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Qualitative Study of Individuals' Behavioral Biases toward Buying Decision of Financial Products: Evidence from Pakistani Stock Market

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Abstract

Due to increased complexity of financial instruments, the role of investors' bias in investment decision making has enhanced. To study this role, the present study aims identify the causes of behavioral biases which affect investment decision making. The main parameters of the study are home bias, disposition effect, herding bias, conformation bias and anchoring bias. The research design is exploratory in nature which will help to investigate the causes of behavioral biases that affect the investment decision making of individuals. The qualitative design was employed to get insights by conducting sixteen in-depth semi-structured interviews from individual investors. First and second order codes assigned to data mainly came from literature review. Researchers found that home bias, disposition effect, herding effect was quite evident in Pakistani Investor. However, anchoring bias has been found in half of the participants and confirmation bias not evident in Pakistani investors. The study has various implications for investors and academicians which will help to expand the scope of the future studies and generalizability by addressing the limitation of the current study.

Keywords: Behavioral biases, Investment decision making, Qualitative study, Individual investors, Pakistani context

Introduction

In the past few years, financial markets have become more competitive due to increased number of investment alternatives offered by key players of markets (Baker, 2018; Pradhan, 2008) due to which the buying behavior toward financial products has become important (Norouzi et al., 2021; Pompian, 2008). In every household, the decisions regarding financial investments are integral and decisions regarding financial resources should lead to satisfaction and quality life. The problem in financial decision making is due to complexity of financial products and also influenced by different biases and heuristics (Cao et al., 2021; Lovric, Kaymak & Spronk, 2008). It is difficult for the investor to make investment decision, especially on stock while facing uncertainty. The investor has to select stocks among various alternative stocks based on the information gathered and analyzed (Nofsinger, 2014). To analyze and interpret information, available financial arsenals for investors are either neoclassical/conventional finance and/or behavioral finance (Cao et al., 2021; Shiller, 2006). The main focus of behavioral finance is on psychology of the investor and limits to arbitrage (Barberis & Thaler, 2003; Kisney et al., 2019). Behavioral finance recommends that investment decision making process is affected by different behavioral biases that motivate investors to deviate from rationality and move toward making irrational decisions of investment (Din et al., 2021). As there is more complexity involved in financial instruments, it is integral to understand the role of investor biases in individuals investment decisions (Hsu et al., 2021; Olsen, 2007; Pompian, 2008). The preferences and beliefs of the individuals also called biases are used as lens by decision makers throughout decision making process of individual investors. Therefore, understanding individuals' decisions making behavior based on their beliefs and preferences is important to understand. Cummins and Nistico (2002) argues that it is more significant to use qualitative techniques to understand individual biases by using interviews, because it will be a true representation of natural circumstances in which they evaluate themselves, their abilities and future

plans. Kumar and Goyal (2015) have done systematic review of behavioral biases of investment decision making of last 33 years and found that almost all of the studies are quantitative in nature. They have suggested utilizing qualitative techniques to explore behavioral biases of investment decision making (Cao et al., 2021; Din et al., 2021). Therefore, the present study aims to bridge the methodological gap by studying types of biases through qualitative study design. The objectives of study are; to identify the causes of behavioral biases which affect investment decision making; to explore the impact of these behavioral biases on investment decision-making process, to understand the impact of market experience on investment decision making and to find deep insights of investment decisions making through semi structured interviewed of investors. The research questions are; what are the causes of behavioral biases which affect investment decision making? What is the impact of market experience on investment decision making? What is the impact of behavioral bias on investment decision making? The answers of the aforementioned questions will be addressed through interviews. The scope of the study is to explore the causes of individuals' behavioral biases in investment decision-making. To the knowledge of the author, there is no qualitative study available which focuses on causes of individuals' behavioral biases in investment decision-making. This study is an attempt to fill this gap by specifically focusing on five common biases namely specifically home bias, disposition effect, herding bias, confirmation bias and anchoring bias which will serve various research implications.

Literature Review

Behavioral biases and investment decision-making

Conventional finance theories assume that investor's investment decision making choices are based on maximization of risk-adjusted financial returns over a specified time period (Hsu et al., 2021; Williams, 2007). However, individuals sometimes follow some internal standards for decision making; they do not always make decisions based on objective standard (Cummins & Nistico 2002; Din et al., 2021). Individuals' make irrational decisions because their internal standards are influenced by their beliefs and values or cognitive limitations. Investors are affected by psychological biases when they invest because they are not capable to carry out dynamic optimization problems based on conventional finance (Montier, 2002). Therefore, they utilize rules of thumb (heuristics) based on their internal standards to deal with surplus of information which leads to biased behavior (Kisney et al., 2019; Montier, 2002). According to prospect theory, agents utilize value function evaluating risk on the basis of gains and losses, which is convex over losses and concave over gains, and kinked at the origin; and instead of objective probabilities using transformed probabilities by applying a weighting function. Kahneman and Tversky (1979) explained that individual decision making is not based on final outcomes but on potential gains and losses. This phenomenon happens because cognitive biases affect the individual's judgment regarding gains and losses. The focus of this study is on following five common biases that can affect investment decision-making, Home bias, Disposition effect, Herding bias, Anchoring bias, and Confirmation bias.

Home Bias

Home bias is also called equity home bias where individual or institutional investors prefer to buy local securities instead of foreign securities. It is also known as home equity puzzle because the more potential benefits are associated if a portfolio is internationally diversified but investors are inclined towards holding domestic securities (Kumar & Goyal, 2015; Zahera & Bansal, 2019). Initially French and Poterba (1991); Tesar and Werner (1995) examined and found home equity bias in their research studies. Kumar and Goyal (2015) explained possible reasons behind home equity bias can be transaction costs, investment barriers, inflation hedge and exchange rate effect. A lot of research has been done on home bias but there is no conclusive explanation of home bias. Chan, Covrig and Ng (2005) examined home bias utilizing the mutual funds data of 26 countries and found mutual funds allocate larger portion of investment into domestic stocks. [Campbell and Kraussl \(2007\)](#) explained that due to downside risk investors may think globally but act locally.

Barron and Ni (2008) concluded that managers with larger portfolios invest more in foreign securities as compared to managers with small portfolios. Nieuwerburgh and Veldkamp (2009) found that local investors have not opted to invest in foreign securities even after learning about foreign securities and learning amplifies information asymmetry. Strong and Xu (2003) found that the fund managers from the United States, the United Kingdom, continental Europe, and Japan show a significant relative optimism towards their home equity market. Coeurdacier and Rey (2011) also argued that home equity bias is reducing due to factors like globalization, easy access to information and free trade.

Disposition Effect

Disposition effect is one of the major observed behavioral biases in financial markets all around the world. This means that people hold shares with decreasing prices and sell shares when prices are rising (Shefrin & Statman, 1985). This phenomenon has been explained earlier that according to prospect theory agents are risk seeking when changes in wealth is perceived as loss and risk averse in the case of profit (Nigam et al., 2018; Tversky & Kahneman 1992). Researchers argued that the fear of loss and seeking pride cause investors to sell stocks when prices are increasing and regret aversion and hope cause them to hold stocks when prices are decreasing (Cinner, 2018; Odean, 1998; Shefrin & Statman, 1985; Thaler, 1985) Previous research studies have provided mixed results related to disposition effect. Kaustia (2010) checked disposition effect and found that prospect theory has failed to explain the disposition effect. Liu, Tsai, Wang, and Zhu (2010) analyzed all stocks listed on Taiwan stock market using regression analysis and concluded that individuals has taken more risk after morning gains and taken less risk after morning loss. These results show there was no disposition effect. Ben-David and Hirshleifer (2012) utilized US individual investors' data and found no disposition effect. The author argued that trading based on belief revision can possibly explain these findings. Borghesi (2014) utilized the data of bets on NBA games and found that disposition effect among gamblers according to prospect theory. Hibbert, Lawrence and Prakash (2012) compared the data of finance professors and ordinary investor to test the behavioral biases. Cici (2012) study found disposition effect in substantial fraction of their sample size but learning effect reduces the disposition effect over time. Kong, Bai and Wang (2015) utilized mental accounting framework and found that momentum has no relationship with disposition effect. Pahlke, Strasser, and Vieider (2015) documented the effect of responsibility on decision making under risk pursuing experimental strategy and concluded that individual become slightly more inclined towards risk taking under influence of responsibility in case of loss which is consistent with prospect theory.

Herding Bias

Herding is a phenomenon where people make irrational decisions imitating the decisions or judgments of others (Banerjee, 1992). Lux (1995) argued that investor's inability to determine fundamental values can be a reason of herding behavior as the investor has to rely on what can be observed on the market as the only basis for their actions. Kumar and Goyal (2015) reported that individual investors are prone to herding bias because they follow large group or noise traders in investment decision making. Lee, Liu, Roll and Subrahmanyam (2004) argued that individual investors are more affected by herding bias as compared to institutional investors. In recent years herding behavior among stocks market participants has been extensively studied and provided mixed results. Christie and Huang (1995) has found no herding behavior in US stock market. Chang, Cheng and Khorana (2000) found significant evidence of herding behavior in Taiwan and South Korea. Chiang, Lee and Tang (2010) found evidence of herding behavior in Chinese stock market while Demirer and Kutun (2006) found no evidence of herding behavior in studying the same. Chiang and Zheng (2010) found in their study that most of the countries in their study herd around the US market. They utilized the data from 18 countries and found evidence of herding behavior in advanced stock markets (except the US market) and in Asian markets. In European markets, partial evidence of herding behavior is found in Athens stock market (Baker et al., 2018; Tessaromatis & Thomas, 2009). Khan, Hassairi and Viviani (2011) found significant evidence of herding behavior in four European countries namely France, UK, Germany and Italy.

Ganesh, Naresh and Thiyagarajan (2016) found no evidence of herding behavior in Indian stock market. Bhaduri and Mahapatra (2013) found herding behavior effect in Indian stock market. Hammami and Boujelbene (2016) examined herding behavior in the Tunisian stock market and reported that herding behavior is more pronounced during the periods of market boom and bust. Clements, Hurn and Shi (2017) utilized vector autoregressive framework to examine herding effect in US market and found little evidence of herding behavior which is in contrast with those obtained from the traditional methods like regression.

Confirmation Bias

The literature available on behavioral decision making shows that individuals suffer from confirmation bias which is the tendency to assign more weightage to evidence which assure their opinions and less weightage to those which invalidate the views (Shefrin, 2001). According to Evans (1989) the confirmation bias is generally accepted and the best known notion of inferential errors is available on reasoning of humans. According to Raghunathan and Corfman (2006) decision makers are mostly inclined to confirmation bias and downgrade the information which does not match to their beliefs. Behavioral finance literature argues that individual investors stick to their prior beliefs regardless of how much new information is available contrary to their already established beliefs (Ko & Hansch, 2009). Such adherence to already established beliefs becomes more important in online environments (Konana & Balasubramanian, 2005). It is also believed that investors hold very strong attachment with their stocks and their trading decisions because they get a lot of information on Internet (Barber & Odean, 2001). Hence the investors tend to have strong beliefs regarding their trading and future performance of the markets. Schulz-Hardt, Frey, Luthgens and Moscovici (2000) found that groups as well as individuals prefer supporting information and that the strength of this bias depends on the distribution of the group members' initial decision preferences. Jones and Sugden (2001) found Strong evidence of positive confirmation bias, in both information acquisition and information use. Park, Konana, Kumar and Raghunathan (2010) argued that investors would use message boards to seek information that confirms their prior beliefs and investors exhibit confirmation bias when they process information from message boards.

Anchoring Bias

A classic study conducted by Tversky and Kahneman (1974) described anchoring bias as the tendency of a human being to rely on first piece of information which is readily available while making decisions. Many previous researchers found the effects of anchoring i.e. valuation of real estate and task/effort motivation and buying decisions of consumers (Northcraft & Neale, 1987; Wansink, Kent & Hoch, 1998). Moreover, anchoring is also a very strong and powerful force in financial markets and experts may also suffer from anchoring bias (Englich, Mussweiler, & Strack, 2006; Shiller, 1999). It was indicated by researchers that there is still lack of research available on anchoring bias related to financial markets (Cen, Hilary & Wei, 2013). It was proposed that mostly investors are unwilling to bid a high price when a stock price is closer to its highest historical value (George & Hwang, 2004). Moreover, the financial forecasters anchor their predictions of available macroeconomics data i.e. previous values of consumer price index which will lead to sizeable or systematic errors of forecasting. It was also found that corporate acquisitions are even affected by anchoring bias which means that anchoring is a prevalent bias which is still questioned and less explored (Baker, Pan & Wurgler, 2009). Based on the literature review it is evident that behavioral biases especially home bias, disposition effect, herding bias, confirmation bias and anchoring bias are prevalent and affect investor decision making. It is interesting to explore what are the reasons of these biases and why investor behave in a manner which allows these biases to affect his decision making.

Methodology

The study adopted a qualitative research method in order to identify and explore the causes of behavioral biases of stock market investors in Pakistan. The focus of qualitative research is on perceptions, motivations, emotions and values, which in reality are the mechanisms of individuals' behavior in various contexts. It aims

to provide deeper understanding of the situation. The main purpose of qualitative research is to study the underlying perspectives of the phenomenon rather than generating concise results (Creswell, 2009). This study is a generalized qualitative study. Generalized qualitative studies regularly published in top quality journals (Yin, 2010). In-depth semi-structured interviews were carried out to identify and explore the causes of behavioral biases of stock market investors in Pakistan. Since the objective was to investigate individual level constructs in the context of financial investment decisions, in depth interviews were considered as an appropriate tool to understand the context, beliefs and preferences. Further, financial matters are not discussed comfortably in group discussion. Hence, in-depth interviews were considered a useful tool. Semi-structured interview starts with few specific questions and then followed by probing questions to extract details from participant (Blumberg, Cooper, & Schindler 2014). Keeping in view the structure of the interview related to this study starts with few general questions to make the participants comfortable. Interview Guide was prepared for the study and questions were divided into two sections. The first section starts with the introduction of researcher and introduction of participants, followed by few general questions regarding investment of participant in stocks and number of years' experience related to investment in stocks. The second section consists of specific questions related to behavioral biases followed by probing questions. Each question had several open-ended probes that were used to encourage further discussion on the topic but structure was provided by interview guide. With the permission of the interviewees, interviews were recorded and verbatim transcripts are prepared for analysis. All interviewees' were assured that all information would remain confidential. The period of the interviews was from 16 to 30 minutes. Sample size of qualitative study is generally small (Yin, 2016) but it is important to obtain a suitable sample size that would generate enough data (Creswell, 2009). Sample size of this study was 16 semi-structured interviews conducted from individual investor from Islamabad and Rawalpindi. The sampling strategy employed was criterion sampling, where the respondents were searched based on certain criteria. Including the participants based on a certain criteria was critical with regard to the phenomenon the study is trying to explore. To qualify for the interview, the participant was required to be: A regular investor and having at least two years of investment experience. The venue of all interviews was Pakistan Stock Market Islamabad. The author visited Pakistan Stock Market Islamabad and asked for permission from investor for interview as discussed earlier. The background details of the research participants are provided below in Table 1.

Table 1. Interviewees' Background Information

Interviewees	Age	Gender	Experience as Investor (years)	Education
1	47	Male	23	MS (Finance)
2	46	Male	3	MS (General Management)
3	57	Male	7	Intermediate
4	31	Male	3	Bs (Computer Sciences)
5	62	Male	2	Civil Engineering
6	32	Male	8	Graduate
7	37	Male	7	ACMA
8	67	Male	10	Intermediate
9	74	Male	37	Graduate
10	62	Male	5	Masters
11	58	Male	10	Masters in Economics
12	65	Male	37	Masters
13	28	Male	2.5	Master in Project Management
14	38	Male	6	Ms (Finance)
15	42	Male	5	ACCA
16	50	Male	8	Graduate

Content Coding

Data analysis began with the coding and software used for the analysis purpose was Nvivo 10. First and second order codes assigned to data mainly came from literature review. The transcribed interviews were reviewed to get in depth understanding of main topic on interest in the study: causes of individuals' behavioral biases in investment decision-making. Final number of parent nodes was five i.e. home bias, disposition effect, herding bias, confirmation bias and anchoring bias. Second and third order codes (child and grandchild nodes) were formed on the basis of literature but later on minor modifications were done and some new child nodes were generated on the basis of interview results. Every interview was considered as a single source. Coding structure is attached in Appendix.

Findings

Data analysis began with coding and first order codes mainly came from literature. The first order codes include home bias, disposition effect, herding effect, anchoring bias and confirmation bias. The author started relating data with first order codes that addressed the main topic of research. Second order codes are developed from literature but modifications were made based on the interview results. During the stage the author moved back and forth between literature and data analysis to better understand the data and refine the coding scheme. Second order codes related to home bias were “lack of information”, “lack of time” and “good options available in the local market”. Second order codes related to positive disposition effect were “hope”, “average out effect” and “regret aversion”. Second order codes related to negative disposition effect were “fear of loss” and “pride in being right”. Second order codes in favor of herding effect were “better market knowledge” and “low financial literacy”. Second order code against herding effect was “confidence in own skill set”. Second order code in favor of anchoring effect was “trading based on historical similar information” and against anchoring effect was “I want to confirm from other sources”. Second order code in favor of confirmation bias was “tendency to rely on own beliefs” and against confirmation bias was “I want to be sure”. After finalization of the coding structure, each interview was coded. The following section provides the findings related to causes of five biases focused in this study related to individual investor decision making.

Home Bias

Home bias was quite evident from the responses of the participants of the study. There was not a single participant who had invested in foreign securities. The main reasons identified from the responses of participants were lack of information, lack of time and good options available in the market. Table 2 provides the representative quotes related to each second order theme. Majority of participants revealed that they have no knowledge related to foreign securities. One of the participant said that there is high risk involved in investing in foreign securities because brokers who are dealing in foreign securities are not trust worthy. One of the participants when asked about learning about foreign securities investment said “I think so there is no need to learn. If you want to buy car then no need to ask about airplanes. I have no plan to invest in foreign securities so I do not want to learn”.

