis was presumed as financial literacy has a significant positive association with the investment decision in the stock market, which was supported by the results of regression and correlation analysis. The results are depicting that there is a significant positive association between financial literacy and investment decisions. The findings of the study are consistent with the literature as many studies reveal that financial literacy positively affects investment decisions and helps people to earn a maximum return from their investment (Ballantine & Stray, 1998; Lusardi & Mitchell, 2007; Lusardi, Mitchell, & Curto, 2010; Jappeli &Padula, 2013). It means that financial knowledge significantly contributes to investment decisions in the stock market and enables the investors to make unbiased and rational decisions.

Financial literacy moderates the relationship between a herding behavior bias and the investment decisions in the stock market and it weakens the relationship. It was the fourth hypothesis of the study which is also strongly supported by the findings of the regression analysis for moderation. Rooij, Lusardi and Alessie (2007, 2011) documented that financial literacy facilitates the individuals to be unbiased in decision making and to act rationally while making investment decisions. These findings are also consistent with the study of Lusard and Mitchell (2007) in which they concluded that financial literacy reduced the effects of cognitive biases and positively affected the investment decisions in a way that investors make more rational and unbiased decisions. Hence, the negative value of beta (-0.419) is a clear indication that an increase in financial knowledge helps the investors to take decisions logically after analyzing the market conditions, and conducting company analysis that impedes the investors to get engaged in herding behavior. It is concluded that financial literacy weakens the relationship between herding behavior of investors and investment decisions.

Fifth and last hypothesis of the study was, "event uncertainty moderates the relationship between herding behavior and investment decisions in the stock market, and it strengthens the relationship". The regression and correlation analysis conducted to test this hypothesis generates the results that support this hypothesis and suggest that herding behavior is present in the Pakistan stock market, and is greater

during extreme market conditions. Moreover, this hypothesis is also in align with the literature review of study conducted by Avery and Zemsky (1998) in which they documented that herding does occur if there is "Event uncertainty" in the market, that is, uncertainty on whether an information event has occurred. The positive value of beta shows that event uncertainty strengthens the relationship between the herding behavior and investment decisions pertaining to the investors of Pakistan. It means that whenever there is uncertainty in the financial markets of Pakistan and the information arrives stochastically, the investors ignore the financial analysis and market trends, and mimic the decisions of others, or rely on their investment history for their investment strategies. Briefly, a complex information structure can promote herding behavior among investors.

Limitations

The study being focused on one region, the capital city Islamabad would not be able to gauge the mind-set of the entire country towards the study and its influence. Another limiting factor was that the sample of respondents was limited to a small number due to time constraints. This research comprises of studying the impact of only one bias i.e. herding behavior in stock market while there are a number of behavioral biases that induce the investors to act irrationally while making investing in stock markets, such biases need to be investigated. In addition to this, there are multiple dimensions of uncertainty while this study can address only two of them due to time constraints.

Directions for Future Research

This article provides an insight in the phenomena of herding behavior with moderating role of event uncertainty and financial literacy but many questions in the study remain unaddressed inexorably. Future research can be conducted with large sample size and data can be collected from other regions of the country as well to make more generalized conclusion. Further studies can use questionnaire and interview as well for collecting more reliable data. Future researchers can also study the impact of other biases and variables to be compared with the findings of this study. The study was limited to stock market investors and it would thus recommended to further study the herding behavior in the other financial and non financial markets of Pakistan.

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The Impact of Financial Constraints, Dividend Policy and Capital Structure on Share Price Volatility

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Abstract

This study is the contribution to literature of finance and accounting which divulges that how financial constraints, dividend policy and capital structure stalk the share price volatility for non-financial firms. There are several studies existing which have already established the sway of various factors on share price volatility but very few researches have strained financial constraints, dividend policy and capital structure as predictors in combination to find the impact on share price of firms in divergent markets of three different economies. To accomplish the results of this study, ten years data has been poised from thirty different companies from developed, emerging and developing countries. The findings of this study portray that each predictor has diverse impact on the share price of firms from distinct economy.

Key Words: Capital Structure, Tangibility Ratio, Dividend Policy, Share Price Volatility, Operation Cash Flow

Introduction

The most established review on dividend insignificance was presented by Miller and Modigliani (1961). Their review has turned into a benchmark for different researcher in developing different models relating to dividend policy of firms, share prices and the methods that directed the shareholder in setting up firm dividend payout strategies. Miller and Modigliani (1961) reported that firm's operations are free from dividend policy. According to Arnold (2008) dividend payout policy determined that how shareholders money can be increased and how it affects the interest of shareholders. The Dividend strategy can be a standout the most comprehensive and expected component in all options of the firms, if the firms declare a regular dividend to shareholder (Hamid, Khurram & Ghaffar, 2017). Dividend policy review on Jordon economy by Ramadan (2013) where he found that dividend policy does affect share prices and their volatilities. Financial Constraints arise and associates with data asymmetries that make outside finances more expensive than inside available resources.

Even though financial requirements are straightforward on this calculated level and it remains an exact test to measure them and to subsequently understand their recommendations. Regardless of whether firms work under financial constraints or not are normally not directly noticeable. It is expected that if

financial constraints are not controlled than firm should defer its present information for future and effects firms' performance (Love, 2003). A firm's capital structure suggests a particular way out of share price and it establishes that how the advantages of a firms are financed through the merger of shareholder's reserve on behalf of securities (Abbas, Hashmi & Chishti, 2016) while second imperative hypothesis of capital structure is the pecking order or trade-off hypothesis that was produced by Myers and Majluf (1984). Pecking order theory fundamentally describe that the cost of financing increases with asymmetric information. Firms obtain finance through internal funds, debt, and issuing new shares. When it comes to methods of increasing capital, companies will prefer internal financing, debt, and then issuing new equity respectively. The share price volatility has always been gray research debate, since its support to indicate the efficient hypothesis of the market and many studies and research has been conducted to know the reason of existence and anticipate possible significance of that volatility in order to examine either this efficient market holds.

A wide range of studies that either share price volatility is excessive with a change in fundamental or some other factor also effects like Capital Structure, Dividend policy, and financial constraints. This is stated by Vuletic and Fang (2015) that it is essential for a firm to identify the elements which can minimize financial cost to accomplish the firm performance. By studying such financial elements in Asian countries like Pakistan- a developing economy, India an emerging economy and Japan a developed economy, this study identifies those components which limit financial requirements and have effect on share price volatility. The purpose of this study is to identify the effects of Dividend Policy, Capital Structure and Financial constraints on share price volatility. As the literature of dividend policy explain that announcement or payment of dividend by the company provides the positive signal to the market player regarding company financial growth, so current study is an initiative in this regard. In the same manner another objective of the study is to examine the effects of capital structure on share price volatility. In context of capital structure, the literature suggested that debt determined firms have the problem of share price volatility than their equivalent equity principal firms so this study come to know that how the proportion of debt and equity matter in volatility of stock prices. Another core feature of the study is to determine the effects of financial constraints on the volatility of stock prices.

Generally financial constraints firms have distress risk, governance issues, bankruptcy risk and such type of other problem like default risk. On the basis of these grounds the current study derives the effects of financial constraints on share price volatility. Current study also determine overall effects and individual effects of above variables on share price volatility, which leads to the conclusion that which variable has more effects on share price volatility. This study will focus in developing, emerging and developed economies such as Pakistan, India and Japan respectively. The outcome of this study will be providing two aspects of contribution. One aspect will cover the literature and research and second one covers practical as this study will be contributing in extending the literature. Further this work will contribute in future researches for researchers to verify this study while investors, analyst, industrialist can use the outcomes of this study in designing the investment policies.

RQ1: What is the impact of Dividend policy on share price volatility?

RQ2: What is the impact of Capital Structure on share price volatility?

RQ3: What is the impact of financial constraints on share price volatility?

RQ4: Overall impact of Dividend policy, Capital Structure, financial constraints on share price volatility?

RQ5: To determent that which variable is prominent determinant of share price volatility.

Literature

Dividend payout can be considered to be an observing part of relationships among investors (Black, 1976). The firms build up higher dividend payouts when shareholders hold a lower part of share price and in this scenario operational expenses reduce (Rozeff, 1982). It is stated by Brav et al. (2005) that most firms don't utilize payout arrangement as a device to modify the extent of fundamentals among their financial experts. Dividend policy has always been an important element for companies and major source of funds which is examined by many researcher, from Lintner (1956) to Miller and Modigliani (1961) to DeAngelo et al. (1996), Fama and French (2001), Al-Malkawi (2007) and more recently by Hussainey et al (2011).

The dividend irrelevance theory described by Miller and Modigliani (1961) that dividend policy is irrelevant for investors and they are not worried and concerned with a firms dividend policy while 'Bird In Hand' theory was developed by Gordon and Shapiro (1956) and Walter (1963) as a counterpoint to the Modigliani-Miller dividend irrelevance theory, which keeps that shareholders are uninterested to whether their earnings growth increase from dividends or capital gains. The bird in hand theory describes the relationship among the companies worth and dividend payout. It defines that the dividend are not as much risky as capital gains, because the capital gains are uncertain. The Agency cost theory is the conflict of interest among investors and managing authorities (Ross et al., 2008). The conflict arises when management acts in their self-interest instead of the investors' interest who has invested in the firm. This is conflicting to the expectations of Miller and Modigliani (1961), who supposed that executives are perfect agents for investors and no clash of advantages or benefit among them.

Signaling theory describes that the dividend policy work as a foundation of announcement that deliver the statistics and data to the shareholder about the firm performance and value. The firm share price can be examined by the shareholder with these census and information and this evidence make this theory applicable for dividend policy (Al-Kuwari, 2009). Dividend announcement increased the share price value as it is associated with higher declarations of abnormal returns on announcement of dividends. A high distinctive unpredictability firm is associated with greater positive post event return point. Most of the analysts focused the capital structure and dividend payout in isolation however these two ideas are related with each other

The present form of capital structure begins with the Modigliani and Miller, starting now and into the future MM proposal of (1958). Principal theory of capital structure was proposed by Miller and Modigliani (1958). They established the ideas and provided a school of thought on capital structure. The development of latest theories (tradeoff theory, balancing theory, agency theory) on capital structure developed with reason that assumption of MM theory that was impractical. Pecking order theory describes that companies adjusted their resources to gain best leverage with three factors, specifically taxation, the impact of financial constraints and agency costs, Baxter (1967) considers that the broad usage of loans and liabilities develop probabilities of insolvency and creditors assure their finances risk with extra cost premium insurance. DeAngelo and Masulis (1980) continued efforts on MM's tax model and include some more aspects beyond the tax like share value tax and depreciation charges and named it as non-debt tax.

Besides above external source of funding which is likely to be long term debt and equities from shareholder borne with huge cost (Myers, 1977), the companies share prices volatility and variation based on decision by the management that's which kind of funding source they select and how it affect capital structure and shareholder earnings. Theory of modern capital structure proposes that

stakeholder and investors provides capital for the companies and they are the genuine owners, whereas the executive's task is to operate the firm and their objective is to work for the interest of shareholders. Capital structure decisions may cause the financial constraints for the firm (Myers & Majluf, 1984). Literature specifies that prior studies have given attention to financial constraints and firm decision. These studies focused on investment decisions rather than cash holding related decisions. As stated by Almeida et al. (2004) the financial constraints can be judged through the financial policy of an organization which can clear the organizational structure and firm situation. There are many signals that companies rebuy devalued shares and these are the firms which have an additional financial resources and reserves and not face any financial constraints (D'Mello & Shroff, 2000; Ikenberry & Vermaelen, 1996; Stephens & Weisbach, 1998).

As mentioned by Farre-Mensa, Michaely and Schmalz (2014) that financially constrained firms borrow with repurchase options and financially unconstrained companies with free cash flow are likely to be able to funds and re-buy options without any external financial resources. As Khurana et al. (2006) determined that financial constraints companies are more different in developing countries with low financial capacity institutions which look after shareholder interest. In light of Harford et al. (2008) opinion that in developing countries and low financial institution requires strong legal rights for investors and in absence of high legal rights it is stress-free for management to perform responsibilities for individual and ignore shareholders interest that maximization of wealth. According to Begley (2012) financial limitations makes the management to arrange funds for company with affordable deals that not boosted their business only but also borne limited financial cost. According to Tien and Gordon, (1963) by paying a high dividend to shareholder the risk of financial constraint reduce which finally affects cost of capital and impact on share prices of the firm.

In light of Higgins (1995) suggested that if the firms invested limited money or raise more financial from external sources like shareholder for future cash requirement will also reduce share price value , furthermore when dividend payout announced by the firms the share price value of common stock shares will be affect. Affleck-Graves and Mendenhall (1992) initiate that share price volatility occur after the announcement of 8 days on standard up to 54 days of such profit declaration as Mulugetta et al. (2002) reviewed the impact of average and lower position varies in share price while Huang et al. (2009) examined the impact of dividend payout on the share price value and determined that there significant relationship among dividend payout and profit on share price. Kalkreuth and Murphy (2005) determined that to meet the financial requirement firms should use internal funding resources to avoid financial cost but some authors like Bridges and Guariglia, (2008) suggested that firms use some portion of retained earnings and some portion of debts to meet the financial constraints. According to Musso and Schiavo (2008) the firm's performance is affected and their long term functions on risk due to financial constraints and they measure the financial constraints by using proxies like, size of the firm, age and cash flows. They determined that controlling and managing firm size, cash flows and return on stock impact the firm performance help in meeting financial constraint. As Rajan and Zeangles (1995) used leverage as proxy of capital structure for measurement and it is also known as debt-to-equity ratio. The debt-to-equity ratio shows the percentage of financing that comes through advances or shareholders. To calculate the debt-to-equity ratio, we take total liabilities divided by total equity. According to Moyen (2004) financial cash flows are used to meet the financial constraints and play vital role as an intermediary among firm performance and financial limitation hence used tangibility as proxy financial constraints and observed that firms has many cash flows like operating cash flow, investing cash flow, and financing cash flows which helps the firms to meet the financial constraints

He described that those firms which have limited assets value in tangible form e.g. land, building, machinery etc faces higher side financial constraints. Tangibility ratio is derived through shareholder equities + long term debts divided by net fixed assets = $\frac{shareholder\ funds+Long\ term\ Loans}{Net\ Fixed\ Assets}$. The free cash flow (OCF=EBIT-Taxes + Depreciation) is used for business expansion, increase production, develop new products, payment of dividends and reduce financial cost. Free cash flow of the firm is a measure of financial constraints that shows the net amount of availability of cash which is retained after meeting expenses, taxes and changes in net working capital and investments are deducted. It's one of the major symbols which are used to know the financial health of the firm. The third measure of financial constraints which is used by many researchers is size of the firm.

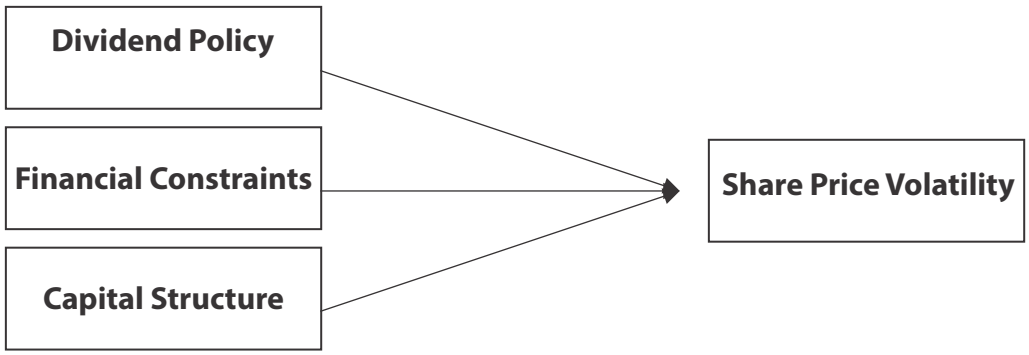
According to Almeida, Campello and Weisbach, (2004) small firms are facing more financial constraints as compared to larger size of the firms. Larger size firms have easy approach to capital market and they manage their financial needs on lower cost as compared to small size firms where they pay huge financial cost. Size of the firm can be measured by getting natural log of total assets= $ln\frac{\sum_{i=1}^{n} Market\ Value\ \langle i \rangle}{n}$.

As explained by (Alzomania & Al- Khadhiri, 2013) that firm size impact on dividend policy decision. It is examined that larger firms pay healthy dividend as they have many sources for funds and not only depends on reserves. By implementing regression techniques, Ferri and Jones (1979) determined significant positive association among firm size and equities. Capital structure is another significant measure of financial constraints.

According to Nazir et al. (2012) and Hussainey et al. (2011) share price volatility covers the variation in share price. The positive and high unpredictability of firm share price is related with more positive post event profit. According to Zakaria et al. (2012) study revealed the impact of dividend policy on the share price volatility in Malaysian manufacturing companies. In light of Masum (2014) study determined the role of dividend policy and its effects on share price value in Dhaka Stock Exchange (Bangladesh). According to Ali et al. (2015) to examine the impact of dividend policy on share price of forty five non-financial firms listed on KSE-100 index, showed insignificant association among return on investment and share price volatility. In Pakistan Shah and Noreen (2016) examined the interrelationship among share price volatility and dividend payout of KSE listed organizations.

Research Framework:

Figure1: Research Model (Mathematical and Graphical)



$$Share\ Price\ Volatility_{it} = \beta_0 + \beta_1 Size_{it} + \beta_2 DividendPayout_{it} + \beta_3 OperatingCashflow_{it} + \beta_4 Tangibilityratio_{it} + \beta_5 leverage_{it} + €$$

Methodology

This study focus on identifying the impact of capital structure, dividend policy and financial constraints on share price volatility of non-financial firms of India, Japan and Pakistan. In this study the independent variables capital structure, dividend policy and financial constraints and dependent variable is share price volatility. Further, this study utilize quantitative analysis methodology to answers the research question and meet the objectives. The nature of this study is to measure quantitatively the effects of firm diidend policy, capital structure and financial constraints on non financial sector firms of three economies i.e. Japan, India and Pakistan belonging to developed and developing and emerging category. Information related to these factors is retrieved from financial statements and sources from websites like Investing, business recorder, Morningstar etc. The sample of 30 companies on this basis of their capitalization was selected in this study. And data of these companies are collected from the period of 2007-2016.Proxies used for the variables in this study along with the literature support.

Results and Discussion

Table 1: Descriptive Statistics of Pakistani firms

	Price Volatility	Size	Operating Cash Flow	Tangibility Ratio
Mean	0.303379	4.049169	2443.231	0.508554
Jarque-Bera Probability	0.000000	0.000416	0.000000	0.509469

Table 1 indicates that average price volatility, average firm size, average operating cash flow and average tangibility ratio of Pakistani firms are 0.303, 4.04, 2443.231 and 0.508 respectively while the results of this study is limited to Pakistan as Jarque-Bera Statistics is significant.

Table 2: Descriptive Statistics of Indian firms

	Price Volatility	**Size**	**Operating Cash Flow**	**Tangibility Ratio**
Mean	0.030079	5.115239	71712.19	0.940075
Jarque-Bera Probability	0.000000	0.000000	0.000000	0.000000

Table 2 indicates that average price volatility, average firm size, average operating cash flow and average tangibility ratio of Indian firms are 0.030, 5.12, 71712.19 and 0.940 respectively while the results of this study is limited to India as Jarque-Bera Statistics is significant.

Table 3: Descriptive Statistics of Japanese firms

	Price Volatility	Size	Operating Cash Flow	Tangibility Ratio
Mean	0.022863	6.393698	493847.8	0.933086
Jarque-Bera Probability	0.000000	0.000000	0.000000	0.000000

Table 3 indicates that average price volatility, average firm size, average operating cash flow and average tangibility ratio of Indian firms are 0.022, 6.39, 493847.8 and 0.933 respectively while the results of this study is limited to Japan as Jarque-Bera Statistics is significant.

Table 4: Regression Outcome Pakistan

Variable	Coefficient	Std. Error	t-Statistic
C	0.056078	0.737525	0.076035
Size	0.082039	0.171664	0.477907
Operating Cash flow	-3.09E-06	1.42E-05	-0.217937
Dividend Payout	-0.439198	0.292269	-1.502719
Tangibility Ratio	0.153169	0.453466	0.337773
Leverage	-0.090289	0.909580	-0.099264
R-squared		0.274701	
Adjusted R-squared		0.259203	
Durbin-Watson stat		1.887735	
F-statistic		17.72512	
Prob(F-statistic)		0.000000	

Table 5: Regression Outcome of Indian firms

Variable	Coefficient	Std. Error	t-Statistic
C	0.114280	0.018761	6.091349
Size	-0.014246	0.003358	-4.242300
Operating Cash flow	4.43E-09	2.65E-08	0.167296
Dividend Payout	-0.009581	0.009034	-1.060587
Tangibility Ratio	-0.004597	0.001941	-2.368246
Leverage	0.004389	0.003112	1.410570

R-squared	0.094308
Adjusted R-squared	0.080481
Durbin-Watson stat	1.830089
F-statistic	6.820418
Prob(F-statistic)	0.000031

Table 4 indicates that model predictive power is 27% and is fit for study as F stat is 17.725 and significant ($p<0.05$). Before executing the regression it was assured that data is stationary and have no discrepancies and if they occur it was assured to take steps to resolve them. Common Coefficient method is used in panel data analysis and results indicates that Firm size has no significant effects on price volatility in Pakistan. Also, operating cash flow and tangibility ration is insignificant which show no effects. Moreover, dividend payout dummy is insignificant which means firms pay dividend and those who not pay dividend have similar effects on price volatility in Pakistan. Also, capital structure has no significant effects on share price volatility.

Table 5 indicates that model predictive power is 9% and is fit for study as F stat is 6.820 and significant ($p<0.05$). Before executing the regression it was assured that data is stationary and have no discrepancies and if they occur it was assured to take steps to resolve them. Common Coefficient method is used in panel data analysis and results indicates that firm size has a significant negative effect on price volatility in India, which means if size increases by 1 unit there was be an decrease of -0.014 in price volatility. Also, operating cash flow is insignificant which show no effects. Moreover, dividend payout dummy is insignificant which means firms pay dividend and those who not pay dividend have similar effects on price volatility in India. Also, there is a significant negative effect of tangibility ratio on price volatility, which means if there is an increase of 1 unit in tangibility ratio there was be a decrease of -0.0045 in price volatility while capital structure has no significant effects on share price volatility.

Table 6: Regression Outcome of Japanese firms

Variable	Coefficient	Std. Error	t-Statistic
C	0.095290	0.037513	2.540165
Size	-0.012856	0.005359	**-2.399060**
Operating Cash flow	2.76E-09	2.85E-09	0.967213
Dividend Payout	-0.000594	0.010510	-0.056505
Tangibility Ratio	-0.000295	0.000135	**-2.192733**
Leverage	-0.000171	0.000699	-0.245167
R-squared		0.305647	
Adjusted R-squared		0.290747	
Durbin-Watson stat		2.348229	
F-statistic		20.51285	
Prob(F-statistic)		0.000000	

Table 6 indicates that model predictive power is 30.5% and is fit for study as F stat is 6.820 and significant ($p<0.05$). Before executing the regression it was assured that data is stationary and have no discrepancies and if they occur it was assured to take steps to resolve them. Common Coefficient method is used in panel data analysis and results indicates that firm size has significant negative effects on price volatility in Japan which means if size increases by 1 unit there was be a decrease of -0.012 in price volatility. Also, operating cash flow is insignificant which show no effects. Moreover, dividend payout dummy is insignificant which means firms pay dividend and those who not pay dividend have similar effects on price volatility in Japan. There is a significant negative effect of tangibility ratio on price volatility which means if there is an increase of 1 unit in tangibility ratio there was be a decrease of -0.00295in price volatility. Also, capital structure has no significant effects on share price volatility.

Discussion

This study has been carried out to identify the effects of dividend policy, capital structure and financial constraints in India, Japan and Pakistan. It was found that firm size has no significant effects on share price volatility in Pakistani firm which is not aligning with the past studies of Allen & Rachim (1996). They reported that firm size has significant effects on stock price volatility. Hussainey et al. (2011) also found significant effects of firm size on share price volatility. The reason may be that the large firm size

companies has a stable and positive image in market and have more access to market and focuses on other instruments funds acquiring rather than equity so in cases of such firms size has no effects on volatility. This argument is supported by Almeida, Campello and Weisbach, (2004) study findings. Also, operating cash flows has no significant effects of share price volatility which is opposite of the findings Lamont, Polk and Requejo (2001) they stated that cash necessities of firms has a significant effects of share price variations and this variation is smaller in large size firm and bigger in small size firms. Also Musso and Schiavo (2008) found same pattern of results in their study like lamont et al. (2001). Huang et al. (2009) reported in his study that share price volatility is effects by dividend payment of firm, firm paying shares in a period of time was have higher share prices as compared to paying no dividend.

The outcome of this study indicates that dividend payout dummy has insignificant effects on share price volatility, which means that firms who pay dividend and firms who are not paying dividend have same pattern of share price volatility which is opposite of Huang et al (2009). However, Habib, Kiani and Khan (2012) also found that dividend payout has no significant effects on the share price volatility as in most cases firms when pay divided it means that they have no new projects Also Hashemijoo, Ardekani and Younesi (2012) found no effect of payout on share price volatility. Also, capital structure has no significant effects on share price volatility and it is not aligning with study of Musso and Schiavo (2007). It was found that in Indian and Japanese firms Size has a significant negative effects on share price volatility which is aligning with study of Allen and Rachim (1996), Hussainey et al. (2011), Habib et al. (2012) and Sadiq et al. (2013).. This argument is supported by Almeida, Campello and Weisbach, (2004) study findings. Lamont et al. (2001): they stated that cash necessities of firms have significant effects of share price variations and this variation is smaller in large size firm and bigger in small size firms.