Disposition Effect

Almost all of the participants hold stocks when prices were decreasing which shows the disposition effect. The reasons to hold the stock in case of decreasing prices identified from the responses of participants were hope, averaging out effect and regret aversion. Investors have different options to buy securities in stock market. Investor can buy securities on margin, with cash and can also short sale securities. If investor is buying securities on cash then there is no extra pressure on investor to sale security in case of decreasing prices. Majority of respondents said that prices of stocks revert back that is the reason they hold securities in case of decreasing prices. Investor also revealed that if they have cash available then they purchase the stocks at lower prices in case of decreasing prices to lower the average purchase price of a specific share. Almost half of the participants said that they hold stocks in case of decreasing prices to avoid regret associated with loss. One of the participant said that it is important to identify the right entry and exit points related to stocks investment, buying or selling share in case of price increase or decrease depends upon the situation. Another

investor hinted about situational decision about selling stock in case of price decrease by saying “I sometimes sale the stock in case of decreasing price and buy again at lower prices”. The representative quotes related to each of the negative disposition effect are provided below in Table 2.

Herding Effect

Herding effect is the tendency for individuals to mimic the actions (rational or irrational) of a larger group. Majority of participants said they follow the market because they believe other people have some information which they do not know. Secondly they have low financial literacy so they cannot make sound investment decision. Participant said they keep an eye on traded volume of a stock. If price of a stock and volume of trade both are increasing then there is a chance of day trading. As mentioned earlier majority on investors are day trader so they follow the market. There are a few participants who said that they do are not financially sophisticated so they follow other investors. One of the participant said that he trust the people who guide him that is why he follow them. The quotes of participants related to herding effect are provided below in Table 2.

Anchoring Bias

Investors act on single source of information which is consistent with their beliefs, thoughts or analysis. It was identified from the responses of participants that almost half of the investors trade on single source of information mainly because similar type of information has performed positively for them. The long term investor usually do their complete analysis before investing in a stock but day traders acts upon news, rumors or tips to get benefit. One of the participant said that he stick to his own methods and beliefs because “we feel less pain when loss is due to our own decision”. One of the investor said that he traded on single source of information only when information is provided by broker because they have better access to latest development in the market. One of the participant said that he act upon single source of information because “There is not a lot of time available to consult and confirm from different sources so we have to act upon news or tips very quickly. The entry point is very important”. One of the investor said decision to act on single source of information depends upon the designation and exposure of the person who is providing you this information. So anchoring bias was prevalent in Pakistani stock investor and quotes of respondents are provided below in Table 2. However, long term investors very carefully select a company for investment. They do not act on single source of information because they want to be sure so they confirm it from different sources like from other investors, analysts' reports and company financial statements.

Confirmation Bias

There are few investors who think that it is always good to stick with your original decision. One reason identified by the investor was less pain is associated with loss if the decision is made by investor based on his beliefs. Majority of Investors reverse their decisions or correct their views about stocks investment after receiving contradictory opinion from other investors or sources. But they have highlighted they only reverse their decision if the other sources justify his views or thoughts. It also depends upon the experience and education of the other source whether investor will give importance to his or her views or not. This investor wants to be sure about their decisions or views so they give weightage to contradictory opinion and check from different sources. Table 2 provided below presents the quotes of participants related to second order theme of study.

Learning from the Market

All the respondents were asked about the change in their decision making due to learning from the market. They have identified few changes in their decision making due to learning from the market. One of the respondent argued that he is considering a lot of factors now while making a decisions as compared to the previous decisions. One of the respondent said that he has become long term investor and does not rely on day trading due to learning from the market. One of the respondent said he has become patient regarding

investment decisions. One of the investor argued that he has learned to diversify the investment portfolio for better return and minimize risk.

Table 2. Participants Quotes Related to Each Second-Order Theme

Second Order Theme	First Order Codes
Home Bias (Supporting Quotes)	
Lack of Information	<p>I do not invest in foreign securities because I have no information about those securities. For example we have good information about gold so we can trade in gold. (R11)</p> <p>I do not know anything about foreign securities till now but I have asked a friend to provide me information about foreign securities. (R2)</p> <p>First of all I have no exposure of foreign market. I have no information or knowledge about international market. (R4)</p>
Lack of Time	<p>You have to spend time to understand a market. You cannot invest in a market without properly following it. I have no knowledge about international securities nor any access or platform to trade. (R11)</p> <p>I have never even thought about foreign investment in stocks. With job it is very difficult to even follow local market. No one has told or guided me about foreign investment. I have no information about foreign securities but even I have then it is not possible to invest due to time shortage. (R13)</p> <p>There are so many options here after consider all this we do not have much time to go and study foreign markets and securities (R6)</p>
Good options in Local market	<p>There are a lot of good opportunities in domestic market so why should we even think about international investing. (R11)</p> <p>There are good shares in local market like oil or gas. These shares have good chances of profit. (R3)</p> <p>Foreign companies do not provide profit like our local companies provide. Investor of foreign securities earns in cents but we earn in rupees. (R5)</p>
Disposition Effect when Prices are decreasing	
Hope	<p>I know the price of stock will recover in a while. Different stock price take different time period to revert back. Some takes 6 months, some takes 2 years but prices will surely revert if a company is making profit. (R1)</p> <p>There is no need to sell it in loss. I am dealing with in my limit instead of working on credit. I bought some stock 2 year ago at the price of 70, it start declining and reached to 42 Rupees, I hold those because I was working on cash. After some time stocks prices started to rise and reached to 80. (R6)</p> <p>Local investors act on “buy and hold” strategy in case of decreasing prices. I hold a stock in hope that price will recover. (R2)</p>

Average out	<p>I always keep cash in hand to buy stocks at lower prices when prices started to decrease. (R10)</p> <p>Some time, I go for dollar base averaging. (R1)</p> <p>I have done at many times to lower the average purchase price. (R4)</p>
Regret Aversion	<p>Regret aversion is also a cause of holding a stock in case of decreasing prices. (R2)</p> <p>No, I am longterm investor. I do not panic because I buy in cash. When you buy in cash then there is no extra pressure on you to sell the stock so you can hold the stock in case of decreasing prices. (R13)</p>
Disposition Effect when prices are Increasing	
Fear of loss	<p>I sell a stock when price is rising because we cannot trust on this market. This market is based on speculation. Small news can bring the prices down. There is always a fear of loss due to highly speculative market. (R2)</p> <p>If the item is good then you can go for long term but if the item is ordinary or average then I sale it on lower profit. Like I was saying to a person that profit is like a thief, you should catch him wherever you find it. (R6)</p> <p>Small news can bring the market down without having any truth in it. The market is very volatile so it is better to sale a stock on small profit instead of selling it on breakeven or loss. (R14)</p>
Pride in being right	<p>Yes I feel pride even if I have made a very small profit and share with my friends that I have earned profit on a specific stock. (R11)</p> <p>It always gives me a sense of achievement and joy upon making profit from a stock. (R14)</p> <p>Yes, it is definitely a reason. I feel very good when I have earned something from a stock decision. I also give me confidence to keep on trading and investing in stocks. (R13)</p>
Herding Effect (Supporting Quotes)	
Better market knowledge	<p>I have good seniors who guide me. They are trustable. They have brought me here (Investment floor). I have earned a lot due to their guidance. Whatever they suggest I act upon it. Obviously there is no reason to not act upon their suggestions. (R4)</p> <p>People who have invested more as compared to me. They are buying and selling a lot of stocks. I follow them because they are making better decisions. (R9)</p> <p>Yes I have two three friends. I have a friend in Karachi and I also get some information from him. If I get some information then I go ahead. (R6)</p>
Low financial literacy	<p>I am relatively new in this market. They have better knowledge than me and I have low financial literacy. I feel safe while following other investors because they are experienced. (R2)</p> <p>I do not have a lot of stocks related knowledge so I follow other friends and colleagues in my investment decision making. (R13)</p> <p>The people I follow have better knowledge and they are more expert than me in stock investment decision. (R4)</p>

Herding Effect (Against Quotes)	
Confidence in own skill set	No, I am not influenced by others. Probably, from last one month I have cash in my account and I made up mind clearly I will not come into the market until unless the decision of Panama Case is announce. Many people are doing business in market but I will not do until unless things get clear and final. (R6) Decision is always mine. I do not believe on tips or rumors. (R11) No, I work according to my experience. I always invest in small amounts. (R5)
Anchoring Bias (Supporting Quotes)	
Trading based on similar/historical information	Yes provided if the previous deal was profitable then I will replicate it again. If the deal involves a loss then I will be less inclined to replicate it. (R1) Yes, I have traded on tips and news a lot of time just because I have earned a lot based on these kinds of tips and news. (R13) Yes, it is quite possible to replicate a transaction if it was profitable in past. (R14)
Anchoring Bias (Against Quotes)	
Confirmation from others	I think an investor should always look at the fundamentals of the company and then decide. (R2) There is always a fear of loss so I do not act on single source of information. I discuss with different sources and then act upon any information. (R4) If company is sound then we somehow believe and invest a little bit but if the company is not sound then I do not invest. Now after this much experience and time I know about companies and their potentials. Usually I know about shares and do my research. (R7)
Confirmation Bias (Supporting Quotes)	
Tendency to rely on own beliefs	I discuss my investment decisions with fellow investors but make decisions at my own. Fellow investors buy shares of their choice and I trade based on my analysis. Everyone has his own liking and choices. (R10) I consult my thinking with other investors but final decision is mostly made by me. I think so it is really easy to forgive our self. So even if a decision is wrong we do not feel so much pain as compared to if the wrong decision is made on someone else suggestion. (R14) I gave them weightage and listen to them. But final decision is mine. (R7)
Confirmation Bias (Against Quotes)	
I want to be sure	I will go through the financial statements of the company in case of contradictory opinion. If someone told me that a company will perform poorly in future. I will confirm from the company is there any specific development. I have talked with financial controller and CFO of companies a few times in which I have invested or my investors have invested to get information. (R1) It depends upon who is talking. If someone with good experience and education justify his point then I give a lot of weightage to his suggestion in my decision (R11) (R7) on accordingly.

Yes I do discuss with other fellows. If they justify than I agree with them and make decisi

Discussion

The analysis of interviews conducted from investor indicates the presence of behavioral biases in Pakistani investor. The study focused on five biases home bias, disposition effect, herding effect, anchoring bias and confirmation bias. The results indicated the strong evidence of home bias in Pakistani context. The results are in line with previous studies (Chan, Covrig, Ng, 2005; [Campbell & Kraussl, 2007](#); [Strong & Xu, 2003](#)). Respondents explained that they are not interested in learning about international securities and one of the respondent said he will not trade in international securities even if learning about the international securities and markets which is consistent with the study of (Nieuwerburgh & Veldkamp, 2009). Our study showed strong home bias effect which is contradictory to results of Akbar, Ali and Shah (2014) study. They found diminishing trend of home equity bias in Pakistani context. The three main reasons identified of home bias in this study were lack of information, lack of time and good options available in Pakistani market for investment. Disposition effect was also evident from analysis of interview data. Pakistani investor hold stocks in case of prices are decreasing and sale when prices are increasing. Previously studies have provided mixed kind of results regarding disposition effect for example Kuo and Chen (2012) found disposition effect in 50 % of the respondents. Ben-David and Hirshleifer (2012) and Kaustia (2010) found no disposition effect in their studies. The main reasons found of disposition effect when prices of stocks were decreasing were hope, average out effect and regret aversion. Investors believed that it is better to hold stocks in case of decreasing prices because prices will revert back and to avoid the regret feeling associated with selling stocks in loss. The main reasons of disposition effect in case of increasing prices found out were fear of loss and pride in being right. There were no specific reasons identified in previous literature about disposition effect so this study adds value in literature by identifying probable reasons of disposition effect. Herding effect was quite evident from the results of interviews. Previous studies provide mixed kind of results related to herding behavior but herding effect is evident in most of the studies like (Bhaduri & Mahapatra, 2013; Bhaduri & Mahapatra, 2013; Chang, Cheng & Khorana, 2000; Chiang, Lee & Tang, 2010; Khan, Hassairi & Viviani, 2011). So results are according to the previous studies. The main reason identified for herding behavior was investor believe other investor have better information which is consistent with the study of (Lux, 1995). The second reason found in the study was low financial literacy which is also according to the study of (Lux, 1995). The investors who have not shown herd behavior argued that they rely on their own skill set / analysis to make decisions about stocks investment. Confirmation bias is the tendency to interpret new evidence as confirmation of one's existing beliefs or theories. Investors discount the information which contradicts with their beliefs when prone to confirmation bias. In this study majority of investors give weightage to the contradictory opinion and change their decisions which shows that Pakistani investors are less prone to confirmation bias which is contradictory to previous studies like (Luthgens & Moscovici, 2000; McMillan & White, 1993; Park, Konana, Kumar, & Raghunathan, 2010). The reasons against confirmation bias identified was that investors wants to be sure about their decision regarding stock investment so they discuss with different sources and then make a rational and informed decision. There are almost 40 % respondents which are affected by confirmation bias and reasons identified was the tendency to rely on own beliefs which is according to the (Ko & Hansch, 2009). The results related to anchoring bias suggest that almost half of the participants are affected by anchoring bias. Previous studies found that anchoring effect is very strong in financial markets like (Englich, Mussweiler, & Strack, 2006; Shiller, 1999). The reason identified related to anchoring bias was investors act on the information if similar type of information has performed positively for the investor. There were half of the investors who do their analysis by incorporating new information and were not affected by the anchoring bias. They argued they want to be sure about their decision so they confirm

Conclusion and Recommendations

The main objective of the study was to identify the causes of individuals' behavioral biases in investment decision-making. The study focused on five biases home bias, disposition effect, herding bias, anchoring bias and conformation bias. Home bias and disposition effect and herding were quite evident from the results. Majority of the investors were affected by confirmation bias and almost half of the investors were subject to anchoring bias. They study has identified causes related to these behavioral biases. The study has also identified the changes in decision making due to learning from the market. The government can make policies to educate investor so that they can make rational and better decisions. Improved financial literacy will also improve the stock market participation of investors.

Limitations of Study

This exploratory research has some limitations. The research has utilized qualitative methodology so analytical generalizations were made. The sample size of the study was small. Further study can be conducted on larger scale of individual investor that would give support to present study findings. The list of biases resulting from this study is not exhaustive so more biases can be added to future study. In addition, the data collected from Pakistani investors, further studies can be conducted across other countries to provide comparative assessments of the behavioral biases. This study only collected data from Islamabad stock exchange and all respondents were males. Since the scope of this study was qualitative, future studies may be conducted on quantitative and empirical testing of biases on buying of financial products with a large sample size comprised of males and females from stock exchanges.

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Workplace deviance & Predictors of Workplace deviance: A Systematic Review of Literature

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Abstract

This study examines recent conceptual advances in workplace deviance constructs through a systematic literature review (SLR). This study also focuses on particular types of deviant behavior at work which have been studied more frequently since last seven years and whether they include interpersonal or organizational forms of workplace deviance. The study also investigated mediating and moderating variables of workplace deviance. An SLR included Scopus and Web of Science database articles published between 2015 and 2022. This evidence suggests that interpersonal forms of deviant work behavior, rather than organizational forms, have received more attention in recent studies. In terms of antecedents, the findings indicate that personality factors remain prevalent. The study has both theoretical and practical limitations.

Keywords: Workplace deviance, Systematic Review

Introduction

One of the most pressing issues firms confront today is the failure of employees to carry out their responsibilities (Bennett & Robinson, 2003; Henle, 2005). All levels of a firm are affected by the negative behavior of its employees (Coccia, 1998). In the eyes of many, employee deviant conduct occurs when an employee defies the rules or policies of the firm or its employees (Christian & Ellis, 2011; Robinson & Bennett, 1995). Harmful or destructive behavior harms both the firm and its people, whereas positive behavior boosts efficiency and improves the quality of work. As in the case of unproductive or deviant behaviors that increase expenses and limit organizational growth, organizations must counteract, manage, and minimize these behaviors (Huang et al., 2017). Deviance in the workplace can take many forms, ranging from the seemingly insignificant (such as being late to work or leaving trash on the ground) to the downright criminal (such as fraud or theft). An example of interpersonal workplace deviance might be a coworker disparaging another employee. However, activities that harm the organization as a whole constitute organizational workplace deviance (Bennett & Robinson, 2000). As Dunlop and Lee (2004); Sackett (2002) and others have found, it lowers task performance, harms team performance, increases coworkers' stress levels, and makes them less productive (Cortina, Magley, Williams, & Langhout, 2001). Therefore, Henle et al. (2005) estimate that workplace deviance costs money, although this estimate might not even be a good one because these actions are typically hidden. The high costs of workplace deviation have prompted research and practice in workplace deviance prevention and prediction. However, even though earlier meta-analyses of the association between personality and work place deviance have made significant progress, a meta-analysis that solely looks at personality as a predictor of workplace deviance would be highly helpful. Many unsolved issues are still concerning these relationships, making this even more critical. As a first step, earlier meta-analyses (Berry et al., 2012; Salgado, 2002) looked at only a small number of effect sizes. They also discovered that the effect sizes of various Big Five (B5) and Five-Factor Model of Personality (FFM) scales varied widely. The HEXACO personality domain scales have been used to predict workplace misbehavior in several primary studies, such as Chirumbolo (2015) and Louw, Dunlop, Yeo, and Griffin (2016). However, no previous meta-analyses of workplace deviation have incorporated the HEXACO personality domain

measures. Many believe that negative behavior might be beneficial. According to Warren (2003) and Appelbaum et al. (2007), negative deviance can benefit society. The term "workplace deviance" refers to an employee's intentional attempt to deviate from organizational norms. In this kind of deviance, the organization can be saved from failure by taking steps like disagreeing when it is essential, minimizing extremism, blowing the whistle, and engaging in productive disobedience. Organizations benefit from "constructive deviance" in management research, according to Galperin (2012). According to Mainemelis (2010), this is what she said. Creativity, according to him, is a process that brings to make new products, services, or technologies. He also asserted that deviating creatively forces one to discard previous thoughts instead of fresh ones.

Workplace Deviance

First, defining deviance and how it has been characterized in the literature is critical before discussing deviant workplace behavior. Deviated means "to depart from the customary course of action or standards," according to the Oxford Dictionary. As stated in the literature, workplace deviance is a "voluntary activity that breaches significant organizational standards and adversely impacts the well-being of the organization or its employees or both" (Robinson & Bennett, 1995). Deviance in the workplace, the workplace as a whole, workplace as an individual have been examined. For purposes of this definition, employee deviation means any conduct that is not following the company's stated policies or norms (Jones, 1980). Leo and Russell-Bennett (2014); Singh and Kishore (2014). There are two types of deviance at workplace: OD (organizational deviance) and ID (interpersonal deviance at workplace) (Bennett & Robinson, 2000). For researchers and practitioners, predicting and mitigating workplace deviations is a major focus area, especially regarding hiring (Ones, Dilchert, Viswesvaran, & Judge, 2007). The business's environment can influence deviant conduct in the workplace. Researchers and practitioners are concerned with predicting and preventing workplace deviance, particularly in job selection (Ones, Dilchert, Viswesvaran, & Judge, 2007). For example, personality differences (Hastings & O'Neill, 2009) may lead to deviant workplace conduct. Individual characteristics such as age, gender, and work experience have been investigated as probable predictors of deviance at workplace, but personality may be the most significant (Berry et al., 2012; Ng, Lam, & Feldman, 2016). The business or an individual can be the target of these bizarre behaviors (Bennett & Robinson, 2000). Deviant behavior in the workplace can contribute to low morale and stress, leading to little self-esteem and lack of self-confidence, as well as increased anxiety and even mental health problems (O'Leary-Kelly, Griffin, and Glew, 1996). Deviance in the workplace can take two fundamental forms: positive and negative. These behaviors were previously viewed as opposite sides of coin while observing at each outcome independently, either good or bad behavior (Vardi & Weitz, 2004; Peterson, 2002; Tobin, 2000). According to (Appelbaum et al., 2007). A variety of names are used in describing undesirable behaviors, including antisocial conduct (Giacolone & Greenberg, 1997), unproductive behavior (Sackett & DeVore, 2001), and misbehavior (Vardi & Weitz, 2004). Classifying all of these activities as directed toward the organization or people is possible. Disturbing deviant behavior is the topic of this paper because of the confluence of these behaviors (Robinson & Bennett, 1995). Prosocial and extra-role behaviors can also predict positive conduct (Brief & Motowildo, 1986). As cited in (1966) by Katz and Khan that, the bulk of these behaviors is taken into account because they fall under the umbrella of "constructive deviant activity" (Galperine, 2002). Research on deviant behavior has concentrated mostly on the outcomes of either destructive or constructive behavior, with few studies looking into the origins of both constructive and destructive behavior in organizations. While developing typologies, Robinson and Bennett (1995) discovered four distinct types of deviant behavior in the workplace, including those directed towards both organizations and individuals. The four categories are production deviance, property deviance, political deviance, and individual violence. There are five sorts of DWBs: misuse, production deviance, sabotage, theft, and withdrawal, according to an article published in 2013. Tormenting or injuring employees physically or psychologically with threats or insulting statements constitutes a kind of personal aggression and abuse. Delaying work, squandering resources, and intentionally underperforming are examples of production deviance. Equipment sabotage, destruction, and theft are all examples of property deviation. Employer

property and equipment, cash, and delaying work for overtime are all considered theft. Work restrictions and deferrals are the final withdrawal behaviors. Excessive or longer breaks are instances of this behavior, as are tardiness, early departure, and other forms of non-showing up. Management or authorities need the help of support personnel to maintain and improve the quality of services in their communities. To help public sector organizations achieve their goals more effectively, efficiently, economically, and morally, it can provide high-quality services to the public. However, Malaysian media has extensively reported that public sector support personnel are engaged in erratic behavior (Abdul Rahman, 2008; Awanis, 2006). Workplace deviance, such as drug misuse and corruption, has become a big problem among support staff (Abdul Rahman, 2008). Workplace misbehavior has also been linked to job happiness. Dissatisfied workers may engage in deviant behavior more than their more satisfied counterparts.

Table # 1: Workplace Deviance Studies

Sr	Author	Antecedents	Moderators	Mediators	Level of Analysis
1	O'Connor P.J., Stone S., Walker B.R., Jackson C.J.,(2017)	Workplace Deviance			Individual Level
2	Yi Li, Dacheng Li and Nana Li,(2019)	workplace deviance	Employee psychological work maturity		Individual Level
3	Ellende Jong · Wim Bernasco, Marre Lammers,(2019)	workplace deviance			Individual Level
4	Aniruddha Bagchi and Siddhartha Bandyopadhyay, (2015)	workplace deviance			Individual Level
5	Dr. Norashikin Mahmud, Muhammad Asim Faheem, (2015)	workplace deviance			Individual Level
6	Farhadi, H. , Fatimah, O. , Nasir, R. & Wan Shahrazad, W.S., (2012)	workplace deviance			Individual Level
7	Sharron M. Graves, Stephen F., (2006)	workplace deviance			Individual Level
8	Canan Baysala, Fulya Mýsyrdalý Yangilb and ³erafettin Sevimb, (2020)	workplace deviance	demographic attributes		Group Level
9	Sainath Malisetty1 and K. Vasanthi Kumari2, (2016)	workplace deviance	Work-family conflict	work family policies	Individual Level
10	Fiori M.,Krings F., Kleinlogel E., Reich T., (2016)	workplace deviance		experimental mediation	Individual Level
11	Malisetty S.,Vasanthi Kumari K., (2016)	workplace deviance	work-family policies	Job satisfaction	Individual Level

12	Faheem M.A., Mahmud N.,(2015)	workplace deviance		Individual Level
13	Nair, Nisha,and Deepti Bhatnagar,(2011)	workplace deviance		Individual Level
14	Abbasi A., Ismail W.K.W., Baradari F., Zureigat Q.,Abdullah F.Z., (2022)	workplace deviance	Job Satisfaction	Group Level
15	Brougham P.L., Uttley C.M., (2017)	social deviance	risk	Individual Level
16	Sethi V., Sternin M., Sharma D., Bhanot A., Mebrahtu S.,(2017)	positive deviance		Individual Level
17	Mertens W., Recker J., Kohlborn T., Kummer T.-F., (2016)	positive deviance	Moral violation, Internal attribution	Group Level
18	Kenneth S.Kendler, John Myers,Danielle Dick, (2015)	Peer group deviance		Group Level
19	Hong J.S., Kim D.H., Piquero A.R., (2017)	Peer group deviance	Socially withdrawn behavior, Deviant peer affiliation	Individual Level
20	Lo Iacono J., Weaven S.K.,Griffin D., (2016)	organizational deviance	customer orientation	Individual Level
21	Rahim, A. R. A., & Nasurdin, A. M. , (2008)	interpersonal deviant behavior	locus of control;	Individual Level
22	Kevin S. Cruza and Jonathan Pintob, (2019)	groups deviance	Action identification	Group Level
23	Patricia L. Brougham, ID and Clarissa M. Uttley, (2017)	groups deviance		Individual Level
24	Levine J.M., Marques J.M., (2016)	groups deviance		Group Level

19	Hong J.S., Kim D.H., Piquero A.R., (2017)	Peer group deviance	Socially withdrawn behavior, Deviant peer affiliation	Individual Level
25	Kalemci, R. Arzu, Ipek Kalemci - Tuzun, and Ela Ozkan - Canbolat. , (2019)	Employee deviant behavior		Individual Level
26	Sanda RASIC JELAVIC and Marta GLAMUZINA,(2021)	Deviant Workplace Behavior		Individual Level
27	Gatzweiler A., Blazevic V., Piller F.T., (2017)	deviant content		Individual Level
28	Dootson P., Lings I., Beatson A., Johnston K.A., (2017)	deviant consumer behavior		Individual Level
29	Dootson P., Johnston K.A., Beatson A., Lings I., (2016)	deviant Consumer behavior		Individual Level
30	ROBERTA ROSA , GIUSEPPE MADONNA, (2020)	deviance		Individual Level
31	Peters K., Jetten J., Radova D., Austin K., (2017)	deviance	Gossip	Individual Level
32	Kelly B.C., Harris E., Vuolo M., (2017)	deviance		Individual Level
33	Briggs D., Ellis A., (2017)	Deviance		Individual Level
34	Mortimer G., Wang S., (2022)	Customer oriented deviance	tenure	Individual Level
35	Mertens W., Recker J., Kummer T. - F., Kohlborn T., Viaene S., (2016)	Constructive deviance & Workplace deviance	Psychological empowerment	Individual Level

Workplace Deviance and Outcome Variables

As revealed by the literature review, employees' organizational and personal beliefs and their behavior toward the organization are independent variables (Demir, Demir, & Nield, 2015) Organizational. Individual, organizational decisions and values are thought to support the development of personal habits and attitudes. According to researchers (Farhadi & Fatimah, 2015), aberrant behavior reflects an individual's personality, and consistent individual traits may be used to anticipate negative behavior. According to planned behavior theory, which predicts deviant behavior in the workplace, the function of behavior can be explained by individual variations. "Voluntary action that breaches significant organizational norms, rules, and the well-being of an organization" is how (Faheem, 2015) defines workplace deviance. Practitioners assert a connection between the behavior's rising prevalence in the workplace and its astronomical cost (Sun & Chen, 2017). Fiset (2017) claim that citizenship work behaviors and unproductive work behaviors are two separate concepts that do not share the same behavior. workplace misbehavior by employees. The main method for determining whether or not social norms are being observed is to use behavioral values and norms. According to the socialization process, deviance and adherence to social rules are the results. People's attitudes, beliefs, and ideas shift in response to new information. There are many different types of deviant and human behavior, including committed, episodic, and compulsive conduct (Herranz de Rafael & Fernandez-Prados, 2018). Thus, deviant behavior is actions that violate social norms, including implicit and overt societal expectations and rules. Previous research suggests that various forms of abnormal workplace behavior significantly influence and are connected to corporate culture. By applying the idea of deviance as a behavior that violates acknowledged organizational standards, they created a typology of deviant workplace behaviors using multidimensional scaling approaches. Ana A. Aleksic (2019). (Ali Ozturen *et al. 2019) contend that member satisfaction in an organization need not always be a factor in deviant behavior. Employees behave irresponsibly and are frequently absent from work, which drives them out of the company. An organization's deviant behavior can be extremely hostile and harmful to its development and profitability. In 2019, Magdaline Enow Mbi Tarkang Maryl, According to the (COR) theory, persons under much stress tend to use less energy and effort overall. According to Krischer et al. (2020), deviant and withdrawing conduct results in the loss of resources for individuals or employees of the company, and the loss of resources results in stress at work for employees. Stress at work causes employees to behave negatively and against the laws and regulations of the company. The goal of the behavioral attachment system in one's environment, according to attachment theory, is to protect against potential dangers. Employees can change or display aberrant behavior at any time while working (Luke, 2020). Activities may go against organizational policies and legal requirements when only youth are involved. Claims measure the deviation in two ways (Christian & Ellis, 2011). A formal record serves as the first, and self-discovery serves as the second. (Haldorai, 2020) found that customers' hostile attitudes and behaviors in front of employees serve as motivation for criminal behavior. Customer happiness, which in turn affects customer loyalty, is significantly impacted by employee deviation. Chenhong Hu et al. (2020) developed the idea of deviant behavior and identified a certain type of deviant behavior that can benefit and advance organizational personnel. The practice has a twofold impact: on the one hand, it is moral and extremely beneficial to the organization; on the other, it is viewed as unethical conduct and modifies all of the organization's norms and values. Communities may discover and use the knowledge they already have by using positive deviance as a social transformation strategy. By locating and promoting community-derived, diffused, and owned solutions, the positive deviance strategy seeks to achieve long-term behavioral and societal change. Workplace deviance is any behavior that modifies the norms and values of a governing society and its members. Deviant behavior at work contravenes organizational rules and is tolerated by a group of people or a single person (Fagbenro & Ola-supu, 2020). According to recent studies, deviant workplace conduct has become a significant problem (Alhasnawi, 2021). It has both advantageous and detrimental effects. According to social learning theory, employees learn from one another through observation and conduct. It illustrates how rumors influence workplace behavior and how negative and positive conversations improve listeners' learning ability (Zhu, 2022).

Mediators and Moderators in Antecedents–Workforce Deviance Behavior Relationships

It was discovered that there is a negative correlation between interpersonal deviance and team focus. The level of action identification that team members possess can act as a mediator in the relationship between the three factors of team focus, interpersonal deviance, and organizational deviance. Castro & Pinto (2019), after investigating the relationship between tenure and employee dishonesty, the researchers discovered that long-tenured workers have a significantly lower likelihood of committing consumer-related crimes than those with shorter employment histories. Employees with short tenures and those with long tenures showed significantly different consumer-oriented deviance behavior, according to Mortimer and Wang (2021). Organizational justice and workplace deviance are strongly related to one another. The detrimental effects of organizational justice on workplace misconduct have been the subject of numerous studies. Abbasi, et al. (2022) found a link between abnormal behavior and workplace gossip. The incidence of deviant behavior can be reduced, and its control can be achieved by engaging in gossip, it has been discovered. Peters, et al. (2017), one of the ways constructive deviance can assist a company in enhancing overall performance is by using it as a strategic tool to enhance organizational performance. Mertens, et al. (2016). Interpersonal deviance and trust in organizations are directly correlated, but production and property deviance are not. On the other hand, production and property deviation is directly correlated with a lack of trust in organizations. Further investigation revealed that the relationship between organizational trust and abnormal behavior at work was moderated by the degree of local control. Rahim and Nasurdin (2008) shows an inverse relationship between work-family conflict and workplace well-being and a direct link between work-family conflict and inappropriate workplace behavior. Studies examine the role of emotional exhortation as a moderator in the relationship between work-family conflict and workplace deviance or employee well-being. Chen et al. (2020) political activities impact interpersonal deviation. Political activity increases interpersonal deviance in proportion to its intensity Xiu et al. (2022). It was discovered that there is a direct correlation between narcissistic leadership and workplace deviance. The parties in this relationship were brought together by the organizational aggression (Abbas & Alhasnawi, 2021).

Table # 2: Workplace Deviance & Moderating variables Studies

Sr	Author	Antecedents	Moderators	Mediators	Level of Analysis
1	Yi Li, Dacheng Li and Nana Li,(2019)	workplace deviance	Employee psychological work maturity		Individual-level
2	Mortimer G., Wang S.,(2022)	Customer-oriented deviance	tenure		Individual-level
3	Canan Baysala, Fulya Mýsyrdalý Yangilb and ^a erafettin Sevimb,(2020)	workplace deviance	demographic attributes		Individual-level
4	Sainath Malisetty and K. Vasanthi Kumari,(2016)	workplace deviance	Work-family conflict	Work-family Policies	Individual-level
5	Lo Iacono J., Weaven S.K., Griffin D.,(2016)	organizational deviance	customer orientation		Individual Level
6	Malisetty S.,Vasanthi Kumari K.,(2016)	workplace deviance	Use of work family policies, Number work family policies	Job satisfaction	Organization Level

7	Rahim, A. R. A., & Nasurdin, A. M.,(2008)	interpersonal deviant behavior	locus of control;		Organization Level
8	Liu L., Wan Z., Lin Y., Wang X.,(2022)	Deviant Behavior	Moral Identity	Organizational Identification	Organization Level
9	Xiu J., Zheng J., Li Z., Zhang Z.,(2022)	Interpersonal Deviance	Chronic Job Strain, Moral Self-Efficacy	Job strain	Individual-level
10	Kruglanski A.W., Jasko K., Chernikova M., Dugas M., Webber D.,(2017)	Deviance	Ability, Social Network, and narrative		Individual level

Table # 3: Workplace Deviance & Mediating variables Studies

Sr	Author	Antecedents	Moderators	Mediators	Level of Analysis
1	Mertens W., Recker J., Kummer T.-F., Kohlborn T., Viaene S.,(2016)	positive deviance		Team member level of action identification	Group level
2	Malisetty S.,Vasanthi Kumari K.,(2016)	Workplace Deviance		Job Satisfaction	Employees from NGOs
3	Yan Chen 1,2, Feilian Zhang 1 , Yan Wang 3 and Junwei Zheng 4,(2020)	Workplace Deviance		Gossip	Individual students
4	Tingting Liu 1 , Yahui Chen 2 , Chenhong Hu1 , Xiao Yuan 1 , Chang E Liu 3,* and Wei He 4,(2020)	social deviance		risk	employed in academia and accustomed to the use of technology
5	Yun Hyeok Choi, Jae Kyu Myung and Jong Dae Kim,(2018)	Workplace Deviance	Work-family conflict	i-Presence of work-family Policiesii-Use of Work-family policies	Individuals
6	Yun Hyeok Choi, Jae Kyu Myung and Jong Dae Kim,(2018)	Workplace Deviance		experimental mediation	Individual Level
7	Zhu Q.,Martinescu E., Beersma B., Wei F.,(2022)	Positive Deviance		Moral violation, Internal attribution	

8	Liu L., Wan Z., Lin Y., Wang X.,(2022)	Constructive deviance		Psychological empowerment	
9	Xiu J., Zheng J., Li Z., Zhang Z.,(2022)	Workplace Deviance	Use of work family policies, Number work family policies	Job satisfaction	Organization Level
10	Alhasnawi H.H., Abbas A.A.,(2021)	Workplace Deviance		emotional exhaustion	Individual - level
11	Haldorai, K., Kim, W. G., Chang, H. S., & Li, J. J,(2020)	Constructive deviance		moral justification	Group level
12	Ifinedo, P.,(2017)	Employee Deviance		Anomie	Group level
13	Reisel, W. D., Probst, T. M., Chia, S. L., Maloles, C. M., & König, C.J.,(2010)	Interpersonal deviance		Vicarious learning	

Methodology

A thorough search of the published literature was conducted utilizing SCOPUS and Google Scholar. The search terms for relevant publications were workplace deviance and deviant work behavior. After removing duplicates, it was discovered that there were a total of 400 scientific articles. While reviewing earlier meta-analyses on workplace deviance and other characteristics, nine new scientific studies were located. Furthermore, several authors were approached and asked for additional material or papers on the issue, creating seven new publications. As a result, considering the time constraints and restricted access to the publications, The Scientific Journal published 86 articles. Every item underwent a thorough examination.