Musso and Schiavo (2007) found same pattern of results in their study like Lamont et al. (2001). Similarly like Pakistani firms dividend payout has no significant effects on share price volatility in India and Japan. Sadiq et al. (2013) also found that dividend payout cause variation in share prices. However, Habib, Kiani and Khan (2012) also found that dividend payout has no significant effects on the share price volatility as in most cases firms when pay divided it means that they have no new projects. However, Tangibility ratio has significant negative effects on volatility mean higher tangibility lower share price volatility which is aligning with Almeida, Campello and Weisbach, (2004). Capital structure has no significant effects on share price volatility and it is not aligning with study of Hashemijoo et al.(2012), and Musso and Schiavo (2007).

Conclusion

This study is conducted to examine the effects of firm specific factors on firm size, operating cash flow, and dividend payout and asset tangibility on share price volatility of Indian, Japanese and Pakistani firms. Panel data analysis technique has been used in this study to analyze this relationship and it was found that majority of the available literature is applicable on emerging markets like India, Pakistan and developed market like Japan. In Pakistan case it was found that many of the firm specific factors like dividend policy firm, size, tangibility and operating cash flow has no effects on share price volatility of firms. This may be due to the dynamics of the market or firms perceived reputation in market.

However, in case of India and Japan it was found that factors like size and asset tangibility has effects on share price volatility, which means larger firm size larger the tangibility which cause volatility in share prices. Further, it was found that in all three markets firm either firm is paying dividend or not paying the dividend it has no effects on share price volatility. In short the pattern of dividend payout effects on share price volatility is identical for firms paying dividend or not paying the dividend in India, Japan and

Pakistan.

Moreover, the majority of literature which has focused the share price volatility macroeconomic factors like gross domestic production, inflation, exchange rate, industrial production has been used as predictors. It is recommended for future researchers to incorporate these factors along the firm specific factors and a larger sample size to identify their effects on share price volatility. Also, Industrial factors like market competition, industry size, entry barrier, regulatory control can be used as predictors.

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The Impact of Firm Life cycle on the Corporate Tax Avoidance Strategies

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Abstract

The aim of this research is to evaluate the relationship between firm life cycle stages and corporate tax avoidance. This study has been conducted on the non-financial sector companies of Pakistan listed on the Pakistan stock exchange. The sample consists of 100 companies out of 443 total non-financial companies over the period of 2008-2015. Tax avoidance has been estimated using two proxies i.e. GAAP_ETR and LETR. Moreover, firm cycle stages, based on Dickinson's model (2011), have been measured using the cash flow operations of the company i.e. operating, investing and financing activities. The empirical findings are consistent with the Resource Based Theory (RBT) perspective and indicate that there is a significant relationship between firm cycle stages and corporate tax avoidance. Furthermore, Robustness tests show that firms tend to evade taxes in the introductory, shake-out and decline stages; however, firms are less likely to engage in tax planning in growth and maturity stages of their firm life cycle. In conclusion, companies are less incentivized to engage in tax avoidance in their peek stages due to certain cash flows (stable profit stream) and more motivated to do so near their shaky dawn and impending doom (unstable profit stream).The results of this thesis have several implications for tax authorities and Government to counter the menace of tax evasion from the Pakistani Economy by enhancing check and balance on firms in their subsequent phases of low profits and reduce the ever growing fiscal deficit and black economy.

Key Words: Firm Life Cycle, Tax Avoidance, Dickinson's Model, Resource Based Theory

Introduction

This current study examines the impact of firm life cycle on the different tax avoidance strategies adopted by the firms by analyzing the non-financial listed companies listed on the Pakistan Stock Exchange (PSX). The firms are dynamic enteritis which evolves in to different distinct stages throughout their life (Quinn & Cameron, 1983). This chain of evolution of firm's life cycle starts from its starts to the end and this whole phenomenon is called firms life cycle. Thus, the study of relationship between corporate tax avoidance and firm life cycle stages is necessary and significant because it associate real corporate decisions of avoiding tax according to firm's life cycle. Corporate taxes remarkably affect business economic decisions as they are significant portion of cash flows generated by a firm (Dyreng, Hanlon & Mmaydew, 2008; Hanlon & Heitzman, 2010). As per literature, Firms tend to evade taxes in

introductory, shake-out and decline phases, but are more likely to fulfill their tax obligations in growth and maturity stages where firm has significant amount of cash available.

According to the research of Quinn and Cameron (1983), firms and business entities evolve continuously in their life span and the path of evolution is determined by various internal and external factors. The internal factors that drive evolution are strategy choices, financial capabilities and managerial resources however; the external factors include competitive environment and macroeconomic factors (Quinn & Cameron, 1983; Miller & Friesen, 1984). Firm life cycle stages model or firm growth models have been used to understand the concept of entrepreneurial growth. This prime focus of these models is changes in the nature of firm throughout its life cycle and changing roles of the people in it specially founding fathers or owners of the company. Some of the growth models include life cycle models by Greiner (1972), Churchill and Lewis (1983) and Lester and Parnell (2008). The current study has been carried out by focusing on the Dickinson (2011) model of firm life cycle stages.

Life cycles of a firm are separate and distinct phases that change according to the changes in the external and internal environment of the firm and also from the strategic choices of the executives and shareholders. According to Lev and Zarowin (1999), the pace of business change has escalated over time and the value-relevance of earnings has decreased over the years. These findings conclude that a non-earning based relevance would be useless for both investors and stakeholders of a firm. Zarowin and Lev (1999) further argue that firms are an amalgamation of multiple products, each with a distinct product life cycle stage and it is difficult to capture the life cycle of a firm at that level rather than at the whole industry level. Firm level has multiple products with separate overlapping life cycle stages that are difficult to gauge (Zarowin & Lev, 1999).

Governments all over the globe rely upon generated revenues, majority of which is generated from various taxes, to offset the fiscal expenditures incurred on numerous sectors of the economy, especially, health, defense, education, building infrastructure, industries, and agriculture sector. Tax avoidance is an omnipresent phenomenon that has been in existence since the concept of taxation itself. This phenomenon is being practiced by each and every social class, industry and economic system. Taxation has a history of about two thousand and five hundred years ago as mentioned by Plato. The Ducal Palace of Venice (Italy) had a stone with a hole. Through that hole, people were cautioned about the consequences of tax evasion (Tanzi & Shome, 1993). Although this drawback has continuously been a difficult issue, very little attention has been paid to the current, particularly in Pakistan, till recent years (Akram, 2012). Developing countries all over the globe are making concerned efforts to establish sound self sufficient capabilities. In this regard, domestic revenue mobilization is an imperative for those countries on account of three reasons. First and foremost, it is crucial for governments, in order to ensure a sustainable process of development. Tax revenues in developing countries are less sufficient. Secondly, governments favor tax payer's demands which show good administration and responsibility. Lastly, tax revenues incorporate entire population of a country; therefore, it has greater impact on people and their personal income.

In the light of above mentioned goals, there should be an effective tax system designed to ensure tax compliance. According to Global Financial Integrity Report (2010), developing countries lose approximately $1 trillion each year due to illegal financial flows of money earned through illegitimate means (Global financial integrity, 2010). Baker (2005) also estimated that corporate gains and false transactions done in developing countries with the purpose of reducing taxable income aggregated $350 billion a year. Another researcher by Jayasinghe (2007) argues that it is hard to measure the level of tax avoidance in any economy or country that is the prime reason behind tax evasion widely been used

as a measure of tax non-compliance. Corporate taxation has been an extremely significant and demanding issue for over two decades. Many multinationals have recently faced scrutiny for their opaqueness to regulators and stakeholders about their tax obligations. Well known and established companies like Apple Inc., Starbucks, Google, Amazon and others have been inquired for unethical tax practices. These companies have been blamed for using complex corporate tax rules, loopholes to evade taxes, and tax havens to aid them in tax avoidance. Although, many of their practices have not been proved illegal, yet these companies had to face a lot of repute damage for not paying what some believe to be "a fair share of taxes".

The global recession, a complete downturn of the economy that revolted the world in 2008 was a large contributing factor that demanded greater tax transparency. In 2009, there were a significant number of tax information exchange agreements all around the world (Kuhn, 2014). Apart from tax authorities and regulators demanding greater tax transparency, there are tax activists and important stakeholders that also require the businesses to be more tax transparent. For example, many of the typical users of financial reports for a business such as shareholders, analysts and creditors are asking increased transparency. Other stakeholders including consumers, media, government officials and international organizations have also showed interest in businesses to become more transparent with their tax obligations. Many of them are concerned with how well the companies are making a contribution to the economy and whether or not; their tax obligations are fulfilled (Sikka & Willmott, 2013;Ernst & Young, 2013).

Gravelle (2009) estimates that the United States government loses up to $60 billion in corporate tax revenues due to tax avoidance (Gravelle, 2009). Graham and Tucker (2006) took a sample of 44 tax evasion cases and estimated that these shelters reduce total assets by approximately 9%. Mills, Erickson and Maydew (1998) documented proof consistent of $1 marginal investment in tax planning generating $4 in tax savings by the use of a sample of 160 large companies. Therefore, there is a significant interest in evaluating firm-level determinants of tax avoidance in the previous literature and documenting explanations for cross-sectional differences in corporate tax planning.

The rampant and perpetuating problem of tax avoidance has tormented the system of Pakistan since its inception in 1947. In the later years, government of Pakistan realized that there a significant reduction in governmental tax revenues. The tax revenues started to decline after 1991 as a percentage of gross domestic products (GDP). The ongoing concern of public finance is that tax revenues from various sources are unable to meet the fiscal expenditure of the government and this is a leading cause of huge fiscal deficit. These sources include sale tax, corporate tax, and management fee etc.

Thus, the purpose of this study is to predict the relationship among corporate tax avoidance and firm's life cycle phases. Tax avoidance in relation to firm life cycle stages has not been studies in Pakistani context before; therefore, this study has greater utility for Pakistani economy. Taxes paid by individuals and corporate sector are used by government for capital expenditure. Increase in tax income causes increase in governmental revenue which is then spent on building economy. These taxes help to redistribute wealth in economy from rich to poor. These taxes have a significant role in building a strong and healthy economy. Businesses and firms tend to neglect their duties towards the economy by avoiding taxes. Managers use window dressing and other accounting techniques to understate profits before taxes in financial statements and ultimately evade taxes. Management has greater incentives in avoiding taxes as they increase the net income. They tend to deceive the stakeholders and investors by showing a false image of the company. This study tends to explain the propensity of firms to get involved in tax avoidance according to the stage of life cycle that they are in. this study has been carried out on the

non financial sector business companies that are listed on the Karachi stock exchange (KSE), Pakistan. This would contribute to government and other auditing authorities to keep check and balance on firms according to the phase in which they evade maximum taxes. This study also investigates whether firms in Pakistan avoid taxes according to the life cycle stages or otherwise. Moreover, most of the firms are family owned in Pakistan, so this study helps to determine whether or not, this has an impact on increased tax avoidance. As we know that Pakistan's market is not that matured and mostly firms are family owned. In family owned businesses mostly shares are controlled by family members and very little rights are distributed in outsiders to concentrate ownership that leads to violate rights of minority shareholders and also increases the probability of a company involved in risky tax evasion strategies to maximize shareholder's return.

The purpose of this study is to determine the linkage between firm life cycle stages and corporate tax avoidance. The sole objective of a shareholder in business is wealth maximization that may naturally lead to companies involving in minimizing taxes and creating tax haven and thus enhancing the earning per share (Avi-Yonah, 2015). Avi-Yonah (2015) further claims that this was not always a motivating factor driving managers working in organizations. On the contrary, this perspective has evolved over the past few decades due to numerous factors. First, there is an increased influence on enhancing earnings per share by frequent usage of equity based compensation for managers for example stock options in the recent years. Secondly, big accounting firms started marketing and selling tax shelters to their corporate clients and thus altered the landscape of taxes in early 1990s. Lastly, lower effective tax rates and enhanced earnings per share among some companies have pressurized other firms similar in the sector to adopt aggressive tax policies and strategies in an effort to stay in the competition.

Literature Review

Tax avoidance greatly influences corporate economic decisions as they are significant part of a business's cash flows (Dyreng, Hanlon & Maydew, 2008; Hanlon & Heitzman, 2010). According to Chittenden (2003), taxes are a bone of contention among the government and individuals given the absence of governmental regulations and availability of loopholes for both individuals and firms to evade due taxes. The cost of compliance is also very high for corporate sector. Avi-Yonah (2015) argued various reasons to be doubtful regardless of the proliferation of the contemporary viewpoint that excessive tax avoidance is an innate component of shareholder's wealth maximization. According to Avi-Yonah (2015), firms have an affirmative duty to pay due taxes, even under an aggressive view of the company (Avi-Yonah, 2015). If CSR is not a part of the legitimate business functions to pursue, then such societal problems should be handled by the government instead. Otherwise, if firms are relieved from the responsibility of paying due taxes then governments would not be able to collect sufficient revenues to solve the social issues for which it is held responsible. The outcome of such a scenario would be that neither the firms nor government would be able to deal with the economic and social problems that arise due to lack of tax revenues. This would lead to a chaos situation and cause the government to go into bankruptcy. Therefore, the aggregate theory keeps an account of all these possible outcomes and binds the firms to their tax duties as well as enables the governments to perform economic and social duties that firms alone cannot perform.