Discussion & Conclusion

This SLR was done to map recent conceptual changes in the following areas, counterproductive work behavior and studies in the last ten years and recent studies looking at workplace deviance. Also, we tried to cover all of the research that had already been done on the personality traits that can be used to predict these kinds of behaviors. Three main types of questions can be asked when looking into the causes of bad behavior. New methods are being developed that consider how a person's social and organizational situation might affect their lousy behavior. These new ways of doing things consider how these situations might affect a person. O'Boyle et al. (2011); Faldetta (2020); and Tepper et al. (2017), are focusing on the role of the leader, not just because they are the ones who are responsible for wrong or abusive leadership, but also because they are the ones who set the tone and decide what is acceptable, rewarded, or punished. More and more people are interested in this subject. The focus is on observed instances of deviance: bystanders see how leaders and members of the organization make decisions, and the deviance indirectly hurts them because they feel like they are being maltreated (Dhanani & LaPalme, 2019; Schilpzand et al., 2016). The multilevel effects of a person's bad behavior are only one part of this approach, which is moving toward a more in-depth look at teams and organizations' lousy behavior (Carpenter et al., 2020). Third, even though this discussion covers a wide range of destructive behaviors, it seems that most of the things that lead to destructive behavior are the

behaviors, it seems that most of the things that lead to destructive behavior are the same. As more research is done on the wrong things about deviant behavior, the good things are being shut down. Even though the good things about deviant behavior are much more likely to bring about change in companies and the people who work there, this is still the case. Organizations would do well to use this framework to figure out how the climate and culture of the organization play a key role in explaining the link between how employees act and how the organization works. It would be helpful for businesses. With the help of the framework, this could be done. People are more likely to do constructive deviance than destructive deviance if they think their environments are encouraging, rewarding, warm, structured, and free of risks. It is because there is a strong link between climate and these kinds of deviations. Furthermore, culture would have an even more significant effect on these results, with collectivists doing more constructive deviance and less destructive deviance than others (Triandis et al., 1985). These results make it possible to start a new line of research into why people do bad things when they think their organization supports and rewards them, and they can get away with anything because of their relationship with the organization and their superiors. People will do bad things if they think their boss supports and rewards them for their work. People would also be less likely to do constructive deviance. It is because group norms are essential in modern businesses, which is why culture is so influential. Culture is important because it makes people less likely to do things that are good for them. Because of this, the research would add to what is already known about deviant behavior and cross-cultural management by figuring out how climate and deviant behavior affect each other while considering different cultural norms. Because of this, management may find it easier to change the workers' negative attitudes and set up conditions that encourage good behavior. In the future, research can be done to find the overall result of people's bad behavior at work by taking into account their personality traits and the situations in which they live.

Future Research

Some academics recently offered new perspectives on workplace incivility. It is significant for future research directions because some academics have recently opened the way. Kabat-Farr et al. (2020) suggest that workplace incivility may target devalued or stigmatized groups. Ingroup and outgroup processes, gender composition, power and status, and cyber situations can mistreat individuals.

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Consumer Behaviour towards Social Media under COVID-19: A Multi-Study Evidence from Pakistan

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Abstract

The purpose of the study is to investigate the underlying mechanism between the relationship of consumers' beliefs (in terms of credibility, invasiveness, and infotainment), behavioral intentions [in terms of electronic word of mouth (e-WOM) and purchase intentions] and resilience towards negative information (RNI). We propose that these relationships are sequentially mediated by consumers' perceived social media advertising value (PSMAV) and their attitudes towards social media advertising (CATSMA). We report the results based on two studies. For study 1 (pre- COVID-19), we draw on survey evidence from 673 active users of social media (comprising of students & professionals) in Pakistan. For study 2 (post COVID-19), we draw on a usable sample of 263 respondents of similar demographics. Data are analyzed using variance-based structural equation modeling. Results of study 1 reveal that the relationships of infotainment and credibility with behavioral intentions are positive and partially mediated by the sequence of PSMAV and CATSMA. However, the relationship between invasiveness and behavioral intentions is negative and fully mediated by the sequence of PSMAV and CATSMA. For study 2, for both infotainment and credibility; PSMAV and CATSMA sequentially mediate the relationship between these belief constructs and RNI. For invasiveness, this sequential mediation remains ineffective. Consumer attitudes also show a positive linkage with RNI. This paper extends the extant literature by showing how (in a social media advertising context) consumers' beliefs relate to consumers' behavioral intentions and how positive attitudes formulate a higher RNI. Furthermore, we advance the literature by drawing on evidence from an under-researched context of Pakistan that has experienced dynamic changes during the pandemic era.

Keywords: – Consumer beliefs; Social media advertising; Consumer attitudes; Behavioral intentions; Resilience Towards Negative Information.

Introduction

The importance of online social media platforms has enhanced as a vital component of the businesses' integrated marketing communication programs (Mangold & Faulds, 2009; McCarthy, Rowley, Jane Ashworth, & Pioch, 2014). This has become even more evident during the COVID-19 pandemic as firms are shifting towards contactless economy. Human interactions are now coined by adhering to the standard operating procedures of social distancing, sanitizing, and consuming a healthy diet (Gursoy & Chi, 2020). These platforms are a source of online information created and used by consumers to educate other consumers regarding the products and brands (Blackshaw & Nazzaro, 2006). It involves social networking sites (SNS) such as Facebook (Houghton, Pressey, & Istanbuluoglu, 2020; Malik, Dhir, & Nieminen, 2016), video sharing sites such as YouTube (Khan, 2017); photo sharing on Instagram and Flickr (Serafinelli, 2017), business networking on LinkedIn (Davis, Wolff, Forret, & Sullivan, 2020), online community blogs

(Mangold and Faulds, 2009), e-commerce platforms such as Alibaba and Amazon (Wu & Gereffi, 2018), etc. Given the importance, literature suggests that marketers are continuously looking for the criteria to evaluate how effective their promotions are and how consumers respond to the company advertisements (Li, Huang, & Christianson, 2017; Wells, 2014), particularly about social media advertising (Kohli, Suri, & Kapoor, 2015; VanMeter, Grisaffe, & Chonko, 2015). Previous research suggests some crucial determinants of advertising effectiveness and value, such as the consumers' attitudes towards social media advertising (CATSMA) (Boateng & Okoe, 2015; Chu, Kamal, & Kim, 2013; Lee & Hong, 2016), and their behavioral intentions (Knoll, 2015; Rodgers & Thorson, 2000). Likewise, consumers' perceived values generated by advertising are important for social media advertising effectiveness (Knopper, 1993; Liu, Sinkovics, Pezderka, & Haghirian, 2012). However, despite some studies conducted on social media advertising (Celebi, 2015; Knoll, 2015; Mao & Zhang, 2017), the research phenomena of social media advertising effectiveness and consumer attitudes need more research attention (Hew, Lee, Ooi, & Lin, 2016). A key challenge here is understanding the underlying mechanism of consumers' attitudes and behaviors towards social media advertising (Dao, Le, Cheng, & Chen, 2014; Zhang & Mao, 2016). Existing research has mainly looked at the opportunities, challenges & implications of social media advertising (Bolton, Parasuraman, Hoefnagels, Migchels, Kabadayi, Gruber, Loureiro, & Solnet, 2013) while ignoring how consumers respond to social media advertising. For example, there is limited or no focus on electronic word of mouth (e-WOM), which reflects how consumers develop attitudes towards advertisements and brands through their likes, comments, and posts over the social networks (Nevarez & Torres, 2015). Further, due to the shift towards limited human interaction in COVID-19, consumers have increased their dependency on e-commerce transactions, where social networking platforms have gained more momentum (Tsao et al., 2021). In the same manner, as the digital bond of the consumers has strengthened with their associated brands, their resilience towards negative information (RNI) has also skyrocketed. As the virtual exposure of the brands has exponentially risen during the COVID-19 crises, the ability of consumers to stand for their brands in these testing times simply cannot be ignored (Bezbaruah & Trivedi, 2020). To this end, we examine the phenomena of consumers' beliefs and their behavioral intentions by proposing a model based on a two-study examination. For study 1 (pre-COVID), we argue that consumers' beliefs such as credibility, invasiveness, and infotainment are vital determinants of the consumers' perceived social media advertising value (PSMAV). This PSMAV determines the consumers' attitudes towards social media advertising (CATSMA), which then leads to the development of consumers' behavioral intentions regarding social media advertising. We draw on survey evidence from 673 active users of social media (comprising college and university-level students as well as professionals) in Pakistan. For study 2 (post COVID-19), we again draw survey evidence from 263 usable responses by an additional variable: resilience towards negative information (RNI). Data for both the studies are analyzed using variance-based structural equation modeling through Smart PLS 3 (Ringle, Wende, & Becker, 2015b).

Theory And Conceptual Development

Theory Of Reasoned Action

This study is grounded in The Theory of Reasoned Action (TRA; Fishbein and Ajzen, 1975). TRA emerged due to a focus on attitudes and its ability of understanding and predicting human behavior (Ajzen and Fishbein, 1980). As a research model, TRA has been implemented in various domains to understand human beliefs, attitudes, and behaviors. For example, TRA and the related Theory of Planned Behavior (TPB) have been applied in the context of learning (Ramayah, 2020); public computing in libraries (DeMaagd, et al., 2013); eco-conscious consumer behavior in Pakistan (Hameed, Waris & Haq, 2019); information literacy and recognizing misinformation (Khan & Idris, 2019); adoption of hybrid electric cars (Alzahrani, Hall-Phillips, & Zeng, 2019); sports viewership (Xiao, 2020); and attitudes towards entrepreneurial activities (Zulfiqar, Sarwar, Aziz, Chandia, & Khan, 2019). Based on this ground, we adapt the TRA model to focus on beliefs, attitudes, and intentions to guide our understanding of social media advertising in Pakistan. TRA is amongst the most frequently utilized socio-behavioral theories based on the two underlying assumptions. Firstly,

human beings are rational decision makers and the consequences of any form of action are duly considered before engaging in any form of behavior (Fishbein & Middlestadt, 1989). This theory comprises of attitudes, social influence and intention variables. The factor of intention is regarded as the best form of behavior which is determined by attitudes (personal) and subjective norms (social pressure) (Ajzen & Fishbein, 1980). TRA has been effectively applied for predicting consumers' evaluative criterias, specifically the emerging social media behavior's (Arapaci, 2020; Zhao, Lee, & Copeland, 2019).

Consumer Beliefs and Social Media Advertising Value Based on TRA

Fishbein and Ajzen (1975) argue that individual behaviors and attitudes are a result of the beliefs. Therefore, understanding and evaluating consumers' beliefs about products/brands are essential as they suggest the consumers' likely attitudes and behaviors (such as purchase intentions) towards the product/brand (Durvasula, Mehta, Andrewst, & Lysonski, 1997). It is well established that consumers' beliefs about advertising influence their attitudes towards advertising (Bauer & Greyser, 1968). Beliefs help marketers understand the effectiveness of their advertising and the value of their advertising (Mehta, 2000; Van-Tien Dao et al., 2014). Consumers perceive advertisements from several aspects. Ducoffe (1995) identified three determinants of consumers' value: (i) Informativeness; (ii) Irritation; and (iii) Entertainment, which reflect the consumer's beliefs (Liu et al., 2012; Wolin, Korgaonkar, & Lund, 2002). These dimensions have been used in a variety of ways in later research. Information and entertainment can be viewed as a single broader construct and referred to as “infotainment” (Okazaki, 2004; Wang & Sun, 2010). The infotainment (i.e., information and entertainment) aspect concerning advertising reflects the consumers' belief in terms of how instructive, educational and informative, and how pleasurable and joyful the advertisement is for the consumer (Pollay & Mittal, 1993; Wang & Sun, 2010). An advertisement can be educational, informative as well as carry emotions, appeal, likeability, and amusement (Greyser & Bauer, 1966; Pollay & Mittal, 1993; Pyun & James, 2011). Advertisements can also be annoying, irritating, or invasive for the consumers (Korgaonkar & Wolin, 1999; Liu et al., 2012; Taylor et al., 2011), as they may be perceived as offensive, insulting, manipulative, and false in terms of their claims (Amyx & Lumpkin, 2016; Ducoffe, 1995). Ducoffe (1995) termed this as irritation, which we are referring to as “invasiveness” (Korgaonkar & Wolin, 1999; Liu et al., 2012). Liu et al. (2012) observe a negative relationship of irritation with regard to the value of mobile advertising and suggest that consumers develop negative perceptions towards mobile advertising messages, which are incomprehensible and unwanted. In the context of social media advertising, research suggests that consumers do not click or view advertisements where they believe the advertisement is irrelevant or negative or where they are cynical about the advertising claim (Broer, 2022; Niu, Wang, & Liu, 2021) Given the increasing number of businesses and competition, consumers are now increasingly concerned about their privacy and whether they can trust the marketer with regard to their products and offerings. Hence, aspects such as credibility, also termed as “integrity,” are also taken amongst key belief dimensions in judging whether an advertisement is believable or not (Choi, Hwang, & McMillan, 2008; Liu et al., 2012). Credibility also concerns aspects such as truth (Pollay & Mittal, 1993; Pyun & James, 2011), credibility (Liu et al., 2012; Wang & Sun, 2010) and privacy (Taylor et al., 2011) about the advertisement (Choi et al., 2008; Liu et al., 2012). The integrity of the advertisement reduces consumers' apprehensions about unsolicited advertising content and improves their attitudes towards social media advertising. Therefore, credibility is a key factor where consumers have to make decisions on the basis of uncertain information (Okazaki, Katsukura, & Nishiyama, 2007). Credibility in the advertisement is positively associated with the advertising value in the context of the internet (Lin & Hung, 2009) and mobile (Liu et al., 2012) advertising. Liu et al. (2012) suggest that credibility is a crucial factor regarding establishing a customer-client relationship and generating favorable perceptions towards the advertisement. However, studies such as Moore and Rodgers (2005) suggest that most college students do not find social media advertising trustworthy. There is a great deal of reluctance for advertisements where the consumers are asked to provide sensitive information on social media and that the consumers instead prefer those online sources that they know personally and trust (Turel & Osatuyi, 2021).

Perceived Social Media Advertising Value (PSMAV)

Advertising value entails the extent to which a consumer considers advertising to be valuable in terms of its utility (Ducoffe, 1995; Ducoffe, 1996). So, it reflects the level of advertising effectiveness and consumer satisfaction (Ducoffe, 1995). Advertising is a valuable source of product information and is a key predictor of consumers' attitudes towards advertising (Pollay & Mittal, 1993; Schlosser, Shavitt, & Kanfer, 1999). Research suggests that the perceived value of advertising can be determined by the extent to which the advertisement is informative (Ducoffe, 1996; Ducoffe & Curlo, 2000; Jung, Shim, Jin, & Khang, 2016; Liu et al., 2012), entertaining (Chowdhury, Parvin, Weitenberner, & Becker, 2006; Ducoffe & Curlo, 2000; Jung et al., 2016), and invasive or irritating (Ducoffe, 1996; Ducoffe & Curlo, 2000). As discussed above, these factors fall under the general consumer beliefs; and in the social media advertising context, the above-mentioned consumer beliefs serve as critical predictors of advertising value (Johnston, Khalil, Angelina, & Cheng, 2018; Van-Tien Dao et al., 2014). We refer to consumer beliefs on social media as perceived social media advertising value (PSMAV).

Therefore, based on the above, we hypothesize as follows:

H1: *Consumers' belief with regard to the infotainment aspect of social media advertising and the consumers' perceived social media advertising value (PSMAV) are positively associated.*

H2: *Consumers' belief with regard to the invasiveness aspect of social media advertising and the consumers' perceived social media advertising value (PSMAV) are negatively associated.*

H3: *Consumers' belief with regard to the credibility aspect of social media advertising and the consumers' perceived social media advertising value (PSMAV) are positively associated.*

Social Media Advertising Value and Consumer Attitudes

Ducoffe (1996) suggests that any form of advertising that builds value results in favorable consumer responses and positive consumer attitudes. Similarly, advertising that lacks value has limited effectiveness and results in negative consumer attitudes. With the increasing competition and dependence of companies upon consumers, consumers have become empowered and now play a key role in creating and determining the value of products and services through their interactions and active engagement on social media (Hutter, Hautz, Dennhardt, & Füller, 2013). Van-Tien Dao et al. (2014), within the context of social media advertising, suggest that consumers' perceived value positively influences their evaluation criteria and purchase intentions. Similarly, Jung et al. (2016) postulate that advertising value influences the consumers' attitudes and behavioral intentions towards social media advertising. Therefore, a consumer's belief about advertising, reflected through perceived social media advertising value (PSMAV), is an antecedent of the consumers' attitude towards social media advertising (Brackett & Carr, 2001; Pollay & Mittal, 1993). Based on the above, we hypothesize that:

H4: *Consumers' perceived social media advertising value (PSMAV) and consumers' attitude towards social media advertising (CATSMA) are positively associated.*

Consumer Attitudes and Consumers' Behavioral Intentions

As conceptualized above, the consumers' attitudes emerge from their beliefs, which exist at different cognitive levels, portraying consumers' various evaluative criteria (Solomon, Dahl, White, Zaichkowsky, & Polegato, 2014). The consumers' attitude towards advertisement and attitude towards brand reflects their purchase intentions (MacKenzie, Lutz, & Belch, 1986; Raziq et al., 2018). Favorable consumer attitudes are linked with higher advertisement recalls and more significant buying interests (Bauer & Greyser, 1968; Mehta & Purvis, 2006). Choice and Rifon (2002) show that positive attitudes towards the brands (advertised online) lead to positive purchase intentions. Nelson, Keum, and Yaros (2004) show that positive consumer attitudes towards (video) advertisement lead to positive attitudes towards product placements, leading to purchase intentions. Concerning electronic word of mouth (e-WOM) on social media, Nevarez and Torres (2015), suggest that consumer attitudes towards social networking advertising and consumers' intention to

engage in e-WOM are positively associated, and these lead to an increased likelihood of the consumer visiting the brand website and making a purchase. Hence, consumer attitudes and their behavioral intentions are positively linked (Boateng & Okoe, 2015; Jung et al., 2016; Schiffman & Kanuk, 2010), and therefore, we hypothesize that:

H5: *Consumers' attitudes towards social media advertising (CATSMA) and behavioral intentions are positively associated.*

Consumer Beliefs and Behavioral Intentions

The relationship between consumer beliefs and their behavioral intentions can also be seen as direct. Research suggests that consumer beliefs about the information and entertainment aspects of advertisement are primary determinants of the consumers' intentions to join brand pages (Muk & Chung, 2014; Muk, Chung, & Kim, 2014a). Similarly, Taylor et al. (2011) and Jung et al. (2016) suggest that where an advertisement is considered invasive, there are negative influences on the consumers' goal-oriented behavior, attitudes and buying decisions. For credibility, Jung et al. (2016) suggest that credibility plays a vital role in determining the consumers' underlying attitudes towards social media advertising. So, based on that, we hypothesize as follows:

H6: *Consumers' belief with regard to the infotainment aspect of social media advertising and the consumers' behavioral intentions are positively associated.*

H7: *Consumers' belief with regard to the invasiveness aspect of social media advertising and the consumers' behavioral intentions are negatively associated.*

H8: *Consumers' belief with regard to the credibility aspect of social media advertising and the consumers' behavioral intentions are positively associated.*

H9: *PSMAV & CATSMA sequentially mediate the relationship between infotainment aspect of consumers' beliefs and their behavioral intentions.*

H10: *PSMAV & CATSMA sequentially mediate the relationship between invasiveness aspect of consumers' beliefs and their behavioral intentions.*

H11: *PSMAV & CATSMA sequentially mediate the relationship between credibility aspect of consumers' beliefs and their behavioral intentions.*

Consumer Attitudes and Resilience towards Negative Information (RNI)

Where consumer attitudes portray their evaluative criteria, RNI refers to the extent to which individuals, in general, resist absorbing any negative information about their preferred company and brands (Skarmeas & Leonidou, 2013). So, if the bond of the consumers with their proposed brand is more potent, the more resilient they are in negating any negative publicity about it (Bhattacharya & Sen, 2003). Consumers even stand with their desired products and services during problematic times. The current testing phase of COVID-19 has further influenced many brand loyalists to support the consumption of their preferred commodities (Kim, Han, & Ariza-Montes, 2021). In general, as the desired attitudes towards brands become positive, their resilience towards avoiding any negative information becomes higher. This resistance has become more significant when customers have supported their brands in testing times (Amine, 1998). They have even played instrumental roles in disseminating optimistic information and defending against negative publicity (Japutra, Ekinci, & Simkin, 2018). As the construct of RNI has been added for study 2 examination, the current research now proposes its following hypothesis:

H12: *Consumers' attitudes towards social media advertising (CATSMA) and resilience towards negative information (RNI) are positively associated.*

Research Model

Based on the literature discussed above, we propose two models for the two studies conducted pre- COVID and during COVID-19 (Figure 1 & 2). The first model involves three independent factors: infotainment, invasiveness, and credibility; one dependent factor: behavioral intentions; and two mediators: perceived

social media advertising value (PSMAV) and consumers' attitudes towards social media advertising (CATSMA). The second model involves the same constructs, with an additional variable, RNI added as an endogenous construct with behavioral intentions. We also added four control variables to the model: gender, occupation, education, and age, to control the output along with the demographics of the sample. Gender has earlier been considered as a controlling factor, which can influence the consumers' online behavioral intentions (Brown, Pope, & Voges, 2003; Van-Tien Dao et al., 2014). Both age and gender have been applied as control variables with respect to YouTube co-viewing (Haridakis & Hanson, 2009). Other demographic factors such as education and occupation have also been used by studies involving online (Kraut, Kiesler, Boneva, Cummings, Helgeson, & Crawford, 2002; Zhao, 2006) and social media (Chen, 2011; Correa, Hinsley, & De Zuniga, 2010) advertising.

Figure 1: Study 1

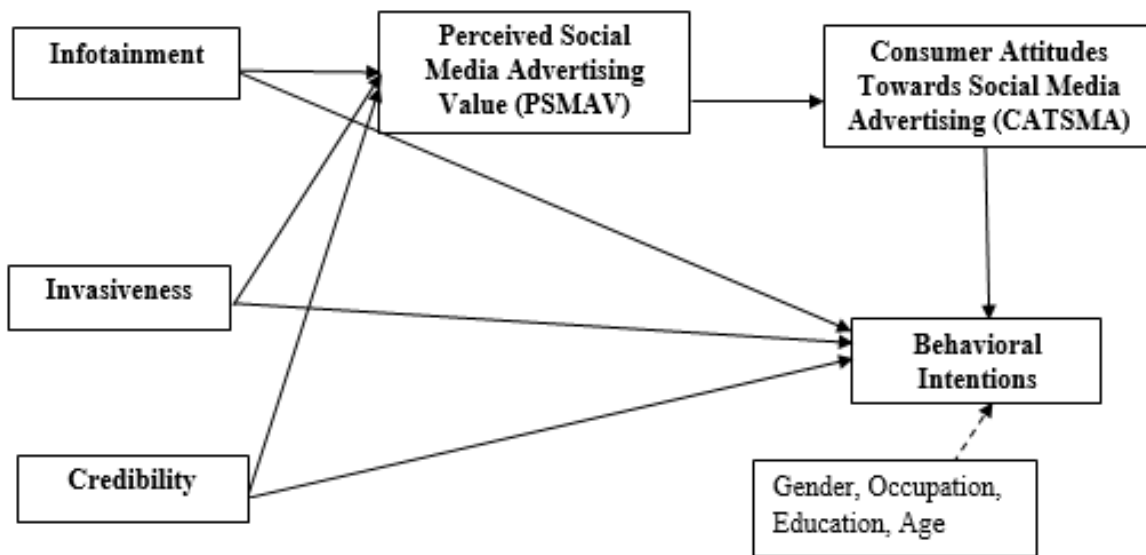
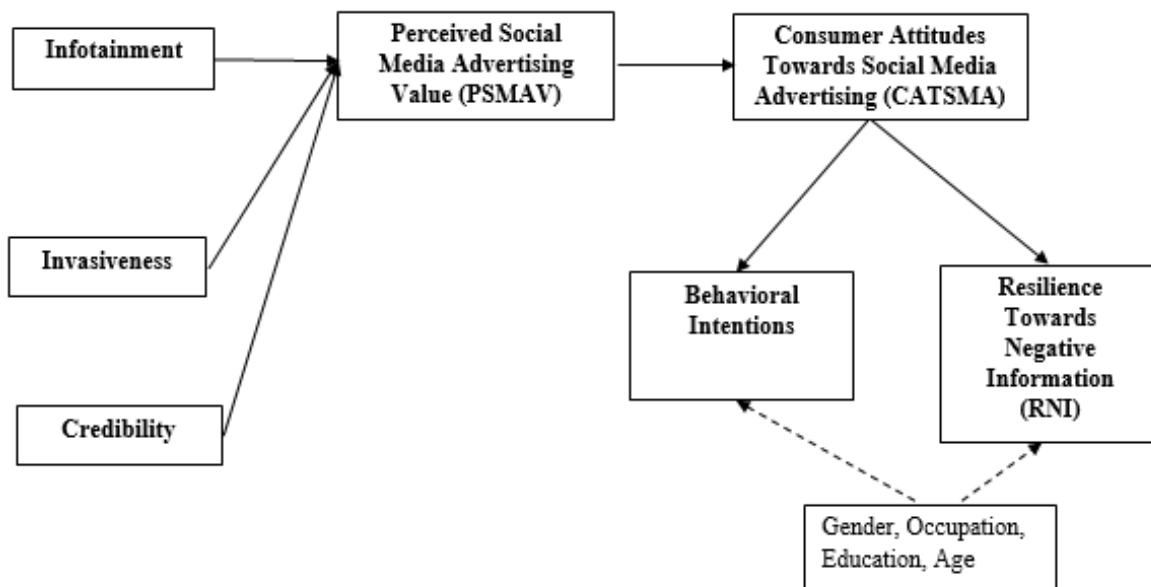


Figure 2: Study 2



Data And Methods

Both studies focused on young adults (aged: 18-29) and the mid-aged segment (aged: 30-44) from Pakistan. In Pakistan, around two-thirds of the population is below the age of 30 (Euromonitor, 2017). Pakistan is generally under-researched in marketing and social media studies, although there is a massive population in Pakistan that uses technology and internet services (Raziq et al., 2018). Millennials and young consumers are chosen as target population as they depict greater energy, effort, and motivation towards social media (Brosdahl & Carpenter, 2011; Khan, 2022) – they are considered as generations who have truly tasted the digital and information technology environment, and such has greatly encircled their personal and working lives (Wesner & Miller, 2008). Earlier studies on social media have also taken similar samples to evaluate consumers' attitudes and behavioral intentions (Dao et al., 2014; Jung et al., 2016; Nevarez & Torres, 2015). We target college/university students and young professionals (Saputri & Yumarni, 2021). We collected data through a convenience sampling technique, which is widely used by the studies evaluating consumer responses towards social media advertising (Lee & Hong, 2016; Muk, Chung, & Kim, 2014b; Zhang & Mao, 2016). Questionnaires are distributed (and collected) personally as well as sent online to both known and unknown contacts through emails and messages via Facebook and WhatsApp (Chiuswa & Sibanda, 2021; Fajar & Larasati, 2022). Data from 704 respondents (study 1) were received, out of which, after checking for outliers, 31 were deleted, leaving 673 useable responses. Similarly, data from 272 respondents (study 2) were attained, and after deleting 9 outliers, 263 valid responses were achieved. The steps are taken prior to the surveys to reduce the chances of common method bias using the guidelines from Podsakoff, MacKenzie, Lee, and Podsakoff (2003). A Harman's single factor test (Harman, 1976) was incorporated, which indicated that the total variance in both the surveys was well below the 50% limit mark, signifying that datasets are not plagued by common method bias. Data were also checked for multi-collinearity - the (inner) variance inflation factor (VIF) ranged from 1.00 – 1.49, and was, hence below the threshold of 5 (Ringle, Wende, & Becker, 2015a), indicating little or no multi-collinearity among the variables.

Measurement and Analysis

The infotainment construct of consumers' belief is adopted from Ducoffe (1996) and Liu et al. (2012), invasiveness construct is adopted from Liu et al. (2012), and Taylor et al. (2011), and the credibility construct is adopted from Dao et al. (2014); Mackenzie and Lutz (1989); and Taylor et al. (2011). PSMVA is adopted from Van-Tien Dao et al. (2014), while CATSMA is adopted from Nevarez and Torres (2015) and Taylor et al. (2011). The behavioral intentions construct is adopted from Van-Tien Dao et al. (2014) and Nevarez and Torres (2015). Finally, the three-item scale for measuring RNI was adopted from the work of Japutra et al. (2018). All the constructs are measured on a 7-Point Likert scale, with options ranging from strongly disagree (1) to strongly agree (7). For data analysis, we apply the variance-based structural equation modeling technique using SmartPLS (Ringle et al., 2015a). This software is now being widely applied within the context of social media advertising and consumer behavior (Borah, Iqbal, & Akhtar, 2022; Nasidi, Ahmad, Dahiru, & Garba, 2021). Confirmatory factor analysis (CFA) is conducted and tests for convergent validity, composite reliability and discriminant validity are undertaken. To test the significance of indirect effects, bootstrapping method (5000 samples) (Preacher & Hayes, 2008) is used.

Results Of Study 1

Pertaining to the measurement model (see Table 1), the average variance extracted (AVE) scores and constructs' factor loadings were above 0.5 and 0.7, respectively, reflecting good convergent validity. The composite reliability scores and Cronbach's alpha scores were also above 0.7, indicating good reliability and validity (Hair, Hult, Ringle, & Sarstedt, 2016). With regard to discriminant validity, the square root of AVE values was higher than the correlation coefficients between the latent variables (see Table 2), showing that they were conceptually and empirically unrelated (Fornell & Larcker, 1981).

Table 1: Measurement Model

Constructs		Cronbach's Alpha	Composite Reliability	AVE
1	Behavioral Intention	0.912	0.932	0.696
2	CATSMA	0.892	0.917	0.649
3	Infotainment	0.877	0.907	0.621
4	Credibility	0.834	0.900	0.751
5	Invasiveness	0.882	0.909	0.717
6	PSMAV	0.902	0.939	0.837

Table 2: Discriminant Validity

		1	2	3	4	5	6	7	8	9	10
1	Age	1.000									
2	Behavioral Intention	-0.159	0.834								
3	CATSMA	-0.220	0.692	0.805							
4	Education	0.356	-0.104	-0.098	1.000						
5	Gender	-0.123	0.074	0.055	-0.075	1.000					
6	Infotainment	-0.176	0.644	0.516	-0.067	0.026	0.788				
7	Credibility	-0.162	0.547	0.532	-0.056	0.004	0.574	0.867			
8	Invasiveness	-0.027	-0.127	-0.141	0.027	-0.053	-0.126	-0.111	0.847		
9	Occupation	0.326	-0.059	-0.093	0.287	-0.273	0.010	-0.031	-0.014	1.000	
10	PSMAV	-0.162	0.635	0.553	-0.094	-0.015	0.667	0.724	-0.153	-0.032	0.915

With regard to the demographic profile, around 60% of the respondents belonged to 19-25 age bracket, while the rest were above 25 years of age. Around 61% were males, and the rest were females. For education, around 5% were college-level students, 41% had an undergraduate-level qualification, and 55% had completed their post-graduate studies. Around 48% were students, 36% were salaried people, and 10% were self-employed. Observing the direct and indirect effects, Table 3 shows that infotainment was positively related to PSMAV and behavioral intentions. This confirmed our hypotheses 1 and 6. About invasiveness, the relationship was negative with PSMAV, but not significant with behavioral intentions, and with that, our hypothesis 2 was confirmed, but hypothesis 7 was not confirmed. Credibility was positively associated with PSMAV and behavioral intentions, and with that our hypotheses 3 and 8 were also confirmed. PSMAV and CATSMA were positively associated, and CATSMA and behavioral intentions were also positively associated, and with that our hypotheses 4 and 5 were also confirmed.

Table 3: Structural Model

Structural Model			
	Path Coefficients	T-Stats.	P
CATSMA → Behavioral Intention	0.456	12.643	0.000
Infotainment → Behavioral Intention	0.35	9.641	0.000
Infotainment → PSMVA	0.37	9.393	0.000
Credibility → Behavioral Intention	0.107	2.701	0.000
Credibility → PSMVA	0.507	13.737	0.000
Invasiveness → Behavioral Intention	-0.003	0.097	0.923
Invasiveness → PSMVA	-0.05	1.984	0.048
PSMVA → CATSMA	0.553	16.858	0.000
Infotainment → PSMVA → CATSMA → Behavioral Intention	0.093	6.646	0.000
Credibility → PSMVA → CATSMA → Behavioral Intention	0.128	8.158	0.000
Invasiveness → PSMVA → CATSMA → Behavioral Intention	-0.013	1.982	0.048

Looking at the indirect effects, both PSMVA and CATSMA in a sequence mediate the relationship between infotainment and behavioral intentions, credibility and behavioral intentions; and (negatively) invasiveness and behavioral intentions. With that, our hypotheses 9, 10, and 11 were also confirmed. Earlier, we found that invasiveness and behavioral intentions were not associated. So, based on our results, it can be stated that the: (a) infotainment and behavioral intentions relationship is partially mediated by the sequence of PSMVA and CATSMA; (b) credibility and behavioral intentions relationship is partially mediated by the sequence of PSMVA and CATSMA; and (c) the invasiveness and behavioral intentions relationship is fully mediated by the sequence of PSMVA and CATSMA. We now discuss the results as follows and elaborate on the contributions from this study.

Results Of Study 2

Concerning study 1, the measurement model (see Table 4), the AVE scores, and the factor loadings were above the benchmarks of 0.5 and 0.7, reflecting good convergent validity. The scores of Cronbach's alpha and composite reliability were also above 0.7, portraying good reliability and validity (Hair et al., 2016). For discriminant validity, the square root of AVE was higher than their inter-construct correlation coefficients (see Table 5), reflecting that they are distinguishable and distinct (Fornell & Larcker, 1981).

Table 4: Measurement Model

Constructs		Cronbach's Alpha	Composite Reliability	AVE
1	Behavioral Intention	0.911	0.931	0.691
2	RNI	0.810	0.888	0.725
3	CATSMA	0.872	0.904	0.610
4	Infotainment	0.862	0.897	0.595
5	Credibility	0.799	0.882	0.714
6	Invasiveness	0.888	0.871	0.638
7	PSMAV	0.897	0.936	0.829

Table 5: Discriminant Validity

	1	2	3	4	5	6	7	8	9	10
Behavioral Intention	0.832									
RNI	0.186	0.851								
CATSMA	0.746	0.373	0.781							
Credibility	0.616	0.138	0.564	0.845						
Infotainment	0.596	0.216	0.572	0.545	0.771					
Invasiveness	0.009	0.249	0.043	-0.009	-0.099	0.799				
PSMAV	0.653	0.204	0.594	0.716	0.624	-0.080	0.911			

In terms of sample profiling, more than 65% of the respondents belonged to the 19-25 age bracket, while the remaining were above 25 years of age. In terms of gender, around 65% were males, and the remaining were females. In terms of education, more than 40% of the respondents were comprised of undergraduate and post-graduate students, while the remaining were college-level students. Finally, while evaluating the educational profiles, more than 55% were students, 25% were salaried people and the remaining 20% were self-employed. Examining the direct effects, almost a similar set of results was obtained (See Table 6). Both infotainment and credibility depicted a positive association with advertising value, while invasiveness portrayed an insignificant association. PSMAV also showed a significant linkage with CATSMA and similarly, CATSMA showed a significant association with behavioral intentions. By adding a new construct of RNI in study 2, consumer attitudes also showed a positive linkage with resilience towards negative information. This supports our hypothesis H12. Observing the indirect effects (See Table 6), both PSMAV and CATSMA sequentially mediated the relationship between infotainment and behavioral intentions, and between credibility and behavioral intentions. However, in the case of invasiveness, this sequential mediation remained insignificant. Likewise, both PSMAV and CATSMA portrayed a sequential mediation

between infotainment and RNI, and between credibility and RNI. Again, for invasiveness, this sequential mediation remained insignificant. We now discuss the results as follows and elaborate on the implications of this study.