Avi-Yonah (2015) discusses that in the past, firms maintained a healthy competition among each other without adopting aggressive tax policies or creating tax havens. There is insufficient empirical evidence that supports the linkage of lower tax effective rates and higher stock prices or earnings per share (Dyreng et al., 2010). However, if the notion is accepted that companies are not voluntarily engaged in

aggressive or hostile tax avoidance, it still leaves a question of how to determine the difference between legal tax planning and mere tax sheltering activities of the firms that the tax law making authorities forbid (Armstrong, Blouin & Larcker, 2012). The legitimacy of these strategies are hard to determine by IRS and courts because of the technicalities of accounting procedures, however, corporate managers are well aware of the type of transaction that is meant to evade taxes or otherwise genuine. Thus, there lies a legitimate responsibility on the firm to police its own behavior rather than tax authorities. Moreover, corporate managers are responsible to draw a line between legal and illegal corporate tax planning transactions or strategies (Dechow, Ge & Schrand, 2010).

The word 'tax' has been derived from the Latin language word "taxo", that means "rate". It can also be defined as a financial fare or other imposed on the taxpayer whether an individual or a legal entity, by the state or governing body to fund the annual expenses. The tax revenue is the most valued source of public revenue. Taxes are mandatory payments imposed by the governing body or state on companies and individuals in order to meet the expenses incurred for the public benefit. Tax evasion is distinct from tax avoidance in such that tax avoidance is defined as an illegitimate effort to decrease the tax obligation through false representation of income or adopting fraudulent techniques to bypass tax laws. These techniques include understatement of assets or taxable income and results in non compliance of tax liabilities. Tax evasion is an offence that is prosecutable by both civil and criminal courts (Mateen, 2017).

Tax compliance has become a bone of contention for small businesses, because of the lack of sanctions and high compliance cost associated with it. In comparison, there are a variety of opportunities available for both firms and individuals not to pay tax liabilities (Chittenden et al., 2003). Corporate tax avoidance is defined by Hanlon and Heitzmen (2010), as all transactions and arrangements that facilitate the reduction in the amount corporate tax expenses paid by a firm (Dyreng et al., 2008; Lisowsky, Robinson & Schmidt, 2013). Consistent with prior researches of Hanlon and Heitzmen (2010), corporate tax avoidance follows a continuous pattern that ranges its passiveness to aggressiveness.

Passive is complying with tax provisions of the state while aggressive is restructuring transactions and arrangements with the aim to evade taxes or reduce taxable income. According to Hogye (2000), tax avoidance is defined as the change in behavioral patterns of the tax payers to hunt for loopholes in the existent tax laws in order to reduce the tax obligation (Hogye, 2000). Another researcher, Jaya singh (2007) states that individuals and companies fail to disclose their earnings in a fair manner, in order to reduce the tax levied upon them. This refers to a black economy that involves false reporting of income due to high tax rates etc. It also represents the practices of false representation of earnings source and intentional overstatement of exemptions (Chiumya, 2006). In the words of Dyreng et al. (2008), tax avoidance can also be defined as the decrease in explicit tax income and resembles any business dealing that misrepresents corporation's explicit tax obligations (Dyreng et al., 2008). This explanation does not take account of lobbying practices of the firms aimed at receiving special benefits, creation of tax havens to evade taxes (Hanlon & Heitzman, 2010).

Moreover, this definition does not distinguish between the 'legitimate' and illegitimate' means of tax avoidance for multiple reasons. Firstly, a considerable number of business tax transactions are considered legal in technical terms. Secondly, the question of the legality of tax transaction arises after it has already taken place. Lastly, tax avoidance is identical to both certain tax positions and uncertain tax positions which are considered legitimate by the tax authorities (Hanlon & Heitzman, 2010).

On the contrary, Weisbach (2003) came across a different perspective regarding tax avoidance. Weisbach (2003) concludes that tax avoidance is categorized as legal tax effort while tax evasion is

marked as illegitimate tax effort. He further states that this categorization is a naïve approach to tax planning since nobody has been able to distinguish between illegal and legal tax planning efforts. Some recent examples of tax avoidance are creation of offshore companies for tax sheltering, manipulating accounting techniques, and legal manipulation. Offshore tax sheltering refers to the activity of using artificial transaction to transfer income to low tax countries and thus creating tax havens as in the case of Mossack franseca (Panama based accounting firm). Similarly expenses are recognized in high tax countries. Accounting techniques to understate taxable income are transfer pricing, charging royalties and administrative fee, and the use of revolving short term loans between head quarters and divisions to reduce the earnings reported. Managers are incentivized to engage in tax planning due to encouragement by shareholders or owners to invest in shares of the corporation. Lanis and Richardson (2011) argue that there is a positive correlation among share ownership of board members and managers and the tax aggressiveness policies of their companies.

The empirical studies discussed in the remaining part of this research will use a number of terms to determine tax avoidance such as "tax evasion", aggressive tax planning" and "tax sheltering". The broad definition of tax avoidance described earlier covers all these terms. Tax avoidance greatly influences corporate economic decisions as they are significant part of a firm's cash flows (Dyreng, Hanlon & Maydew, 2008; Hanlon & Heitzman, 2010).

There is a well-established literature on tax design principles that govern modern tax systems with the aim to guide tax payers, government, practitioners and tax authorities. This principle based approach can be credited to Smith (1176). Smith (1176) states that there are four "cannons for taxation" that provides a guiding framework of tax behavior of companies. These four "cannons of taxation" include proportionality (i.e. people should share or contribute in proportion to their income), efficiency (economy in collection), certainty (tax liabilities should not be vague), and convenience of payment (well-devised system of collection).

The proxy used in this research paper is based on accounting information (especially cash flow patterns) that can be linked to these concepts from economic literature. Specifically, cash flows proxy can be better aligned with the functional form of firm's performance. Economic theory predicts that a non-linear progression of multiple variables of firm characteristics such as earnings, return on net operating assets (RNOA), asset turnover (ATO), profit margins, debt, sales, dividend payout ratio, size, age and other similar characteristics are consistent with the division of results from cash flow operations of a firm life cycle stages proxy measure. According to the life cycle model of Dickinson (2011), firms, on average pass through five stages in their life namely: Introduction, growth, maturity, shake-out and decline (Dickinson, 2011; Gort & Kleppr, 1982; Miller et al., 1984).

According to Miller (1984), firms in their introduction stage engage in proper and viable positioning of their brand in the market in terms of the products and service they offer (Mmiller et al., 1984). Since firms in their early stages of inception are struggling with insufficient resources and market pressures as well as lack legitimacy, their success is dependent upon external sources of finance i.e. leverage (Cameron & Whetten, 1981; Freeman, Carroll & Hannan 1983; Grabowski & Mueller, 1975; Quinn et al., 1983). Moreover, innovation and a heavy budget of technology and research are needed to gain a competitive advantage over potential competitors in the market (Gort et al., 1982; Mansfield, 1962; Miller et al., 1984). Miller and Quinn (1983) argue that in order to succeed, firms need to bring flexibility in their decision making and this would also lead to facilitate innovation and proactively(Miller et al., 1984; Quinn et al., 1983). As a consequence of lack of ability to develop a sound competitive advantage and substantial

legitimacy, firms are more likely to fail in this stage due to the severe competition and entry barriers (Freeman et al., 1983; Hannan & Freeman, 1984; Javanovic, 1982).

However, if the firm is successful in the initial struggle by launching its product or service capably in the market and gaining a substantial position in the eye of potential competitors, it can swiftly move from introduction to the expansion stage known as Growth stage. The firms start to harness the external opportunities in the market that leads to considerable and certain cash flows flowing towards it. However, the firms still need financial financing to carry out its operation viably (Grabowski et al., 1975; Mueller, 1972). These certain cash flows and investments help the company to built sufficient entry barriers and improves its market positioning in the eye of current and prospective competitors (Spence, 1981; Wernerfelt, 1985). Moreover, the investments in the production processes together with the lack of resource constraint enable the firm to develop learning and economies of scale and scope advantage in response to entry threats of the market (Spence, 1981). As the performance increases, firms are encouraged to change their corporate structure from concentrated to more decentralized and supporting mutual cooperation of various departments and divisions (Miller et al., 1984; Smith, Mitchell & Summer 1985).

At this stage, market becomes saturated as maximum volume of firm's products or services have been floated in the market that leads to a decrease in return of investment (Grabowski et al., 1975; Mueller, 1972). At this point, firms are ready to enter the next stage of their life cycle i.e. maturity. In the maturity phase of a firm, firms are more focused towards achieving economies of scale and scope rather than generating excess earnings after tax (Cameron et al., 1981; Miller et al., 1984; Quinn et al., 1983; Smith et al., 1985). The investment opportunities in the market decline and the firms start to distribute excess funds among the shareholders as dividends and increase its stock price artificially by buying back its shares from the market (DeAngelo & Stulz, 2006). Generally, firms in their maturity stages are more cautious about their competition and behave in response to their competitors rather than acting proactively (Miller et al. 1984). The stability of mature firms is also evident in the form of standardized operating procedures (SoPs), rules formalization and set objectives (Cameron et al. 1981; Quinn et al. 1983). Innovation, in the maturity stage of a firm is still a vital function and most likely to arise from experience that is gained over time (Chen, Katila, McDonald & Eisenhardt, 2010).

Companies are not able to sustain their market position and competitive advantage over competitors due to weak or poor efficiency lead to market failure and may end up in the shake-out stage. The firm is incapable to maintain innovation and market edge (Jovanovic, 1982; Jovanovic & MacDonald, 1994). It must be noted here that there is no difference in the labeling of stages as well as the number of stages for example Miller (1984), labeled the shake-out stage as revival stage due to the fact that some companies are capable of regenerating after a period of slow or weak efficiency and growth that drove them in to poor performance (i.e. second growth stage (Miller et al., 1984). Similarly, firms in the shake-out stage are able to reverse the negative effect and return to good performance by strategy renewal and implementation, diversification or a combination of both (Quinn et al., 1983). It has been discussed above that formalization and standardization of procedures have made it harder for firms in the maturity stage to respond to external environmental changes like structural inertia, a key to success is flexibility of restructuring processes (Hannan et al., 1984; Quinn et al., 1983).

Unfortunately, if the firm is doomed and incapable to revive from the weak or slow growth marking its failure in the market, it might enter the next stage that is the last stage of its life cycle i.e. decline. This phase also includes the firms that were not successful in building substantially viable position in the market near to their inception (i.e. introduction stage failure). Additionally, this stage for new firms

might be a consequence of their "liability of newness". The liability of newness is a phenomenon that relates to the firms that move immediately from introduction to decline stages without reaching the growth or maturity phases (Freeman et al., 1983; Hannan et al., 1984). Miller (1984) argues that firms in the decline stage are trapped in a vicious cycle of poor performance and stagnant growth models predicting its doom (Miller et al., 1984). Ultimately, this downward spiral of low growth and poor performance cause the firm to go into bankruptcy and exit the market.

In the light of resource based dependence theory, firms exploit resources to gain a competitive edge in market including cash, innovation, and investment along with excessive tax avoidance to generate positive income after tax (Koester, Shevlin, & Wangerin, 2013). An increase in income due to tax avoidance allows the firms to compete in the market (Helfat & Peteraf, 2003; Spence, 1981). Moreover, lack of knowledge about the certainty of future cash flows and profits as well as reduced forecasting is a typical trait of the firm in introduction stage (Javanovic, 1982). All these factors contribute to the management's engagement in fraudulent and artificial transactions to understate accounting profits and reduce tax liability, especially if they are associated with management incentives (Desai & Dharmapala, 2006). Hanlon and Hoopes (2014) argue that larger firms are frequently audited by IRS and tax authorities whereas smaller firms are neglected (Hanlon, Hoopes & Shroff, 2014). On the basis of above argument, the following hypothesis can be developed:

H 1: *corporate tax avoidance is significantly positive in the introduction phase of the firm life cycle.*

Growth phase and tax avoidance

In accordance with the resourced dependence theory, firms in their growth stage are in process of becoming self-sufficient due to certain cash flows and enhanced market investment opportunities. The management is confident about the performance of the business and firm earnings increase gradually. There is less incentive for management to understate profits in order to reduce taxable income. However, as the firms enter the growth stage, it has more exposure to the international markets and therefore, more opportunities to employ excessive tax planning. The management is willing to take on more risk as the firm expands in multiple geographical segments and diversifies its product line (e.g. Ahmed & Jinan, 2011; Young & Huang, 2004). According to Hanlon and Heitzmen (2010), growth stage firms have the ability to use intangible assets in order to move income and expenses to variable tax jurisdictions that are considered legitimate transactions and thus, enable the firms to save excessive tax income (Hanlon & Heitzman, 2010).

Another opportunity provided by the growth stage is that management now has a better understanding of the outside environment in which it operates and it can utilize its resources effectively which gives it more autonomy in employing those resources for tax-planning (Koester et al. 2013). However, reputation and goodwill is another aspect that drives the firm to act more responsibly towards the economy and tax authorities (Austin & Wilson, 2013; Dyreng, Hoopes & Wilde, 2015; Graham, Hanlon, Shevlin & Shroff, 2014; Hanlon & Slemrod, 2009). These stakes curb the desire to engage in designing aggressive policies for tax avoidance (Austin & Wilson, 2013; Graham et al., 2014).

H 2: *Corporate tax avoidance is significantly negative in growth phase of a firm life cycle.*

Maturity stage and tax avoidance

As it has been discussed above, firms in mature stages have reduced investment, innovation, and

resource capability maintenance (Barclay & Smith, 2005; Dickinson, 2011; Drake, 2015; Helfat & Peteraf, 2003). Management is more concerned with achieving a competitive advantage against in the market and less interest in tax planning efforts (Koester et al. 2013). Ultimately, it can be stated that firms in their growth and maturity stages have less incentive to engage in tax planning strategies than in introduction, shake-out and decline stages. In the mature stage, there is less innovation and assets are maintained and disposed off when necessary. The book-tax difference of income is small. Overall, firms in their mature stage have stable net income and reduced sales growth as well as low cash volatility; therefore, they are more dependent upon retained earnings of the business. In addition, Filatotchev et al. (2006) argues that the enhanced need of monitoring and control of governance structures limits the chances of involved in risky tax planning (Robinson, Xue & Zhang, 2012). Management is also cautious of the potential reputational and goodwill cost aligned with public image and tax authorities' image. (Higgins et al. 2015).

H 3: *corporate tax avoidance is significantly negative in maturity phase of a firm life cycle.*

Shake-out phase and tax avoidance

It has been argued that operating cash flows decrease, and uncertainty of future cash flows increase, followed by reduced innovation, investment and profits marks shake-outs and firms seeks opportunities to reduce taxable income in attempt to generate substantial profits to run the business operations day-to-day (Black, 1998; Miller & Friesen, 1984). Hence, firms in shake-out stages evade taxes and are more likely to search for tax-planning strategies because corporate taxes are a major expenditure. At this stage, the business must develop strategies through asset disposal or organizational restructuring or a combination of both. Supposedly, the larger items or long term assets like Property, plant and equipment are disposed off in such a manner that accumulated depreciation exceeds the accounting depreciation; this would lead to a higher book-tax difference and may allow the firm to decrease its earnings before tax (Drake, 2015).

As we know that investors evaluate the firms based on their potential to generate positive cash flows and stable earnings; financially constraint firms rely on accounting manipulation of pre-tax income to generate badly needed cash (Black, 1998). Here, strategies might include carry forward losses, tax deferrals and liquidation/restructuring (Richardson et al., 2015). Monitoring is reduced and governance structure is opaque, which allows management to aggressively pursue in tax avoidance during shake-out phase (Koester et al., 2013; Richardson et al., 2015).

H 4: *corporate tax avoidance is again significantly positive shake-out phase of a firm life cycle.*

Decline stage and tax avoidance

The resource dependence theory argues that firms in the decline stage are market with less than optimum resources. This is caused due to frequent disposal of assets; write-downs in the valuation of long term assets, losses carried forward and increased liabilities. Here, the increase in taxable income relative to accounting income creates a lesser book-tax difference for firms (Drake, 2015). Firms in the decline stage are more cautious about the earnings and management has more incentive to engage in tax saving activities due to volatility of cash flows and decreased liquidity (Akhtar, 2012; Brondolo, 2009; Edwards et al., 2016; Richardson et al., 2015). Edward et al. (2016) claims that firms in financial distress will take action to minimize tax expenses (Edward et al., 2016). Overall in the light of resource based dependence theory, we can conclude that tax avoidance is estimated to from a U-shaped pattern across a firm's life cycle stages depending upon the variability of resources at each stage.

H 5: *Corporate tax avoidance is significantly positive in decline phase of a firm life cycle.*

Methodology

Research Design

The current study has been carried out in order to evaluate the impact of firm's life cycle stages on corporate tax avoidance. This research is essentially descriptive and analytical in nature and statistical hypothesis testing has been used to investigate the relationship between dependent and independent variable. The type of research employed is quantitative research whilst data has been taken from secondary sources. The following section discusses the information about the population, sample and data collection.

Population and Sample

In this research, a sample of 100 non-financial firms that are listed on the Karachi stock exchange (KSE) is included out of the total population of 443 non-financial listed firms. The data has been collected for the period of 8 years i.e. 2008-2015. The data is collected from the website of State bank of Pakistan (SBP) and financial reports of the companies available on their official website. The research excludes financial firms from the sample and population mainly because of the difference in their accounting practices and estimates relative to non-financial firms. Financial firms also face several regulatory constraints that would be difficult to manage in this research.

Dependent and independent Variables

In this research, dependent variable is corporate tax avoidance while independent variable is firm life cycle stages. The dependent variable has been quantified using the ETR proxies i.e. GAAP_ETR and LETR. Hanlon and Heitzman (2010) claimed the usage of employing several different proxy measures in order to avoid the constraints associated with any specific measure.

They also argue that business decisions such as organizational restructuring and strategic designs are influenced by book-tax differences and taxable income. There is sufficient literature to prove the viability of ETR proxies in order to determine the levels of tax avoidance. There are other measures to determine tax avoidance that include book-tax difference, tax sheltering and cash non-conformity. GAAP_ETR is measured as a ratio of tax expenses divided by pretax book income; however LETR is measures as long-run book effective tax rate.

The firm life cycle includes introduction, growth, maturity, shake-out and decline stages, each of which has been quantified using the cash flow patterns of the firm in accordance with the Dickinson's model (2011). OANCE means operating cash flows, IVNCF means investing activity cash flows and FINCF shows financing cash flows:

(1) Introduction: if OANCF < 0, IVNCF < 0 and FINCF > 0;

(2) Growth: if OANCF > 0, IVNCF < 0 and FINCF > 0;

(3) Mature: if OANCF < 0, IVNCF < 0 and FINCF < 0;

(4) Decline: if OANCF > 0, IVNCF > 0 and FINCF $\leq$ or ≥ 0; and

(5) Shake-Out: the remaining firm years are classified into the shake-out stage.

Control Variables

There are seven control variables in this research i.e. Firm size, PPE, Leverage, Profit, Change in Sales, Cash holdings of a firm, and a vector dummy of firm years. Existing literature suggest that size and economies of scale are correlated with tax avoidance (e.g. Mills, Erickson, & Maydew, 1998; Rego, 2003). Basically, larger firms benefit from bulk production advantages in tax planning, therefore, this research controls for size (SIZE) and capital intensity (PPE) of a firm. Tax shield provided by the debt obligations of a firm increase their propensity to involve in tax planning practices. Hence, Leverage (LEV) has a positive correlation with tax avoidance (Gupta & Newberry, 1997). On the other hand, firm profitability (PROFIT) has a direct relation with tax evasion as firms with high pretax profits are incentivized to engage in tax planning. McGuire (2012) states that companies in their growth stage are more likely to evade taxes therefore, this study controls for growth opportunities that are reflected in intangible assets of the business, sales and cash holdings (INTANG, ΔSALE and CASH). The control variables have been measured s follows:

Firm size (e.g. measured as the number of total assets possessed by the firm)leverage (e.g. measured as long-term debt divided by lagged assets), cash holdings for the firm (e.g. measured as cash and short term investments divided by lagged assets), Profitability of the firm (e.g. measured as operating income divided by lagged assets), Property, plant and equipment for the firm (e.g. measured as PPE divided by lagged assets), intangible assets of the firm (e.g. measured as intangibles divided by lagged assets), Sales (e.g. determined as net change in sales measured lagged assets for the firm) and Years (e.g. A dummy variable to control for years impact).

Empirical Results

Descriptive Statistics

Table 1 shows the descriptive statistics of the variables included in the regression model of this research. Table 1 shows a combined descriptive statistics.

Table 1: Summarized Descriptive statistics

Variable	Mean	Std. Dev.	Min	Max
Size	15.7417	1.61153	10.47212	20.1323
Lev	.1426599	.1517505	0	1.057045
Cash	.1066635	.1569337	0	1.211088
Profit	.1567051	.1513845	-.1728783	1.172798
Ppe	.5157419	.2592827	0	1.647048
Salech	1.13e-07	1.11e-06	-2.33e-06	.0000203
Getr	.2499275	.1722299	0	1
Letr	.2567634	.1555717	.0006673	1

Table 2 presents the life cycle wise descriptive statistics. Table 1 represents that the mean values

of GAAP_ETR and LETR are 0.2499275 and .2567634 respectively. The mean value for Size 15.7417 indicates the presence of many mature firms in sample. However, the low mean values of LEV .1426599 shows that the firms do not rely much on external financing. The higher mean values for CASH (.1066635), PROFIT (.1567051), PPE (.5157419) and SALECH (1.13e-07) indicates that firms have high cash, profit and sales turnover.

The following table 2 shows that, on average, the firms have higher tendency to engage in tax avoidance in the introduction and decline stages relative to growth and maturity stages. Lesser values for ETR represent high levels of tax avoidance. For examples, the mean GAAP_ETR values for firms in maturity (.2619282) and growth stages (.2374434) are higher as compared to introduction (.1823762), shakeout (.202881) and decline (.2597773). Further analysis shows that GAAP_ETR increases progressively over the introduction, growth and maturity stages, while declines sharply after maturity stage as it reaches the decline stage. Therefore, an inverted U-shaped pattern is formed. Table 2 graphically shows the tax proxy measure GETR over the different life cycle stages. It shows an inverted U-shaped pattern, suggesting that there is significant tax avoidance in the introduction, shake-out and decline stages when the firm is unstable in finances and lower tax evasion in growing and maturity stages of the firm life cycle.

Table 2: Lifecycle-wise descriptive statistics

Variable	Statistics	Introduction	Growth	Maturity	Shake-out	Decline
GAAP_ETR	Mean	.1823762	.2374434	.2619282	.2597773	.202881
	Standard deviation	.1576317	.2227418	.1525068	.1703482	.1094744
	Min	0	0	0	0	.0285567
	Max	.8481821	1	1	1	.4441674
LETR	Mean	.2312692	.251834	.2576621	.257953	.2249615
	Standard deviation	.1460562	.2026993	.1282319	.1571654	.0846007
	Min	.0509768	.0014125	.0006673	.000744	.0841886
	Max	.7738315	1	.825163	1	.3474693
SIZE	Mean	15.56565	15.89356	15.75951	15.88541	16.14096
	Standard deviation	1.469789	1.580404	1.591032	1.625841	1.752406
	Min	12.79319	12.88717	12.43968	12.67918	13.00166
	Max	18.4262	19.43783	20.1323	19.14778	18.92011

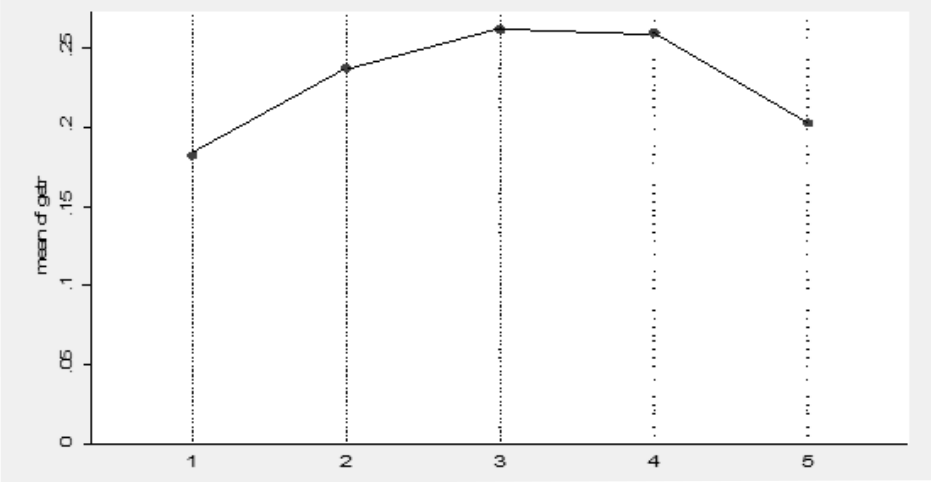
LEV	Mean	.2083197	.2450146	.1191391	.0950699	.1303829
	Standard deviation	.1651412	.2040765	.1161182	.113564	.2254031
	Min	0	0	0	0	0
	Max	.7010062	1.057045	.7328923	.541716	.9914945
CASH	Mean	.043876	.0648063	.1159644	.1356904	.191808
	Standard deviation	.0678529	.1186517	.1509929	.1795914	.2532192
	Min	.000766	.0006135	0	0	.0027476
	Max	.3587839	.7616912	1.211088	.76498	1.136474
PROFIT	Mean	.0737473	.1031846	.1885362	.1343875	.1453876
	Standard deviation	.0761638	.1294916	.1570873	.1134725	.1020994
	Min	-.1728783	-.0626958	-.1619469	-.0613928	.0309397
	Max	.2812009	1.172798	.8353874	.6044219	.346705
PPE	Mean	.6063814	.6756173	.5032134	.399084	.3982292
	Standard deviation	.2448183	.2836703	.2102297	.2429298	.3895753
	Min	.0602849	.0057789	0	0	.0005058
	Max	1.334811	1.647048	1.589185	.9465412	1.398813
SALECH	Mean	7.85e-08	6.80e-08	4.60e-08	-1.37e-08	-2.67e-08
	Standard deviation	4.62e-07	4.05e-07	1.91e-07	1.68e-07	1.79e-07
	Min	-2.33e-06	-5.53e-07	-1.63e-06	-1.12e-06	-7.90e-07
	Max	1.51e-06	4.24e-06	1.93e-06	5.04e-07	1.52e-07

*Statistical significance at the 10% level (two-tailed tests). ** Statistical significance at the 5% level (two-tailed tests).