Table 6: Structural Model

Structural Model			
	Path Coefficients	T-Stats.	P
CATSMA → Behavioral Intention	0.746	20.688	0.000
CATSMA → RNI	0.373	6.088	0.000
Credibility → PSMAV	0.538	9.657	0.000
Infotainment → PSMAV	0.327	4.694	0.000
Invasiveness → PSMAV	-0.042	1.007	0.314
PSMAV → CATSMA	0.594	10.698	0.000
Infotainment → PSMAV → CATSMA → Behavioral Intention	0.145	3.739	0.000
Credibility → PSMAV → CATSMA → Behavioral Intention	0.238	5.913	0.000
Invasiveness → PSMAV → CATSMA → Behavioral Intention	0.019	1.036	0.301
Infotainment → PSMAV → CATSMA → RNI	0.072	3.182	0.002
Credibility → PSMAV → CATSMA → RNI	0.119	4.319	0.000
Invasiveness → PSMAV → CATSMA → RNI	-0.009	1.004	0.316

Discussion, Implications, Limitations And Future Research

For study 1, we examine the relationship between consumer beliefs such as infotainment, credibility, and invasiveness with the consumers' behavioral intentions. Earlier, Liu et al. (2012), drawing on evidence from Japan and Austria in the mobile advertising context, show how consumer beliefs relate to the consumers' attitude towards advertising. We show how beliefs further lead from the consumers' attitudes towards their behavioral intentions and through identifying some contingencies show where the behavioral intentions can be positive or negative. As per the uses and gratification theory, it is of interest to marketers to understand the driving factors behind the consumer use of a particular media. We extend further by proposing and testing some underlying mechanisms with regard to consumers' purchase intentions as well as their electronic word of mouth. Second, with respect to the positive relationship between consumers' attitudes towards social media advertising and consumers' behavioral intentions, there have been earlier research, which has tested these relationships, particularly pertaining to the empathy expression (Lee & Hong, 2016) and consumers' responses towards brand pages (Muk & Chung, 2014; Muk et al., 2014a). However, research shows

inconsistencies regarding the significance of associations. We examine these associations in a different context and show how they link with each other. The key contribution here being that we test this relationship taking behavioral intentions as involving both the consumers' purchase intentions as well as their electronic word of mouth (e-WOM). Previous research overlooked this aspect as an indicator of consumers' behavioral intentions in a social media advertising context. Last comes the most significant contribution from our study i.e., the partial and full mediation between consumer beliefs and their behavioral intentions. In this study, we dig deeper into the relationship between consumer beliefs and their behavioral intentions concerning social media advertising. We proposed some underlying mechanisms in the relationship between consumer beliefs and their behavioral intentions. In so doing, we hypothesized that the consumers' beliefs-behavioral intentions relationship is sequentially mediated by consumers' perceived advertising value (PSMAV) and their attitudes towards social media advertising (CATSMA). Our results show that the relationships of consumer beliefs such as infotainment and credibility with behavioral intentions are positive and partially mediated by the sequence of PSMAV and CATSMA. However, the relationship between invasiveness and behavioral intentions is negative and fully mediated by the sequence of PSMAV and CATSMA, indicating no direct relationship between invasiveness and behavioral intentions (purchase and e-WOM). By examining some underlying mechanisms here, we contribute and add to the understanding of how consumers' beliefs relate to the consumers' behavioral intentions. For study 2, we added an additional endogenous construct of RNI, and its relationship with consumers' underlying attitudes towards social media advertising is positively significant. This shows that as positive evaluative criteria are developed for a specific promoted product/brand, a consumers' resilience to avoid any negative information becomes higher (Su, Hsu, & Huels, 2021). During the COVID-19 crises, consumers have connected with their brands digitally and their purchase behaviors have been unusually influenced through social media marketing channels (Laato, Islam, Farooq, & Dhir, 2020). They have also been religiously engaged in reviewing and promoting their products and services through various brand communities. Moreover, study 2 also tests the sequential mediation effects of PSMAV and CATSMA between the three consumer beliefs and RNI. The mediating effects are significant for infotainment and RNI and credibility and RNI. However, this relationship is insignificant in the case of invasiveness. This reflects that the belief constructs of infotainment and credibility formulate effective advertising value to enhance consumer attitudes and build a greater resilience towards negative information in the COVID-19 era. These associations remain unaddressed and have been duly identified by the present study through extending the scholarly work of Bezbaruah and Trivedi (2020). The study has some implications for the management practice. We show that factors such as infotainment, credibility, and invasiveness are key to developing the consumers' attitudes towards the products/brands advertised on social media. So, this is an area where the advertisers need to focus – if their advertisements are informative and entertaining, they can do better about their offerings. Obviously, there are several factors (other than the advertisement per se) that influence credibility and irritation with regard to the brand/advertisement, and the marketers need to do much more with regard to the actual product/brand rather than advertise only. But these are key areas for marketers to improve upon. Marketers may also build better value for their promotional content by providing helpful information, and entertainment in their advertisements while reducing elements, which may cause irritation and avoidance. In the same manner, the construct of RNI provides a new direction to the knowledgeable workforce to examine its role against the changing dynamics of consumer behavior during COVID-19. This study comes with some methodological and conceptual limitations. A limitation is that it draws on a sample of young and middle-aged people and ignores older people, while arguably social media today is commonly used by almost all age groups. Research (using the Pakistani context) suggests that age has a positive association with rationality (Raziq et al., 2018), and so, it is likely that older people have different beliefs and behavioral intentions than their younger counterparts. Furthermore, the study sample is drawn based on convenience, and there may be issues of representativeness; also, a longitudinal or an in-depth case study design may offer better insights than a cross-sectional one adopted here. This two-study examination analyzes consumer behavior towards social media in a generalized manner.

Future studies may incorporate context-based aspects such as aesthetics and functionality of virtual communities and user-based aspects such as the need for creativity, self-efficacy to attain valuable insights about an online user, etc. Additionally, social media platforms or types can be tested as an independent or interacting factor regarding consumers' attitudes. Future scholarly works can also launch exploratory studies into how digital engagement would be altered once the pandemic comes to an end.

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Analysing Crimes And Economic Misery In Pakistan: Ardl Bound Testing Approach

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Abstract

The present study explains economic discomfort, financial shocks, and rapid urbanization increase crime in a country. Furthermore, this research work highlights the extent to which economic misery and an increase in urbanization create countless socioeconomic problems in society. The study used annual time series secondary data for the period 1990 to 2021 collected from different sources. Researchers have found very limited evidence of economic misery and crime in the existing literature on Pakistan. Thus, carrying out research work on the subject was the need of the day. The foremost objective of the research work was to examine crime rates in the presence of economic misery, as denoted by Hanke's Annual Misery Index (HAMI) and urbanization in Pakistan. The stationarity of the data has been checked by correlogram and Ljung-Box (LB) statistics. The study used an Autoregressive Distributed Lags approach to investigate how economic misery and urbanization affect criminal activity in Pakistan. The crime model produced substantial results, and the outcomes are consistent with the expectations. The findings revealed that the HAMI and urbanization coefficients are significant with a positive sign, implying that economic hardship and an increase in urban population have exacerbated Pakistan's crime rate. To control crimes, the government might have to adopt new strategies that may decrease economic misery, i.e., keep inflation at a desirable level, reduce unemployment, improve economic growth, and discourage urbanization.

Keywords: crimes, economic misery, urbanization, ARDL, Pakistan.

Introduction

"Crime" is defined as "an offence against a person or state that is subject to legal sanctions." The problem of crime is a well-known universal phenomenon. Crime is a global problem, but mindsets toward it, criminal activities, and how to cope with them are not. Every society in the world strongly opposes it as a public wrong-doing. Crime includes murder, attempt to murder, kidnapping, robbery, burglary, cattle theft, and other heinous acts. Every country defines crime according to its own unique standards. Nobody is a criminal by birth. A person's criminal intent and behaviour are the result of a variety of social, economic, biological, and psychological factors that contribute to crime (IWD, 2003). Through the economic structure, crimes either directly or indirectly affect the economic and socioeconomic factors of a nation. It adversely affects the function and effectiveness of public servants, distorts public policies, and consequently results in ineffective resource allocation. Through disrupting the implementation of better law and order, it has negatively impacted the provision of justice in many countries and has had a significant negative impact on the world's rapid development process. Along with slowing down the working capacities of society, it has also slowed down the pace of global economic growth. Consequently, it is the greatest impediment to socioeconomic development and has given priority to crime control initiatives in its strategies for improving the quality of governance to reduce stress crimes (World Bank, 1997). Crime remains a big problem throughout the world. The economy of Pakistan has faced similar incidents since its first day. There are undoubtedly many criminal activities that range in type and severity from society to society, but their existence cannot be ignored. For example, criminals and terrorists frequently mark local businessmen and high-flying classes to take out

ransoms for earnings or to manage their activities. People serving in various government organizations and foreign employees of different non-government organizations (NGOs) have been targeted for kidnapping and ransom purposes. Affected families often negotiate and give ransoms without police notice or attachment. Thus, criminals that are involved in kidnappings are not commonly caught or not treated with justice (Grossman & Helpman, 2002). The economic disparity can also lead to a soaring degree of frustration, stress, and mental anguish, which consequently encourages people to participate in illegal activities. People's increasing criminal activities have become a major impediment to economic growth. Criminal habits primarily kill off social events and spread fear, which further creates and perpetuates social anxiety in society. Undoubtedly, the crime rate has been increasing in almost every country in the world. However, in Pakistan, the available crime statistics depict an alarming rate of increase eventually. The considerable boost in the rate of crime may be due to high unemployment, rising inflation, or an increase in the urban population (Gillani et al., 2009). On the other hand, cities have witnessed considerable unrest in recent years. Protests erupted in response to high housing prices and gentrification, while the urban wage premium appears to have vanished with less skilled labor. Cities in the developing world are growing more rapidly, but the downsides of density are acute in those places (Glaeser, 2020). Pakistan is a labor-abundant nation. There is talent in the country, but unfortunately, it is passing through a crucial economic situation. A huge number of the labour force is engaged in project-based jobs where they obtain lower salaries and are deprived of all basic human rights. Workers are losing their jobs as their tenure comes to an end. The administration is not in a position to defend their rights. In Pakistan, there are two main sectors where labour engages themselves: one is the formal sector, and the other is the informal sector. Labour laws do not protect them, especially the working force of the informal sector. The lack of opportunities, the unjust division of resources amongst people, and the lack of learning and training in the informal sector have decreased employment opportunities in Pakistan (Chaudhary, 2003). Economy of Pakistan experiencing economic miseries like high unemployment, rising inflation, rapid population growth, rising poverty, income-inequality and rapid increase in urbanization. In Pakistan, one fourth of the total population lives in extreme poverty, i.e., less than one dollar per day. This means that a large part of the public does not have adequate basic needs and opportunities. Therefore, it mostly causes huge economic deprivation and large environmental and political shocks in the country. Therefore, due to the meager availability of better socio-economic facilities, urbanization continuously increased every year. People are rapidly moving towards urban areas to avail themselves of improved socio-economic services (GOP, 2019). Unfortunately, due to high poverty, increased debt servicing, high unemployment, rising inflation, increase in aggregate demand, and unsustainable GDP growth, the economy of Pakistan does not grow to the desirable level (Ali & Rehman, 2015). In Pakistan, a devastating trend in urbanization has become a serious issue, and thus, every year cities are becoming overcrowded, drastically increasing socio-economic problems. Some recent studies have explained that increased urbanization is not inherently bad because society has the right to raise living standards and look for suitable employment opportunities, which are more prevalent in urban areas. Therefore, many economists recommend that urbanization is beneficial and encourages economic growth in the economy. Many other studies explain that urbanization is not good for the health of the economy because crimes easily happen in big cities and in more urbanized regions, and thus it encourages crimes (Krivo & Peterson, 1996). This study at hand attempted to identify and probe the demographic and socioeconomic factors accountable for encouraging crimes in Pakistan. The researchers have constructed the Hanke's Annual Misery Index to empirically investigate the association between crime rate, economic misery, and urbanization and to suggest policy procedures to help in checking and preventing crime rate in Pakistan. Besides these attributes, there are so many other aspects that may affect crimes, but due to time constraints, such variables are not incorporated in the current study.

Objectives of Study

The present research aims to review crimes, particularly with reference to the miserable conditions and more urbanization in Pakistan. In light of the present study, objectives are set as:

1. To analyze the impact of miserable economic conditions and increasing urbanization on crimes in Pakistan.
2. To devise an appropriate policy implications in the light of empirical results.

Review of Literature

Pakistan has experienced tough economic circumstances since its independence. This vulnerability to harsh economic circumstances binds criminal networks to launder their illicit proceeds. These root causes have been seen through the prism of theories presented by various economists and criminologists. The researchers tried to analyze the criminological spread of crimes, particularly with reference to economic misery and the rapid increase in urban populations in Pakistan. By reviewing the existing literature, it has been found that very limited and specific miserable activities have been addressed on the basis of criminological aspects. Thus, research work on the subject is needed at the present time in the country. Becker (1968) studied that in economic models of criminal activities, the decisions of criminal individuals are examined in a fractional and unstable equilibrium perception. These models have not documented that the opportunity for punishment is absolutely dependent on the total number of crimes that are encountered. According to Ehrlich (1974), as crime rates rise, the police must work harder to keep them under control, and prisons may become overcrowded. As a result, fewer criminals are apprehended and found guilty. Additionally, when prisons become overcrowded, the prison administration has no choice but to release criminals as quickly as possible. Thus, the likelihood that other criminals will be apprehended, imprisoned, and punished decreases as a person commits more crimes. Likewise Sah (1991) investigated the dynamics of actual and expected probabilities, as well as their implications for crime rates. The researcher assumed that agents are not conscious of the correct possibility of punishment and are not capable of locating the probability from identified available information. The author suggests that if an individual commits a crime, then he/she is expected to presume that the possibility of being penalized is lower than his/her earlier estimation, thus to some extent affecting the decline in crime rates. Teles (2004), explored the sound effects of monetary and fiscal policies on crime rate determination. The study investigated the impact of macroeconomic policies on crime and concluded that fiscal policy has the most impact on crime from start to finish. Government spending and monetary policy influence crime in the course of rising inflation. The impact of the institutional-quality and misery indexes on Nigeria's crime rate was examined by Ajide in 2019. Time series secondary data from 1986 to 2016 was used in the study. Using ARDL co-integration techniques, the researcher discovered a long-term, strong positive relationship between the variables. The study went on to say that while the country's crime rate has increased due to economic hardship, it has decreased significantly in the short term due to high institutional quality. Dadgar, et al., (2020) investigated the relationship between the employment rate of women, the violent crime and the misery index in Iran between 1981 and 2017. According to the study's findings, there is a significant correlation between Iran's violent crime rate and its index of misery over both the short and long-term. The researchers went on to say that lowering the index of misery, boosting economic growth, and raising the cost of committing a crime can all significantly reduce violent crimes in Iran. Khan et al., (2015) analyzed the impact of unemployment rate, literacy rate, poverty, and per capita income on the crime rate in Pakistan. The researchers have originated a positive correlation between unemployment and crime and a negative association between education level and crime. Whereas, Umair, (2019) studied the socio-economic determinants of crime in Pakistan for the years of 2006 to 2016. In this analysis, the researcher has used crime-dependent variables and population growth, inflation, national income, and economic growth as independent variables. The study used correlation and regression approaches to evaluate the socio-economic impact on crimes during the study period. As a result, population and economic growth have a clear positive relationship with crime, while inflation and wages have a negative relationship with crime in the short term. The results further explained that there is no long-run relationship among inflation, national income and population, with the exception of economic growth and crime. Wang et al., (2019) empirically analyzed the impact of the financial system and the misery index on Pakistan's economic growth from 1989 to 2017. The co-integration of data processing in the study used the Autoregressive-Distributed Lag (ARDL) methodology. The results of the analysis point to a long-term relationship between the study's variables. The outcome also explains that while the poverty index has a detrimental impact on economic advancement, the FD index, misery index, interest rate, trade openness, and remittances all have long-term effects on the GDP of the nation. According to the study, the government should create efficient policies to reduce unemployment and inflation. Shah et al., (2022) studied the

relationship among crime rate, misery indices, and poverty in Pakistan. The study used time series data for the period 1965-2018. Granger causality and ARDL were utilized in the study to analyze the long-run and short-run correlations among the variables. The study's result predicts that the misery index, poverty, and crime rate are cointegrated. Furthermore, it is clear from the study's findings that democratic governments have been less successful than dictatorships in addressing the socio-economic perspectives of human life. Gumus (2004) used the well-known regression technique of OLS in urban areas of the United States to empirically examine the socioeconomic determinants of crime. The researcher explained that 30% of the population throughout the world was living in urban areas in 1950, whereas this value reached 47% in 2000. It is expected that urbanization will reach 60% of the total population in 2030. The author further explained that such a majestic increase in urbanization will generate youth unemployment that can further push the unemployed force towards crime. Consequently, urbanization, income inequality, and many other economic and socio-economic factors increase the crime rate. Glaeser and Sacerdote, (1999) examined the relationship between crimes in rural and urban regions. The researchers explained that in rural regions, crimes are less because of lower population density and people also know each other. Therefore, criminals have fewer opportunities to take part in criminal activities and to hide themselves. In fact, the criminal activities in urban spheres are due to the high chance of detention, fewer intact families and less recognition of each other. Haider and Ali (2015); Haider and Haider (2006); and Galvin (2002) discovered similar positive relationships between increases in urban populations and crime. Iqbal and Jalil (2010) looked at Pakistan's urbanization and crime rates. The study used annual time series data from 1964 to 2008. The study found a strong positive correlation between Pakistan's urbanization and crime rate.

Methodology

Data and Variables

During the 1990s and onwards, the economy of Pakistan has faced a lot of economic problems. In the study, the crime rate has increased drastically due to many socioeconomic, demographic, and political factors. Hence, the present study has used annual time series secondary data that covers the period from 1990 to 2021. The data concerning urbanization is collected from the Federal Bureau of Statistics, Islamabad. The data for the crime rate is collected from Bureau of Police Research and Development, Ministry of Interior, Islamabad. In contrast, data for socioeconomic variables used to calculate Hanke's' annual misery index were extracted for analysis purposes from the International Financial Statistics (IFS) and World Development Indicators (WDI). The crime rate has been taken as the total number of crimes per 10,000 people, and urbanization is taken as the increase in urban populations every year. The GDP growth rate is taken as a percentage change in real GDP per capita annually; unemployment, inflation, and interest rates are in percentage form during a year.

Measurement of the Variables

In the field of socio-economic research, the measurement of variables is considered an essential element for the purpose of analysis and finding results. In the time series study, the set of dependent and independent variables is tested to acquire accurate consequences. This research work has also followed the same principle where the crime rate is a dependent variable and the misery index and urbanization are employed as independent variables.