***Statistical significance at the 1% level (two-tailed tests).

Graphical Representation

The flowing table provides Graphical representation of the mean GETR across the firm life cycle stages.



The graph of LETR represents the relationship of LETR with firm life cycle stage. The graphical diagram shows the mean values of LETR and various life cycle stages by Dickinson's model (2011). The line is bent low in the introduction, decline and shake-out stage. However, the line rises upward in the growth and maturity stages. This is inclined with the findings of this research.

Pearson Correlation Results

The following table 3 represents the Pearson correlation test results. It shows that some of the control variables and tax avoidance proxy measures are highly consistent with various life cycle stages. As per the expectations, GAAP_ETR measure is negatively (positively) correlated ($p<0.01$) with the introduction, shake-out and decline (growth and mature) stages. Similarly, LETR is negatively (positively) correlated with introduction, shakeout and decline stages.

Furthermore, SIZE, CASH, SALECH and PROFIT are negatively (positively) correlated ($p<0.01$) with the introduction and growth stages, whereas LEV and PPE are positively (negatively) correlated ($p<.01$) with the introduction and growth stages while negatively (positively) correlated ($p<.01$) with maturity, shake-out and decline stages. In general, the correlations among the tax avoidance proxies, life cycle stages measures and control variables are generally in the predicted directions. Therefore, the correlation test results provide substantial evidence for the validity of the key concepts and measures.

Table 3: Pearson Correlation matrix

Variable	Introduction	Growth	Maturity	Shake-out	Decline
GAAP_ETR	-.146**	-0.0110	0.0653	0.01000	-0.0186
LETR	-0.0358	-0.0543	0.0331	0.0148	-0.0289
SIZE	--0.0605	-0.0291	0.0720	.0618	0.0484
LEV	0.164**	0.289***	-0.176**	-0.0885	-0.0771
CASH	-0.120**	-0.149**	0.0765	0.0458	0.147**
PROFIT	-0.162***	-0.137**	0.209***	-0.0774	-0.00238
PPE	0.106	0.261***	-0.0401	-0.170***	-0.145**
SALECH	-0.0289	-0.0263	-0.0347	-0.0386	-0.0462
p<0.05,	p<0.01**,	p<0.001***			

Regression Analysis

Regression model

In this section, empirical testing of correlation between a firm's life cycle stages and tax avoidance has been done by the use of fixed effect regression analysis to account for the unobserved time invariant characters of firm life cycle. Because this research claims that a business exhibit different levels of tax avoidance in various stages of its life cycle, a regression model with business fixed effects seems appropriate (e.g. Wooldridge, 2010). My model is estimated as follows:

$$TAX\ AVOID_{it} = \alpha_{0it} + \beta_{1-4} FLC\ DUM_{it} + \beta_5 SIZE_{it} + \beta_6 LEV_{it} + \beta_7 CASH_{it} + \beta_8 PROFIT_{it} + \beta_9 PPE_{it} + \beta_{11} CHSALE_{it} + YEARDUMMIES + \alpha_i + \varepsilon_{it},$$

Where i=business I, t=financial years 2008-2015, and α=business specific unobserved fixed effects. I have used 2 proxy measures of tax avoidance (TAX AVOID) in my main analysis (i.e. GAAP_ETR and LETR). The key variable of interest in this research is FLC_DUM. This research predicts that more tax avoidance during the introduction (INTRODUCTION) and decline (DECLINE) stages, and low tax avoidance in growth (GROWTH) and maturity (MATURITY) phases.

Table 4: Firm's Fixed Effects of Firm Life Cycle and Firm Characteristics on Tax Avoidance

	GAAP_ETR (Dependent Variable)				
	MODEL 1	**MODEL 2**	**MODEL3**	**MODEL4**	**MODEL5**
	Introduction	**Growth**	**Maturity**	**Shake-out**	**Decline**
INTERCEPT	.9369185***	.9357171***	.9468983***	.9623512***	.9319958***
	(3.94)	(3.89)	(3.92)	(4.00)	(3.89)
Firm life cycle	-.0821645***	.0275298	.0048108	-.0236908	-.0917196**
	(-3.83)	(1.69)	0.38	1.36	-2.77
SIZE	-.0421186**	-.0417178*	-.0429421**	-.0440589**	-.0413708**
	(-2.70)	-2.64	-2.71	-2.79	-2.63
LEV	-.0059236	-.0506157	-.0235145	-.0218373	-.0391256
	-0.07	-0.60	-0.28	-0.26	-0.47
CASH	.1271931	.129154	.1351463*	.132346*	.1231398*
	(2.33)	2.24	2.34	2.29	2.14
PROFIT	-.2994874***	-.2847974***	-.286794***	-.283510***	-.2926881***
	(-4.88)	-4.60	-4.62	-4.58	-4.75
PPE	-.0010734	-.0143643	-.0083179	-.0042039	-.0021951
	(-0.02)	-0.27	-0.15	-0.08	-0.04
SALECH	-1895.63	-3149.737	-2826.849	-2690.984	-2934.952
	(-.32)	-0.52	-0.47	-0.45	-0.49
YEARS FE	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES
N	669	669	669	669	669
Adj. R^2	0.0702	0.0676	0.0666	0.0647	0.0666
p<0.05,	p<0.01**,	p<0.001***			

It is evident from the fixed effect regression table that the p values for introduction stage of firm life cycle dummy variable is significant with GAAP_ETR. And its negative value (-.0821645) indicates high level of tax avoidance. Similarly, the p values for decline stage (-.0917196) are also significant with GAAP_ETR. The lesser values of ETR represent higher levels of tax avoidance. Hence, the regression results are consistent with the literature. The positive values of firm life cycle variable in the Growth (.0275298) and maturity stage (.0048108) with respect to GAAP_ETR indicate that the levels of tax avoidance are negative or low.

The results further represent that PROFIT is highly significant with GAAP_ETR. The co-efficient values for PROFIT are highly significant with GAAP_ETR which may indicate that business profit has also a strong association with tax avoidance. Similarly, SIZE coefficient is also significant for GAAP_ETR. In conclusion, the negative value of firm life cycle stages with respect to GAAP_ETR (Introduction, shake-out and decline) indicates higher value of tax avoidance. The positive values of firm life cycle stages indicate negative tax avoidance. Overall, regression results show a moderate relationship between firm life cycle stages and corporate tax avoidance.

Table 5: Firm's Fixed Effects of Firm Life Cycle and Control Variables on Tax Avoidance (LETR)

	LETR (Dependent Variable)				
	MODEL 1	**MODEL 2**	**MODEL3**	**MODEL4**	**MODEL5**
	Introduction	**Growth**	**Maturity**	**Shake-out**	**Decline**
INTERCEPT	.3397463*	.3110256	.3711078*	.3473292*	.3378931*
	(2.03)	(1.86)	(2.23)	(2.07)	(2.03)
Firm life cycle	-.0107834	.0264745*	-.0207232	.0038117*	-.0514504
	-0.67	2.22	-2.17	0.29	-1.98
SIZE	-.004677	-.0027664	-.0057691	-.0052189	-.0043561
	-0.43	-0.26	-0.54	-0.48	-0.41
LEV	-.0363454	-.067445	-.0733044	-.0436826	-.0547241
	-0.53	-0.98	-1.06	-0.64	-0.80
CASH	-.0107222	-.012278	-.0143133	-.010806	-.0087231
	-0.25	-0.29	-0.34	-0.25	-0.21
PROFIT	-.0782929	-.0773122	-.0766663	-.0771055	-.0776866
	-1.62	-1.62	-1.60	-1.60	-1.62

PPE	.0083453	.00302	.0088295	.0090378	.0118013
	0.21	0.08	0.22	0.23	0.30
SALECH	10991.38	9645.628	11195.22	10897.75	8972.201
	0.85	0.75	0.87	0.84	0.70
YEARS FE	YES	YES	YES	YES	YES
FIRM FE	YES	YES	YES	YES	YES
N	483	483	483	483	483
Adj. R^2	.0139	0.0133	0.0167	0.0150	0.0133

p<0.05, p<0.01**, p<0.001***

Fixed Effect Regression Results

The negative values of firm life cycle dummy variable in the introduction (-.0107834), shake-out (.0038117) and decline (-.0514504) with respect to LETR shows high level of tax avoidance. The p values for growth and shake-out stage of firm life cycle are significant for LETR.

Table 6: Additional Analysis

GAAP_ETR (Dependent Variable)	Model 1
	0.938***
Intercept	
	3.94
	-0.098***
INTRODUCTION	
	-3.80
	-0.005
GROWTH	
	-0.25
	-0.018
MATURITY	
	-1.04
DECLINE	-0.108***
	-3.20

Control Variables	
	-0.041
SIZE	
	-2.63
	-0.025
LEV	
	-0.30
	0.112**
CASH	
	1.96
	-0.306***
PROFIT	
	-5.02
	0.007
PPE	
	0.13
	-1933.530***
SALECH	
	-0.33
YEARS	YES
FIRM FE	YES
N	669
Adj R^2 /Pseudo R^2	0.113

*Statistical significance at the 10% level (two-tailed tests). ** Statistical significance at the 5% level (two-tailed tests).

The above table 6 shows the regression results for Dickinson's (2011) model of firm life cycle stages and a measure of tax avoidance i.e. GAAP_ETR. Specifically, firms have been classified into five distinct stages namely: introduction, growth, maturity, shake-out and decline. Five dummy variables have been created for each distinct life cycle stage. However, to avoid multi-co linearity issue from the model, the shake-out stage has been removed from the model because it is theoretically vague according to Dickinson's model (2011). Therefore, the regression results shows that in comparison to shake-out stage, the introduction and decline phases of the life cycle are positively correlated with tax avoidance ($p<.05$ or better), however, the growth and maturity stages are significantly negatively associated with tax avoidance ($p<.01$ or better). Model 1 shows that in comparison to the Shake-out stage of firm life cycle, the introduction and decline stages have lower GETRs of 9.8% and 10.8% respectively. The GETRs of growth and maturity stages are higher (5% and 18% respectively). Variation in tax avoidance in different life cycle stages is therefore, consistent with GAAP_ETR, specifically in the introduction and

decline stage. Hence, the additional regression results are consistent with the main regression model shown above.

In essence, the results largely support the resource-based dependence theory in catering for the variations in tax avoidance across distinct firm stages. Especially, after controlling for the known indicators of tax avoidance and firm and year fixed effects, the findings indicate that tax avoidance is significantly negative in the growth and maturity stages and significantly positive in the early introduction and later decline stages, relative to shake-out stage. This supports the theory of resource dependence that businesses in the early stage of their life deal with resource constraints and therefore engage in seeking opportunities to increase their after tax profits. This is achieved by adopting aggressive tax-planning strategies. Moreover, in the decline stage, businesses are losing revenues and cost of bankruptcy is high. Therefore, businesses tend to evade taxes to be able to stay liquid and pay their obligations.

Sufficient earnings and certainty of cash flows in the growth and mature stages enable the management to worry less about the tax saving strategies and the businesses engage in maintaining their better image by becoming more tax compliant. Mature businesses realize their full potential in terms of exploiting current investment opportunities unless new innovation presents itself (Barclay& Smith, 2005; Dickinson, 2011).

Conclusion

Taxes are not only an integral source of government revenues, they are also used as an essential tool of fiscal policy to attain economic goals. Tax recovery from businesses and firms listed on the stock exchange are an important source of government revenues in Pakistan. Hence, tax evasion by corporate sector causes an immense damage to the economy of the Country. In this regard, the data of 100 non-financial companies listed on the KSE for the period of 2008-2015 was selected to develop the research hypotheses. After that, the hypotheses were tested using the statistical significance at the 1% level (two-tailed tests).

panel data method. The reasoning behind selection of firms for the period of 2008-2015 is that taxes of companies are finalized after one or more years in Pakistan. The results indicate that there is a strong positive relationship between corporate tax avoidance and firm life cycle stages. This research contributes greatly to the existing literature and focuses on the financial and accounting implications of a company's life cycle phases. This research also extends the body of literature on tax avoidance activities with reference to Pakistani context.