Misery Index

The Okun's Misery Index (Okun, 1970) is commonly used to assess the wellbeing level of people because of its simplicity and easy understanding. It is the addition of unemployment and the inflation rate that illustrates the miserable condition in an economy. The general formation of the Okun's Misery index is given below:

$$OMI = \pi_t + \mu_t \text{-----} (1)$$

Where OMI stands for Okun's Misery Index, π is the inflation rate, and μ represents the unemployment rate.

The Okun misery index is very simple, but it does not address some main economic components of the country. It is contended that the oversimplification sometimes misleads and exhibits limited views of the required phenomena. Therefore, there is a need to well address the remaining key economic components of a

country to better measure the misery level of the people. Where OMI stands for Okun's Misery Index, π is the inflation rate, and μ represents the unemployment rate. The Okun misery index is very simple, but it does not address some of the main economic components of the country. It is contended that this oversimplification sometimes misleads and exhibits limited views of the required phenomena. Therefore, there is a need to well address the remaining key economic components of a country to better measure the misery level of the people.

Hanke's Annual Misery Index (HAMI)

The Misery index is an economic indicator that determines how the average person is doing. The misery index is a financial indicator that determines how well the average person is doing. Steve Hanke developed an alternative method to the OMI by introducing Hanke's Annual Misery Index (HAMI). This index combines several simple inputs to produce a simple, replicable measure of a country's misery level. It combines the long-term bank lending rate and the percentage change in real GDP per capita with OMI to provide an accurate picture of the problem. The researchers used the real interest rate as a proxy for the bank lending rate in this study. Hanke's Annual Misery Index is calculated as:

$$HAMI_t = \pi_t + \mu_t + BL_t - RGDP\%_t \text{-----} (2)$$

Where, HAMI is the Hanke's Annual Misery Index, π is inflation rate, μ is unemployment rate, BL is bank lending rate and RGDP% is the percentage change in real GDP per capita. The study used real interest rate as a proxy for bank lending rate.

Crime Rate

In this study, the crime rate has been employed as a dependent variable and derived as the total number of crimes reported divided by the total population per ten thousand for the period 1990–2021 in Pakistan. Whereas, the total number of crimes is the amalgamation of various categories of crimes, such as killing of a human being, attempted murder, kidnapping, innocent-child lifting, robbery by a gang of armed dacoits, burglaries, cattle stealing, and other stealing. The crime rate is generally calculated as below:

$$Cr_t = \frac{\text{All Reported Crimes}_t}{(\text{Populations}_t / 10,000)} \text{-----} (3)$$

Where, Cr_t is the rate of crime, which is the part of all reported crimes to the populace per 10,000 individuals.

Specification of Crime Function

The general form of the crime function, which is used to probe the correlation among the misery-index, urban population and crime rate, can be illustrated as below: Where, Cr_t is the rate of crime, which is the sum of all reported crimes to the populace per 10,000 individuals. 3.3 Specification of Crime Function The general form of the crime function, which is used to probe the correlation among the misery-index, urban population, and crime rate, can be illustrated as below:

$$Cr_t = \alpha_0 + \sum_{i=1}^p \alpha_i X_{it} + \mu_t \text{-----} (4)$$

In this equation, CR is the number of crimes per 10,000 people in a year, X_i is the vector of explanatory variables in the crime model, μ is the error term, and t is the time series subscript in the crime function.

Model Selection

The ARDL cointegration technique was developed by Pesaran and Shin (1999) and Pesaran et al. Pesaran and Shin (1999) and Pesaran et al., (2001) developed the ARDL cointegration method. Compared to other earlier and more recognized cointegration techniques, this methodology has many advantages. Firstly, using the ARDL order of integration at particular levels is not necessary. When the underlying variables are integrated to order 1, order 0, or, it may be applied. In the present research work, the variables are stationary at the first levels. Therefore, the researchers have employed the Auto Regressive Distributive Lag (ARDL) model, which is an appropriate procedure for analyzing the momentous effect of the misery index and urbanization on crime rate for the present time series investigation. The advantage of using ARDL is that it does not take

into account the problems arising from the different integration orders of the study variables. Examining the merits of the suggested methodology, similar techniques have been applied in previous studies like (Asghar et al., 2016; Daniel et al., 2016; Saboor et al., 2016; & Shah et al., 2022). One of the advantages of the ARDL model developed by Pesaran et al. (2001) is that it is applicable regardless of whether the variables under examination are stationary in the level, I(0), stationary in their initial difference, I(1), or mutually co-integrated. The second benefit of using ARDL is that, when dealing with small and finite sample sizes, it is relatively more efficient. The ARDL method's most significant advantage is that, by using this methodology, one can obtain unbiased estimates of the long-run model (Harris and Sollis, 2003).

Crime Function in Econometric Form

For the period 1990 to 2021, the Econometric Function of Crime Function shows the functional relationship between crime rate, HAMI, and the increase in the urban population in Pakistan. This function demonstrates the effect of HAMI and urbanization on the crime rate.

$$CR = \beta_0 + \gamma_1 HAMI + \gamma_2 URBN + \varepsilon_i \text{-----} (5)$$

Where,

CR= the rate of crime (per 10,000 people)

HAMI = Hanke's Annual Misery Index

URBN = Urbanization (urban population); ε = error term and crime is dependent, while HAMI and urbanization are independent variables.

Hence, following Pesaran et al. (2001), the generalized ARDL (p,q) model is specified as:

$$Y_t = \gamma_0 + \sum_{i=1}^p \delta_i Y_{t-i} + \sum_{j=0}^q \beta_j X_{t-j} + \varepsilon_{jt} \text{-----} (6)$$

Where Y_t is a vector and the variables in (X_t) can be purely I(0) or I(1) or co-integrated; β_j and δ_j are coefficients; γ is the constant and $j = 1, \dots, k$ are optimal lag orders; and ε_{jt} is the vector of error terms with zero mean and constant variance which are serially uncorrelated or independent.

- The dependent variable is a function of its lagged values, as well as the current and lag values of the model's other independent variables.
- The lag-lengths for p and q may or may not be the same.
- The dependent variable is represented by the lags p.
- The exogenous variables are represented by the lags q.

Results And Discussion

The current study found a strong positive relationship between HAMI and Pakistan's crime rate. HAMI is a major cause of crime in Pakistan because it is a composite of inflation, unemployment, and bank lending rates less real GDP per capita growth. During the study period, the urban population was also found to be positively related to the crime rate. This positive relationship suggests that more urbanization may increase crime in the country. The reason behind it is that urbanization is an unplanned process that creates socioeconomic problems. The special focus of the government should be on infrastructure development. Policymakers could create some well-equipped and planned towns and districts to accommodate the growing urban population. These new colonies should have a better chance of generating employment opportunities and more capacity to absorb the rapid increase in urban populations. After getting no employment, people can adopt illegal ways to meet their basic needs and earn more money.

Stationarity of the Data

In economic research, the nature of time series is very important. Most time series entail so many statistical problems, which directly affect the findings of the study. Time series data has multiple issues that lead to biased as well as spurious results. For example, the problem of being stationary has been considered the most general and frequent problem. If a time-series is non-stationary, then before testing the data it is necessary to convert the data in such a way that it becomes stationary. Hence, since the present study is based on time series

data, it is important and necessary to corroborate the properties of stationarity for every variable discussed in the crime model. Many statistical tests and techniques are used to check the stationarity of the variables. The study at hand has used correlogram and Ljung-Box (LB) statistics, and has confirmed the existence of stationarity in the present time series. Gujarati (1999) explained that if the coefficients of autocorrelation (AC) go down or become smaller, then it can be resolved that the time-series is non-stationary. This phenomenon regarding the data used in this study has been presented in figure 4.1, where the values of A.C have decreased gradually. Furthermore, the majority of the spikes are outside the 95 percent confidence intervals, indicating the presence of non-stationary. In addition, the Ljung-Box test statistics also confirm that the corresponding probability value of the last Q-statistics is less than five percent, which has also verified the non-stationary crime rate. In the below figure, 4.1 correlogram and Ljung-Box (LB) statistics of crime rate have been shown, where the researchers have graphed the original annual data set that confirmed the nonstationarity of the data at this level. Therefore, for better and satisfactory results, the researcher has to convert the data into the first difference. Hence, the first difference of the crime rate has been taken as D(CRIME RATE) and presented in figure 4.2. After taking the first difference of the crime data, the coefficients of auto correlation have become smaller and lie within the given range. This is the only symptom that the variable crime rate has become stationary at first difference, while Figure 4.2 also confirms that no spike is outside the 95 percent confidence interval. In the same way, Ljung-Box confirms the entire story where the corresponding probability value (0.112) of the last Q-statistics 23.083 becomes greater than five percent (0.05). Thus, D(CRIME RATE) is now stationary and can be used for data analysis through ARDL, VAR, ARCH, GARCH VECM or any other econometric time series model.

Table 4.1: Crime Rate at Level

Date: 08/01/22 Time: 18:25
Sample: 1990 2021
Included observations: 32

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob
		1 0.809	0.809	22.992	0.000
		2 0.660	0.013	38.772	0.000
		3 0.454	-0.242	46.510	0.000
		4 0.334	0.091	50.847	0.000
		5 0.185	-0.130	52.222	0.000
		6 0.131	0.108	52.943	0.000
		7 0.098	0.080	53.363	0.000
		8 0.149	0.141	54.369	0.000
		9 0.178	0.022	55.867	0.000
		10 0.210	-0.031	58.052	0.000
		11 0.173	-0.113	59.602	0.000
		12 0.113	-0.113	60.294	0.000
		13 -0.020	-0.184	60.317	0.000
		14 -0.123	-0.029	61.238	0.000
		15 -0.259	-0.136	65.523	0.000
		16 -0.324	-0.018	72.680	0.000

Table 4.2: Crime Rate at first difference

Date: 08/01/22 Time: 18:27
Sample: 1990 2021
Included observations: 31

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob
		1 -0.130	-0.130	0.5764	0.448
		2 0.305	0.293	3.8512	0.146
		3 -0.144	-0.087	4.6086	0.203
		4 0.042	-0.073	4.6765	0.322
		5 -0.297	-0.261	8.1498	0.148
		6 -0.159	-0.249	9.1905	0.163
		7 -0.238	-0.174	11.604	0.114
		8 -0.047	-0.051	11.701	0.165
		9 -0.292	-0.328	15.652	0.075
		10 0.117	-0.109	16.315	0.091
		11 -0.039	-0.086	16.394	0.127
		12 0.290	0.064	20.924	0.051
		13 0.013	-0.067	20.933	0.074
		14 0.161	-0.204	22.489	0.069
		15 0.078	-0.071	22.883	0.087
		16 0.054	-0.066	23.083	0.112

Table 4.3: HAMI at level

Date: 08/01/22 Time: 18:28
Sample: 1990 2021
Included observations: 32

































Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
		1	0.383	0.383	5.1474	0.023
		2	0.299	0.178	8.3814	0.015
		3	0.164	0.002	9.3917	0.025
		4	-0.082	-0.226	9.6508	0.047
		5	-0.164	-0.139	10.734	0.057
		6	-0.206	-0.066	12.518	0.051
		7	-0.295	-0.138	16.309	0.022
		8	-0.133	0.086	17.108	0.029
		9	0.085	0.259	17.453	0.042
		10	-0.014	-0.115	17.463	0.065
		11	0.263	0.186	21.039	0.033
		12	0.126	-0.132	21.900	0.039
		13	0.087	-0.050	22.334	0.050
		14	0.076	-0.025	22.679	0.066
		15	-0.061	-0.037	22.918	0.086
		16	-0.174	-0.057	24.976	0.070

Figure 4.3 presents the correlogram of HAMI at level where coefficients of autocorrelation are going down; all the spikes lie inside the two lines except one. Hence, the existence of stationarity in HAMI is confirmed, which explains that HAMI is now integrated at the first level, i.e., $I(0)$. In the meantime, the corresponding probability value (0.070) of the last Q-statistics (24.976) is greater than (0.05) at the five percent level of significance and thus notifies that stationarity exists in the data at that level.

Table 4.4: URBNP at level

Date: 08/01/22 Time: 18:28
Sample: 1990 2021
Included observations: 32

































Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
		1	0.902	0.902	28.535	0.000
		2	0.807	-0.033	52.141	0.000
		3	0.713	-0.046	71.219	0.000
		4	0.621	-0.046	86.200	0.000
		5	0.531	-0.047	97.547	0.000
		6	0.443	-0.047	105.74	0.000
		7	0.357	-0.046	111.30	0.000
		8	0.275	-0.046	114.72	0.000
		9	0.196	-0.046	116.54	0.000
		10	0.121	-0.047	117.26	0.000
		11	0.049	-0.047	117.38	0.000
		12	-0.019	-0.047	117.40	0.000
		13	-0.082	-0.047	117.79	0.000
		14	-0.141	-0.047	118.99	0.000
		15	-0.195	-0.046	121.42	0.000
		16	-0.244	-0.044	125.46	0.000

Table 4.5: URBNP at first Difference

Date: 08/01/22 Time: 18:00
Sample: 1990 2021
Included observations: 31

Autocorrelation		Partial Correlation		AC	PAC	Q-Stat	Prob	
	█		█	1	0.271	0.271	2.5107	0.113
	█		█	2	0.236	0.175	4.4710	0.107
	█		█	3	0.199	0.110	5.9172	0.116
	█		█	4	0.163	0.064	6.9202	0.140
	█		█	5	0.136	0.040	7.6465	0.177
	█		█	6	0.111	0.023	8.1521	0.227
	█		█	7	0.090	0.012	8.5008	0.291
	█		█	8	0.072	0.005	8.7344	0.365
	█		█	9	0.056	-0.001	8.8791	0.449
	█		█	10	0.039	-0.007	8.9530	0.537
	█		█	11	0.021	-0.014	8.9765	0.624
	█		█	12	0.002	-0.022	8.9768	0.705
	█		█	13	-0.018	-0.030	8.9948	0.773
	█		█	14	-0.039	-0.038	9.0854	0.826
	█		█	15	-0.059	-0.044	9.3101	0.861
	█		█	16	-0.078	-0.047	9.7269	0.880

The figure 4.4 correlogram & Ljung-Box (LB) URBNP has been shown, where the researchers have graphed the URBNP data set that confirmed the nonstationarity of the data at a level. The researcher has converted the URBNP data into the first difference and presented it in figure 4.5. After taking the first difference of the URBNP, coefficients of auto correlation have become smaller and lie within the given range. This is the one symptom that variable URBNP has become stationary at the first difference, whereas Figure 4.4 also confirms that most of the spikes are inside the 95 percent confidence interval. In the same way, Ljung-Box confirms the entire story where the corresponding probability value (0.880) of the last Q-statistics 9.7269 becomes greater than five percent (0.05).

ARDL Statistics for Crime Model

The tabulated results (Table 4.4.) demonstrate that the link between HAMI, urbanization, and crime rate is not spurious. The value of F-statistics for the bound test in the given model is 7.8887, which is greater than the upper critical bound value of 3.87 at the 5% level of significance. The null hypothesis of no co-integration is rejected at the 5% significance level. The result proposes that the crime rate is positively linked with HAMI & URBN. The Co-integrating Equation, i.e., CoinEq (-1) has the correct negative sign, i.e., (-1.2640). The t-value (-5.7222) also confirms that there is convergence from the short run to the long run amongst these variables during the study period. The result of the data analysis for the crime model also indicates that HAMI in Pakistan induces more crimes. It is because, as the rate of unemployment goes up, the available income-earning opportunities of individuals decrease, which prompts them to commit more crimes. In line, the expenses to become criminals fall down for unemployed-workers and as a result they become criminals. Similar positive associations between high rates of unemployment, soaring inflation, and increasing crime rates in the long run are examined by (Gillani et al., 2009; Lean & Tang, 2007; Tang & Lean, 2009). Similarly, rising inflation has had a crime-motivating effect on low-income holders by lowering their ethical threshold. Accordingly, soaring HAMI induces individuals to commit crimes. The present results are consistent with that of the research conducted by Khan and Saqib (2011); Munir et al.,(2017); Pirae and Barzegar (2011); Saboor et al. (2016); and Umair (2019) determined significant and positive relationships between crimes and misery index in the long-run. The result in (Table 4.4) explains that the demographic variable urbanization is significant with a positive sign. The result explains that as people straighten themselves out in the more

luxurious, i.e., urban areas, their total consumption expenditure will rise, and hence to overcome extra expenditure, the majority tends towards crime. As a result, higher urbanization has become a source of crimes in the country. The findings are consistent with (Galvin, 2002; Glaeser & Sacerdote, 1996; & Gumus, 2004), where, they found a positive association between urbanization and crime. The results presented in Table 4.4 show that HAMI is significant, which means that HAMI is more vulnerable both in the short and in the long run. It proves that HAMI influences the economic performance more badly by snatching the purchasing power of individuals in the form of high inflation, more unemployment. Consequently, the individuals facing high unemployment and inflation will become aggravated and will increase their criminal activities. In line with this, miserable conditions generated by high HAMI negatively affect individual behaviour and thus drive them to more criminal activities.

Table 4.4: The ARDL estimations for crime-model

Critical (F-test) Bounds-Statistics	Significance Level		
	1%	2.5%	5%
Dependant variable: crime rate			
Lower Bound	4.13	3.55	3.10
Upper Bound	5.00	4.38	3.87
Crime Model			
ARDL specification	3,1,3		
F- stat	7.8887		
Level of Significance	Cointegrated at (5%)		
ARDL Estimation of long run coefficients:			
HAMI	0.2999 (4.0440)		
URBNP	9.8600 (4.9090)		
Short run ECM estimates			
D(HAMI)	0.1218 (3.0735)		
D(URBN)	2.4500 (1.7589)		
CointEg(-1)	-1.2640 (-5.7222)		

Bold numbers in parenthesis are the values of t- statistics. Source: Researcher own calculations.