There is a lack of research on the topic of firm life cycle stages and their relation with corporate tax avoidance in Pakistan and how the cash flow operation of the firm like operating, investing and financing activities affect the propensity of firm to engage in tax planning. Overall, the results of this research study are highly consistent with those of Dickinson's model (2011) and resource based theory postulates. The robustness test confirmed that businesses and firms avoid their tax obligations in the introductory, shake-out and decline stages of their firm life cycle. The reasons are resource constraints and uncertainty of cash flows to the business. Therefore, management has more incentive to involve in excessive tax planning strategies. However, as the cash flows become certain in the growth and maturity phase, the firms start paying off their due tax obligations and management is less concerned with aggressive tax planning strategies. In growth and maturity stages, firms engage in building a better public image and goodwill creation. Hence, an inverted U-shaped pattern is formed of tax avoidance across firm life cycle phases. This is aligned with the postulates of dynamic resource based theory. The

descriptive and regression results indicate that firm life cycle is a major predictor of firm tax avoidance. Since tax avoidance cannot be directly measured due to unique characteristics of a firm, therefore I have used two proxy measures to evaluate tax avoidance i.e. GAAP_ETR and LETR. Tax avoidance is a perpetuating problem that corrodes the public commons by depleting governments of sufficient resources in order to provide satisfactory services for the betterment of society, including the businesses that operate in that society. Tax avoidance corrodes trust among regulators and the regulated.

Future researches could investigate the relation between management strategies, effective resource usage as well as tax avoidance. Also, tax avoidance can be studied in relation to other firm attributes such as size, leverage, profitability and performance. Future research can also inculcate financial firms listed on the Karachi stock exchange as well as take account of tax avoidance by the non-listed firms of Pakistan. A comparative study can be developed to evaluate the difference between firms that are family owned and others to determine who have the greater propensity to avoid taxes. The time frame can be increased to generalize the results more accurately.

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The Influence of Critical Factors of Service Quality and Customer Satisfaction on Inter-City Bus Transport in Pakistan

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Abstract

The purpose of this research is to investigate the influence of critical success factors of Service Quality on Intercity Bus Transport Industry and to identify the current barriers to good service quality in the intercity bus transport industry. It focuses on the measurement of service quality and communication. In this research, the literature survey defined the service quality "gap" in this industry, identified the role of effective communication in the service delivery system, measured the variables affecting current service delivery and prioritized the importance of the factors influencing service delivery in this industry. The empirical data was collected using a self-administered questionnaire that was distributed among different bus terminals of different companies Daewoo, Niazi express, Bilal travels, Skyways and Faisal movers located in Islamabad, Rawalpindi and Sargodha district.500 questionnaires distributed, 396 questionnaires were received, 4 questionnaire were not properly filled, data analysis was done on 396 questionnaire and yielding a response rate of 79.2 percent. Data was analyzed by using SPSS relative importance Cronbach's alpha, and AMOS Structure Equation Modeling. The results of this research pointed to the importance of external communication in the industry. Specific recommendations are made to improve the productivity, reduce vacancy rate and maximize the benefits to this industry in future.

Key Words: Service Quality, Operating management support, handiness, tangible services

Introduction

Transport is considered as back bone economies of country. Customers are the powerful force of all firms' existence and expansion, as they strive to satisfy customer needs. Access toward good quality and overhauls claim more transit wellbeing, safety in addition to calm (quality dimensions of public transport). This research aims to shed light on different critical factors and their influence on service quality and customer satisfaction in intercity bus transport. Service quality is very important and serious issue in transport industry. Hence, this study is focused on the efficient deliverance of services and their success factors which can handle with problem and Practices which are suited in intercity bus transport industry in Pakistan. Furthermore it aims to find out more success factors of service quality according to perception and expectations of customers. There are 50 general as well as transnational awards for best quality, among them majority awards related to good quality of product rather good quality of service. Focus of this research study is to identify the factors which influence service quality and customer satisfaction. When a company provides best Quality in services it can help organizations to develop better strategies for rivalry against product expenses, customer satisfaction and to develop their loyalty towards organization as well as to upturn production (Lovelock & Wright, 2002:264).

In previous studies conducted on intercity bus service, mostly focused on tangible dimensions such as bus frequency, vehicle tools, travel time, loading factors. However, Passenger's perception of service quality is less taken into consideration. This study aims to discuss critical factors of service quality as well as view point of passenger's perceptions. Research will focus on dimensions of service quality for intercity bus service for example "Interaction with passengers", "Tangible service equipment", "Operating management support", "Handiness of services". As Inflation increased and due to lesser job securities, it resulted in less affordability of the luxuries. It became difficult for people to afford many things. Personal transport is also one of those luxuries. Moreover if there is insufficient mobility between rural and urban areas of country it will further penalize and marginalize the economic development of population. So people had to rely on intercity bus transport to travel between different cities in a country. The purpose of this study is to identify the critical factors of service quality and their influence on customer satisfaction in intercity bus transport. Based on the aim of the research, two main questions of this research are:

1) What are the critical factors of service quality in intercity bus transport industry?

2) What is the relationship between different dimensions of service quality and customer satisfaction in intercity bus transport industry?

Literature Review

The function of service quality is now generally acknowledged as a sign of customer contentment and organizational performance. Many optional definitions of service quality focal point are meeting customer needs as well as requirements. Service quality is associated with a series of characteristics describing the Transport service. Berry (1990) indicates that "customers are the sole judges of service quality" and numerous authors have also sustained this theory. Consequently, if service quality be measured from the consumer's perspective, transport quality depends on the traveler's perceptions about each trait characterizing the service (Oña, Eboli & Mazzulla (2013).

Ribeiro (1993) and Klaus (1985) defined quality the same as the collective experience of increase by contributors and stable prototype of behavior linked with a given type of check encounter. Klaus (1985) stated that service quality as an occurrence experienced via individuals and be evident in individual performance. It is also a self-motivated, multifaceted arrangement of substantial, conditional, as well as behavioral variables In order to understand quality there is a need of understanding the perception of substantial characteristics of a service, in addition to, customer's psychology and traditions.

Road transport and Intercity Bus Service in Pakistan

Intercity bus transport has increased noticeably in Pakistan as a result of the turn down of Pakistan railways and the high prices of Airlines for the common Pakistani. Many corporations have started working inside the country for example Daewoo Express and Niazi Express and have increased significant reputation because of their consistency, safety measures in addition to high-quality service. Slighter vans are used for transport in the hilly areas of North where congested moreover hazardous ways create it unfeasible for the movement of bigger buses. According to Pakistan Economic Survey (2014-2015), Well-organized transport system is not only requirement for economic growth but play an important role in economic assimilation of the country. This subdivision has straight and meandering links with every significant sectors of the financial system, which manipulate directly societal and financial wealth of the citizens. An efficient transportation contribute to financial growth by lowering manufacturing cost through timely deliverance of raw materials of agriculture region to the

marketplace and making possible timely deliverance to manufacturing sector therefore enhancing economy scale in the manufacturing process and developing economic opportunities through communication links between urban-rural inhabitants. It directly offers sufficient service opportunities to the lower class of the general public, whom if they cannot find proper occupations due lack of education.

While Pakistan has a huge network of roads, railway, airline service and advance seaports but the current government look like determined to further expand the accessible network by adding together sections of roads, motorways and also scheduling to add a considerable length of advance rail links toward the existing capacity (Pakistan Economic Survey, 2014-2015). Pakistan's Vision 2025, assigns high Weight age to modern transport infrastructure to ensure reduction in transportation cost, protection in travelling, effective communication among rural areas and urban market centers, incorporated network involving economic centers, along with high capacity transportation platforms connecting between major local trading associations (Pakistan Economic Survey, 2014-2015).

High road density of any country is a sign of the level of wealth and growth. Consequently, it has been estimated to raise road thickness to the level of 0.45 km/sq.km by 2018 beside the existing 0.33 km/sq. km density level which will raise the existing road links from approximately 263,942 km to 358,000 km (Pakistan Economic Survey, 2014-2015.

The Relationship between Service Quality and Customer Satisfaction

According to Govender and Pan (2011); Lovelock and Wright (2002) consumer approval is an appearance of expressive reaction that arises from self-practice. Metter (2006) signifies that satisfaction is the costumer's achievement response. Satisfaction is the consumer's assessment of a production or else service in requisites of either that product or else service has fulfil the customer's requirements and expectations (Bruhn & Georgi, 2006). According to Truong and Foster (2006) customer satisfaction acquires in two conditions, one is the outcome of manufactured goods as well as definite services assemble the consumer's anticipations. The other is wherever the result goes beyond the expectations. Disappointment will take place where the real service level is less than expected level. Consequently, satisfaction as well as dissatisfaction is the result of an individual evaluative procedure by the customer. The association between service quality along with customer satisfaction still remains a ambiguity, from the viewpoint of whether consumer satisfaction is a predecessor of service quality or vice versa. Some investigators suggest that consumer satisfaction leads to service quality (Lee, Lee & Yoo, 2000).

Consumer satisfaction is somewhat that includes noticeable assessment of entire services and products (Leem & yoon, 2004). Antouvakis and Iymperopoulou, (2008) conducted a study including 388 travelers who use Ferry they found that not just road transport people even want entire system of transportations very efficient with the intention that it will save their time also they want its manifestation should also be excellent. Though generally Ferry is used for employees with the purpose to save their time as there are no signals and traffic, still many of them were not satisfied. The motive was its manifestation and cleanliness therefore the results of this study recommended that customer satisfaction is effected as a result of the important elements of the service that involves on the whole satisfaction level. Bhandari, Chien and Daniel, (2003) stated that many organizations implement some approaches to satisfy customers but fail to keep them due to lack of attention and lack of knowledge. Singh and Singh (2009) conducted a study to find the influence of improvement created by technical adaptation with the purpose of how it supposed to be carried out to enhance customer satisfaction. They found that availability of practical reviews matter a great deal to check the accessibility of breakdown recovery that

in case any experiment does not achieve something they must have some plans to overcome the loss and achieve customer's satisfaction. Eboli and Mazulla (2009) conducted a research related to air travelers and they originated that customers desire not only comfort capability but also hygiene assurance and it influences their satisfaction level.

Further studies performed by Gronroos (1988); Zheng and Jiaqing (2007); Zineldin (2005) concluded that consumers desire the most excellent service whether it would be specified by private organizations or public organizations and by improving quality and approaches, customers possibly will be satisfied which would eventually be helpful in favor of the status and profit of the companies. All the above researches conducted by different researchers conclude that in transportation sector service quality plays an important role with some other moderating variables which might be constancy, capability, safety and not simply all these aspects, response from customers supposed to be there as it assists to improve the availability according to customer's need as well as to improve the service quality.

Bus Service Quality Dimensions

Assigning resources among challenging transport agencies, service quality dimensions are essential for reviewing management act of the transport service relative to population expectations, reviewing management issues regarding overheads of the service, along with as an examining tool for civilizing the service (Transportation Research Board, 1994). In adding together, determine of performance allows the behaviour of organizations designate compared eventually as well as transversely (Borger, 2002). A transport performance appraisal is characterized as a quantitative or qualitative aspect used to estimate an important feature of a transport service (Transportation Research Board, 2003). Every quality measures have individual sequence of pointers. Definitely, technical investigation is always extra leaning towards the founding of suitable transport performance events in addition to indicators. (A methodology for evaluating transit service quality based on subjective and objective measures from the passenger's point of view).

Table: 1 Dimensions of Service Quality

Dimension	**Definition**
Interaction with passenger	Consumers feel valued moreover concerned while interacting with staff. BUS companies provide gracious along with practical feedback to consumers' queries.
Tangible service equipment	The tools with overhaul presented by bus companies be able to make travellers feel comfortable
Operating management support	The preparation of timetable, the transmit of buses in addition to staff as well as maintenance from administrators can assure consumers' requirements
Handiness of service	The access to knowledge along with tools be capable of assist travellers attain bus service.

Source: Hu & Jen, (2006:3).

Interaction with passenger

According to Curry and Sinclair (2002), the interaction with passenger refers towards kind; individualized attention that companies provides its consumers. To this conclusion, right to use, communication and understanding of customer's needs are key elements. The central idea behind this dimension is to offer suitable and sufficient facilities for current as well as potential customers.

Tangible service equipment

Tangibles are associated with the appearance along with confirmation of tangible facilities, tools, and personal and communication substances (Robledo, 2001). Since the tangible and visual components will be critical towards effectiveness and overall intuitions of the company and the brand, service companies are likely to use tangibles to improve their image as well as communicate quality service to consumers (Zeithaml, 2006).

Operating management support

Bebco (2000) define operating management support as 'the capability to perform the agreed service dependably as well as accurately'. Reliability is an important factor in serving customers to evaluate the quality they experienced compared to the quality promised through the delivery process for example service terms, problem solutions and pricing.

Handiness of service

Robelo (2001:25) regards Handiness of service as the skills possessed by employees, their politeness and the capability to inspire faith and confidence. This dimension consists of four major components, competency, courtesy, credibility and safety.

Hypothesis

H1: Interaction with passenger has positive influence on service quality in inner-city bus service

H2: Tangible services has positive influence on service quality in inner-city bus service

H3: Operating management support has positive influence on service quality in inter-city bus service

H4: Handiness of service has positive influence on service quality in inter-city bus service

Methodology

The target population in this research involves all the customers who use intercity bus service to travel between different regions and cities in Pakistan. Data was collected from different intercity bus transport terminals of Daewoo express bus terminal Islamabad, Niazi express station Islamabad, Skyways bus services Islamabad, Bilal travels Rawalpindi, Daewoo express bus terminal Sargodha, Daewoo express bus terminal Bhalwal.

Sample Size

According to Sekaran (2003), an ideal sample size is greater than 30 and less than 500 is applicable for much research studies. This research selected 400 passengers as respondents at different intercity bus stations in Islamabad and Sargodha district. For the purpose of data collection, respondents were approached by employing convenience sampling. For this research random samples are selected from

selected bus terminals in Islamabad Rawalpindi and Sargodha regions by executing convenient sampling, and then self-administered questionnaires were used to collect responses of selected sample.

Results and Discussion

In this research data analyses was performed by using AMOS 18 and SPSS 20.. Individually both softwares were used for different types of analysis. SPSS was used for descriptive analysis and reliability, whereas AMOS was used for CFA.

Table 2: Descriptive Statistics

Male	156	
Female	240	60.6
Total	**396**	**100.0**
Age		
16-20	68	17
21-25	128	32
26-30	56	14
31-35	36	9
36-40	44	11
41-45	30	8
46-50	18	5
51 & above	16	4
Total	**396**	**100.0**
Post graduation	114	28.8
Graduation	120	30
Under graduation	126	31.8
Matriculation	26	3.6
Other	10	2.5
Total	**396**	**100.0**
Status		
Married	154	39
Unmarried	228	57
Total	396	100
Income Level		
10,000-20,000rs	100	25

21,000-30,000rs	66	16
31,000-40,000rs	74	19
41,000-50,000rs	52	13
50,000rs & above		
	104	26
Total	**396**	**100**

Preferred Bus Service	**Frequency**	**Percentage**
Daewoo	232	58
Niazi	30	7
Skyways	56	14.1
Bilal Travel	20	5
Other	58	14.6
Total	**396**	**100**

Table 3: Reliability Statistics

Variables	**No. of Items**	**Alpha Reliability Coefficient**
Interaction with Passenger	5	0.731
Tangible Service Equipment	3	0.729
Support	4	0.754
Handiness of Service	5	0.784
Service Quality	4	0.705

Confirmatory Factor Analysis

In any research study for any theoretical model there are various fit indices which are functionally used but there is no standardized measurement and agreement to decide which one is the best to present (Meyers, 2006). According to theories and literature three categories for model fit are given below in table (Jalees & Derun; 2013) where as they recommended that one should be presented from each section for model fit. The table given below demonstrates all the values which are observed after confirmatory factor analysis of exogenous and endogenous variables in this research study. The fit indices mentioned in table presents over all model fitness

Table 4: Confirmatory Factor Analysis

Absolute		**Relative**		**Parsimonious**	
Test	**Prescribed value**	**Test**	**Prescribed value**	**Test**	**Prescribed value**
CMIN/df	<3.00	CFI	> 0.95	PNCFI	>0.50
p value	< 0.5	TLI	> 0.90	PCFI	>0.50
RMSEA	< 0.10				

SEM Model

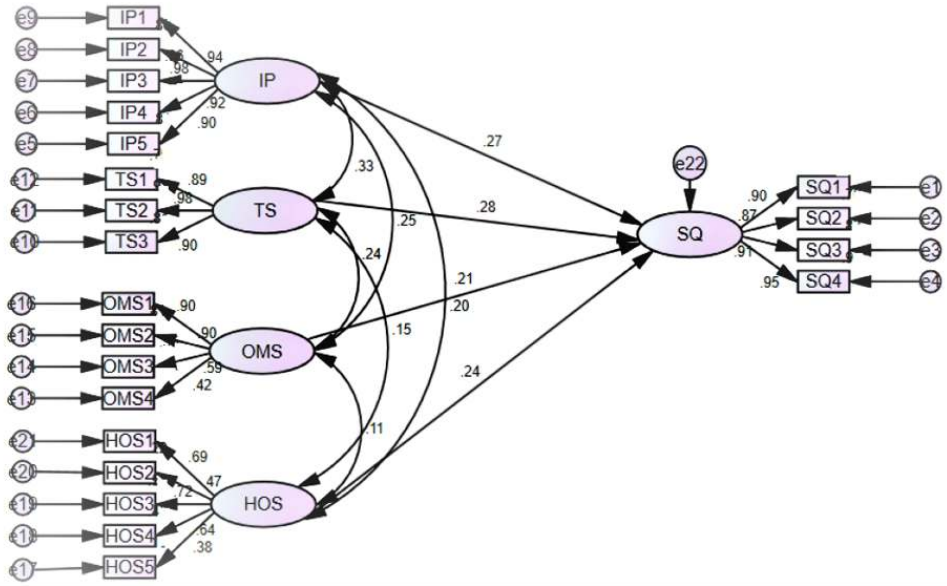
In this research study AMOS model has one dependent variable "Service Quality", whereas four independent variable that are Interaction with Passenger, Tangible Service Equipment, Operating Management Support, Handiness of Service, Offering Correct Information. While developing the SEM model the observed and unobserved covariance and variance measurements can be compared and we can make changing's in the model for good model fit after comparison. The AMOS model in this research study represents that dependent variable Service Quality in a straight line exaggerated by four independent variables i.e. Interaction with Passenger, Tangible Service Equipment, Operating Management Support, Handiness of Service, they are shown by single arrow from independent variables towards endogenous or dependent variable. While single headed arrow describe the linear dependencies among dependent and independent variable.

Abbreviations signify the underlying variables which are restrained by the perceived variables in the blocks. Every variable in the model is represented by various observed variables as well as pointers. At the completion of every pointer there was an error term indicator it presents various effects which are not measured in model. The endogenous variable Service Quality as well connected with an error indicator. In Amos model the curved shape arrows represent correlation effect or relationship among exogenous variables. They are represented by two headed arrows in the model. If there are any credentials issues in AMOS model it can be fixed by keeping the regression weight equal to 1. In the end all these steps or procedures practices a structure equation model or path diagram.

All three exogenous variables are correlated with one another. In the data analysis of this research study while using AMOS we want to know interconnection between model and data we collected through

respondents. In the figure given below SEM model has been developed by using SPSS AMOS. First of all Confirmatory Factor Analysis has been performed and results of loading factors of each items are given in tables below. in the figure we can observe items which have high loading factor are equally better when structure equation modeling performed. In the figure below beta weights are mentioned for each independent variable to dependent variable "Service Quality" by single headed arrow.

Figure 1: SEM Model Fit



Interaction with Passengers

Structure equation model creates a numerical value shown by single headed arrow in model. This incepted value should be above 0.5, incepted values for items of Interaction with Passenger are given below.IP1; IP2, 1P3, and IP4, IP5, and IP6 are abbreviated for convenience. As value for IP7 and IP8 were below 0.5, both were deleted from model.

Table 5: Factor Loadings of Interaction with Passengers

Interaction with passenger	Item stands for	Obtained values
IP1	Easy accessibility	0.93
IP2	Polite behavior	0.94
IP3	Adequate response	0.98
IP4	Passenger's opinions	0.92
IP5	Operating hours	0.90

Tangible Service Equipment

3 items of Tangible Service Equipment consist of values above 0.5.values of these items are given below.

Table 5: Factor Loadings of Tangible Service Equipments

Tangible Service Equipment	Items stands for	Obtained values
TSE1	Professional appearance	0.89
TSE2	Brand new buses	0.98
TSE3	Clean environment	0.90

Values of remaining items are less than 0.5 whereas detail of these items and their statement are given in appendix moreover these items were deleted from model.

Operating Management Support

Operating management support consists of 8 items. Inception values of five items are above 0.5 which are as follows

Table 6: Factor Loadings of Operating Manager Support

Operating Management Support	Items Stands for	Obtained values
OMS1	Departs Time	0.90
OMS2	Bus condition	0.90
OMS3	Tickets Purchasing	0.59
OMS4	Passenger's problems	0.42

Handiness of Services

Handiness of services consists of 6 items. The CFA performed on 6 items and Threshold values of items are given below. Whereas value of one item is less than 0.5 and it was deleted to improve the model fit.

Table 7: Factor Loadings of Handiness of Services

Handiness of Services	Items stands for	Obtained values
HOS1	Transactions	0.69
HOS2	Occupational Knowledge	0.47
HOS3	Passenger's confidence	0.73
HOS4	Passenger's needs	0.64
HOS5	Passenger's luggage	0.38

Dependent variable

Service Quality is the dependent variable in the model. Variable was divided into three factors namely SQ1, SQ2 & SQ3, SQ4 having a normal threshold values of 0.90, 0.87, 0.91 &0.95 respectively. The names of the factors are given in the table below.

Table 8: Factor Loadings of Service Quality

Service Quality	Items stands for	Obtained values
SQ1	Customer's satisfaction	0.90
SQ2	Correct Information	0.87
SQ3	communication	0.91
SQ4	Prompt services	0.95

Table 9: Measure of Goodness of Fit

	Obtained value	Test	Obtained value	Test	Obtained value
CMIN/df	2.310	CFI	0.969	PNFI	0.807
p value	0.000	TLI	0.963	PCFI	0.826
RMSEA			0.05		

Observed values which are given in above table are the measures of goodness of fit and are initiated according to measures given in previous studies and theory. CMIN/df is 2.310 which is less than 3; the observed value of RMSEA is 0.05 which is less than 1 show a good fit. CFI, TLI, PNFI &PCFI are 0.96, 0.963, 0.807 & 0.826 respectively which are all above the required value of good fit.

Relationship among IV and Service Quality as DV

When dependent variable 'Interaction' with Passenger is increased by standard deviation of 1 then dependent variable 'Service Quality' has been increased by 0.27 standard deviation. With a particular change in the value of standard deviation by 1 for Tangible Service Equipment there was an upturn for Service Quality and value of standard deviation is increased by 0.28. Once Operating Management Support variable drives up to one standard deviation, standard deviation for Service Quality goes up to 0.21. After Handiness of Services safety drives up to 1 standard deviation, value for Service Quality drives up to 0.24 standard deviations.

Hypotheses testing

In this study four hypotheses are derived to find out relationship among four exogenous variables with one endogenous variable. The hypotheses were established with the help of previous studies and theory. All hypotheses were tested against the significance level of 5% which is denoted by alpha. For this research study following are the results of hypothesis to check the proposed relationship

H1: Interaction with Passenger has positive influence on Service Quality in intercity bus transport industry.

The value of beta for Interaction with Passenger and Service Quality is 0.27 and it is greater than the inception value of 0.2. Therefore hypothesis has been accepted that there is a positive relationship between Service Quality and Interaction with Passenger. This indicates that Interaction with Passenger support has a significant effect on Service Quality.

H2: Tangible Service Equipment has positive influence on Service Quality in intercity bus Transport industry.

The hypothesis that Tangible Service Equipment has a positive influence on Service Quality is established at 0.28 which is greater than 0.2 beta value. This means that the alternative hypothesis which states that Tangible Service Equipment has a positive relationship on Service Quality of Intercity bus Transport is accepted.

H3: Operating Management Support has positive influence on Service Quality in intercity bus transport industry.

The observed value of beta is 0.21 which is above the threshold value of beta, henceforth the hypotheses that Operating Management Support has a positive significant effect on Service Quality is established. This proves that Operating Management Support has major effect on Service Quality of Intercity bus Transport Industry.

H4: There is a positive relationship between Service Quality of Intercity bus Transport Industry and Handiness of Service.

The observed value of beta is 0.24 which is greater than 0.2. Therefore the assumptions that Handiness of Services has a positive influence on Service Quality of bus Transport Industry are established. Therefore it is observed from given results that if management of bus companies focused on Handiness of Services then there is a positive effect on overall Quality of Services. This proves that Handiness of Service is completely related to Service Quality as well as meaningfully participates on the way towards best Quality Services of Intercity bus transport Industry.

Conclusion

This examination has accomplished, expressed targets, effectively and exactly inspected the impact of basic achievement variables, on successful change administration process, information gathered from travelers at various transport terminals from Rawalpindi, Islamabad and Sargodha district. The accompanying conclusions were drawn on the premise of above information investigation and exchange. The four critical success factors of change service quality (Interaction with passengers, Tangible service equipment, Operating Management support, Handiness of service,) are positively related with service quality. All these factors are highly significant with service quality. Most significant factors according to passengers are Interaction with Passenger which might companies to aid in providing best service quality.

Recommendations

The research study arise innovative dimension toward future study now in service quality.

However results and measurement highlighted that these critical factors have significant effect on service quality of intercity bus transportation. Consequently, upcoming studies should investigate either these measures and results are applicable to other transportation such as railway, airship or local transportation within the city. Beside that what are the perceptions of service quality of customer toward intercity transportation in developed countries compared to developing countries. Moreover research studies should inspect other cultural and professional needs regarding service quality.

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