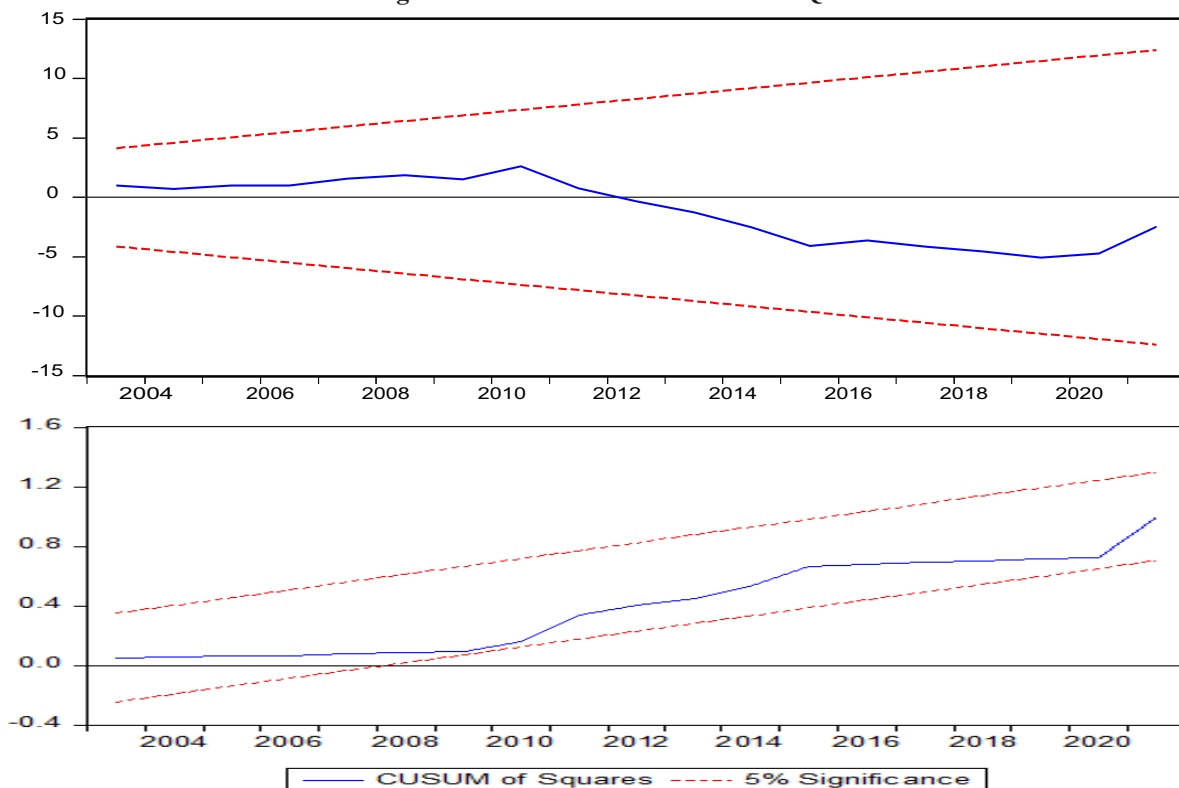
The present research work contributes to the available literature by presenting the strong economic relationship among economic misery, urbanization and crime rate. The estimated result signifies the existence of a positive relationship between an increase in HAMI and the crime rate. On the basis of the results presented in Table 4.4, it is concluded that a 1% rise in HAMI is connected with a boost in losses due to crimes by 0.3 criminals per 10,000 people in the long run. The given relationship is stable because the coefficients of HAMI are positive both in the short-run (0.2) and the long-run (0.3). The positive and significant results clarify that there is a need for strong and consistent policies to keep HAMI at a low level; otherwise, there will be a great loss to the nation in the shape of crimes. Similar positive results between misery index and crimes have been addressed in the studies like as Saboor et al., (2016) and Shah et al., (2022). Urbanization is also one of the emerging challenges faced by developing countries like Pakistan. Similar to HAMI, an increase in urbanization also brings an outsized increase in crime rates in the country. The results of the present study, presented in Table 4.4, illustrate that during the period of analysis, urbanization is positively linked to different types of crimes. The long-run result verifies that a 1% increase in

urbanization possibly increases more than 9 criminals per 10,000 people in Pakistan. The on-hand result is in favour of the studies taken by (Glaeser & Sacerdote, 1999; Haider & Ali, 2015) whereas it is against the results obtained by (Fajnzylber et al., 2002a) that explain that the intensity of urbanization does not have a significant effect on different types of crimes. The present research explores how increasing urbanization may accelerate crimes. In Pakistan, citizens shift from rural spheres to big cities in search of higher-earning jobs, where failure might turn to criminal activities. Similarly, urbanization may increase due to a lack of planning that result in a shortage of economic resources, which in turn inspires the community to become criminals.

Structural Stability Test

The model used in the present study is also subject to specification and diagnostic trials, which largely support the crime model. Simulations and graphs show that the predictive ability of the model is reasonable and the estimation results are reliable, which is mostly preferable to ARDL results. Different techniques are used like Cumulative Sum (CUSUM) and Cumulative Sum of the Squares (CUSUMSQ) to check the stability of the testable model. The diagrammatical appearance of CUSUM and the CUSUMSQ in Figure 4.6 confirms the stability of the model both in the long run and the short run. The graphs of CUSUM and CUSUMSQ shows that the graphical record of CUSUM and CUSUMSQ lies within the range of critical bounds (dashed lines) at 5 percent significance level which confirms that coefficients of parameters of are stable (Brown et al., 1975).

Figure 4.6 CUSUM and the CUSUMSQ



Diagnostic Tests for Crime Model

The current study presumes that the given data is free of serial-correlation and hetroskedasticity issues, and that the model is normally distributed. Various diagnostic tests, such as the Breusch-Goldfrey Lagrangian Multiplier (LM) test for detecting serial correlation, Ramsey's Reset test, Hetroskedasticity test, and Jarque-Bera Test for Normality, have been used to determine whether the model is appropriate or not. The results of diagnostic tests for the crime model are depicted in (Table 4.5).

Table 4.5: Diagnostic test results for crime Model (1990-2021)

The Ramsey's Reset Test for Crime Model 2		
H ₀ : The crime function is specified.		
Ramsey Statistics	p-value	Result
0.2899	0.7752	Crime equation is specified in an accurate manner.
Breusch- Goldfrey Serial-Correlation Lagrange Multiplier Test		
H ₀ : There is no serial correlation.		
B.G.S LM-stat	p-value	Result
0.3708	0.6956	In the crime model, there is no serial correlation.
Test for Heteroskedasticity		
H ₀ : There is no Heteroskedasticity		
Glejser-stat	p value	Result
0.5998	0.7818	There is no heteroskedasticity.
Normality test: The Jarque-Bera test		
H ₀ : Residuals are Normal.		
Jarque-Bera	p-value	Result
0.8613	0.6501	In a crime model, residuals are normally distributed.

Source: Researchers own calculations.

Ramsey's RESET test results (Table 4.5) confirm that the model has an accurate functional form because the probability value is just greater than 0.05. The LM residual test indicates that the variables are not serially correlated, as the current p-value is greater than 0.05. The p-value of 0.7818 in the Heteroskedasticity test is just greater than 0.05, indicating that the residuals are not heteroskedastic. Meanwhile, the Normality Jarque Bera (JB) test has a p value of 0.6501, which is much greater than 0.05, indicating that all of the model's residuals are normally distributed. Therefore, the diagnostic test results give explanations that the estimated crime function accomplishes all the requirements and that the predictable coefficients of the variables are stable during the study period. The empirical findings have been presented briefly and discussed how economic misery and urbanization affect the rate of crime in Pakistan. Interestingly, the Bound test result has recognized positive relationship among the explained and explanatory variables equally in the short-run and long-run. According to the findings, Hanke's annual misery index and urbanization coefficients are significantly positive, implying that a high misery index and an increase in urban population increase crime in Pakistan.

Summary And Conclusions

Unfortunately, like in other developing countries, the crime rate in Pakistan has risen over time due to a variety of factors such as economic and social unrest, as well as poor law and order situations. The study was conducted to look at the crime rate, economic misery, and urbanization in Pakistan. Secondary data was obtained for this study from the Federal Bureau of Statistics, World Development Indicators, and several yearly handbooks of Pakistan's economic survey from 1990 to 2021. However, data on the crime rate has been obtained from Pakistan's Bureau of Police Research and Development. The researcher employed a 31-year sample for the crime model in this empirical investigation. In the present study, all the variables were statistically significant and exhibited accurate indications. The research at hand has emphasized the role of multiple variables in determining crime rates and highlighted the significance of the factors affecting crime over short and long periods of time in Pakistan. The study used the Crime Model to examine the influence of HAMI. Moreover, urbanization has been used as a sub variable in combination with HAMI. The ARDL bound testing method was used to check the dependency of the crime rate on HAMI and the urban population. On the other hand, the stationarity problem, on the other hand, was investigated using the correlogram and

Ljung-Box (LB) statistics, and it was found that the crime rate and urban population are stationary at first difference, whereas HAMI is stationary at level. The ARDL result for the Crime Model describes the significant positive impact of HAMI and urbanization on the crime rate. This clarifies that there are both long and short term connections among crime rate, HAMI and urbanization. The findings of the study also showed that increasing HAMI in Pakistan leads to an increase in crimes. It is because during the period of economic hardships, unemployment rises, income generating opportunities decrease, and, consequently, it motivates individuals to commit more crimes. On the other hand, urbanization is statistically significant with a positive sign. This means that when people migrate to urban areas, their spending habits may change (increase) and lead to criminal activity. As a result, urbanization becomes a source of illegal activities in society. The present results are consistent with that of the research conducted by Saboor et al. (2016), where they found positive non significant result for BMI while, positive significant result for OMI in Pakistan; Whereas, Pirae and Barzegar (2011); Shah et al. (2022) determined significant and positive relationships between crimes and misery index in the long-run. In line Inbaraj, (2010); Tang and Lean (2009); Wang (2019) have also analyzed and found significant positive long run relationship between various types of crimes and misery-index.

Policy Implications

The present study opens new insights for policymakers and the government. The boost in urban populations and the high misery index increase crimes that have brought social and economic unrest in society. On the bases of the study result, the subsequent suggestions are formulated to put off crimes; control urbanization and keep lower the misery index. First, drastic steps are needed to decrease inflation and unemployment, keep lower bank lending rates, and increase GDP per capita so that economic misery may decrease. That might further lower the crime rate in the country. Second, policymakers may suggest suitable measures that reduce urbanization. However, it is important for the government to provide financial incentives, better infrastructure, and better medical facilities to the rural community. Likewise, new towns and homes need to be built up where the rural population can adjust without any difficulty. The following suggestions may help the government in deriving such policies and measures that might help in decreasing urbanization and lowering economic misery, which further may decrease crime in the country.

1. To mitigate the crime rate, key economic determinants of crime like economic misery need to be effectively addressed by policy-makers.
2. It is imperative to discourage the soaring urbanization factors; thereby reducing the overwhelming crime rate in the country. All this is only possible through improving the living standards of the rural population in the country.

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The Influence of Corporate Social Responsibility on Corporate Alliance Brand Value: A Study on Bancassurance Services in Pakistan

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Abstract

Existing theories on corporate values in Pakistan rarely discuss the factors influencing brand value under corporate alliances. This research will identify the factors influencing corporate social responsibility on corporate alliance brand values. The rationale of this research is to drive implications for corporate alliance brand values in Bancassurance services. The study has been conducted on Bancassurance services sector of Pakistan, including banking and Insurance professionals as interviewees. A qualitative methodology has been adopted for this research. Ten interviews have been conducted through the purposive sampling technique, and the interviewees are from the banking and insurance domains of Pakistan. Thematic analysis has been applied as a tool for conducting this research using Nvivo QSR version 10 software. The themes obtained from the transcribed data are that corporate alliance brand value is boosted by implementing CSR towards Bancassurance relevant stake holders, corporate alliance brand value is boosted by implementing CSR towards Bancassurance customers, and corporate alliance brand value is boosted by implementing CSR towards Bancassurance employees. In order to increase their brand value through corporate alliances, the results recommend that the Banca-CSR alliance model can be used by Bancassurance service providers to develop and implement CSR-related policies and initiatives.

Keywords: – : Corporate Social responsibility, Brand value, Corporate Alliance, Bancassurance services

Introduction

Bancassurance refers to the sale of insurance policies from insurance firms via banking channels. Although the idea of bancassurance was first introduced to Pakistan in 2003, this industry saw growth in 2008–2009 (Iqbal & Shamsi, 2017). The bank's principal function in the bancassurance arrangement is to serve as an intermediary for the sale of the insurance product of the insurance company, assisting the latter in building up a sizable client base and expanding its market penetration (Iqbal & Shamsi, 2017). Bancassurance contributes significantly to the overall insurance market's revenue in several nations. This line of work has been growing and now accounts for a significant insurance distribution, helping banks boost their income (Nguyen et al., 2022). Corporate social responsibility, which has been in use for a long time, has been defined in a variety of ways. CSR covers all of the social, moral, legal, and ethical obligations that society expects from businesses (Carroll, 1999). Additionally, the core idea of CSR is that businesses must fulfil their obligations in order to cater the requirements of stakeholders. Enterprises have a wide range of stakeholders, including the government, workers, communities, and partners. Each stakeholder affects how a firm operates in a particular way and plays a different function. Businesses must therefore adopt a unique strategy for each asset in order to ensure appropriateness and provide the greatest value (Nguyen et al., 2022). In his research, Freeman (1984) introduced the concept of stakeholders for the first time, assuming that all corporate stakeholders, including owners or stakeholders, the community, consumers, suppliers, workers, and the state, decide the firm's survival. This approach acknowledges that practically all businesses must balance their commitments and responsibilities with their worries about stakeholders (Carroll, 1991). Corporate ties are alliances. They are about the people you know in the company, and much like a private network, they strengthen your weaknesses and complement your skills. Each alliance is a partnership in which two or more organizations cooperate to accomplish a common objective while keeping separate and independent (Kalia, 2019). Rarely

are the elements impacting brand value under corporate alliances explored in Pakistan's existing theories on corporate values. The elements affecting corporate social responsibility on corporate alliance brand values will be determined through this research. The goal of this study is to develop avenues that have productive solutions for corporate alliance brand values in banking services. The study's interviewees included banking and insurance professionals from Pakistan's bancassurance services sector.

Problem Statement

Existing theories on corporate values in Pakistan rarely discuss the factors influencing brand value under corporate alliances.

Significance of Research

This research will identify the factors influencing corporate social responsibility on corporate alliance brand values. The rationale of this research is to drive implications for corporate alliance brand values in Bancassurance services.

Research Question

The research questions created for further investigation are listed below:

1. What are the factors influencing corporate social responsibility on corporate alliance brand values?
2. What are the factors influencing CSR towards Bancassurance relevant stake holders?
3. What are the factors influencing corporate alliance brand value towards Bancassurance customers?

Literature Review

According to Muttakin et al., (2018), CSR initiatives assist businesses in striking the right balance between their commercial and social objectives and in making the most of limited resources. Due to concerns about public opinion, brand, and ethics, integrating CSR within Bancassurance service providers is crucial for fostering social cohesion and sustainable development. Implementing CSR is becoming a key business strategy, intensifying the competitiveness between corporations (Kim & Kim, 2005). Corporates must therefore continue to market. An awareness of brand value and management that maximizes financial success are necessary for effective brand management (Kim & Kim, 2005). According to Huong & Thuan (2019), a positive brand value is a result of workers' positive perceptions of CSR in the banking industry. The two main views used in brand valuation are those that are firm- and customer-oriented. The first is equivalent to a behavioral marketing strategy, whereas the second emphasizes financial data. Only the impact of brand value on stock returns was validated by corporate brand valuation (Karimi et al., 2022). The brand reveals how an organization is crafted and regarded by those who have interacted with it, whether that perception is tangible or intangible (Nguyen et al., 2022). Since the 1960s, brand management research in the field of marketing has focused on brand value as determined by the firm (Chang & Liu, 2009). Brand value is the added value that a brand adds to a product beyond its inherent worth, which can be assessed from a business or customer perspective, according to corporations (Farquhar, 1989). This theory contends that a company's brand value is made up of the liabilities and assets related to its name and logo. For a company or its customers, it can improve or decrease the value created in a good or service (Aaker, 1996). Organizational and corporate values are used in the writings of Harmon (1996), Aaker and Joachimstahler (2000) Corporate principles are simply referred to as "laws of life" by Gad (2001). A step further is taken by Kunde (2000), who defines corporate religion as the set of principles that bind the organization around a mission and vision. Another approach for a company to convey its beliefs is through a credo (Ind, 2001; Osborne, 1991). The organization's value base must serve as a solid foundation for the mission if it is to serve as the framework for creating the organization's brand (Urde, 2003). However, one issue is that the purpose is sometimes viewed as existing apart from the organization's regular operations, making it more difficult to use. Contrarily, in a company that engages in marketing using its corporate brand, the mission is a distinct driving force and expression of the organization's overarching aims. Consequently, it becomes part of the identity of the brand (Urde, 2003). By engaging in corporate social responsibility activities, businesses can take accountability for their actions.

These businesses are more inclined to maintain high financial reporting standards because of the social and environmental effects of their operations (Chae & Ryu, 2018). From the standpoint of the consumer, firms want to display long-term consumption patterns. From the viewpoint of the employee, however, behavior relating to work is concentrated on upholding the brand promise. Brand equity's many impacts on employees' perceptions of their workplace are referred to as "employee-based brand equity." (King & Grace, 2009). In relation to the banking sector, employees' consideration of the benefits of internal brand management for the organization affects their brand behavior. Another important component of employee-based brand equity is regarded as employee happiness (Nguyen et al., 2022). From the viewpoint of the consumer, Bancassurance services management must provide goods and services that adhere to regulations for quality, safety, value, plan, product information, distribution, sales, and competition. Additionally, one of the elements influencing the success of CSR adoption in businesses is after-sales services, including attentive care and prompt customer service (He & Li, 2011; Pivato et al., 2008). Such practices will develop customer trust. Due to their degree of pleasure, customers can fully infiltrate the market with any product they trust (Kumari, 2012). Customer trust is essential to achieving product offerings and determining profitability (Tiwari & Yadav, 2012). Customers keep their accounts and investment funds with the bank with no hesitation, which is a key source of consumer trust (Choudhry & Singh, 2015). The business environment as a whole is implied by the bank as influencing consumer trust (Sreedevi & Auguskani, 2014). If corporate products guarantee the aforementioned elements and give consumers, particularly Bancassurance service providers, complete and accurate information, they will boost consumer trust effectively, which will raise the perceived worth of their products (He & Li, 2011; Pivato et al., 2008). Additionally, there is growing agreement that corporate social responsibility and excellent (business) governance go hand in hand. The Enron scandal taught us that ethical behavior cannot be produced solely by an award-winning social report (Marsiglia, & Falautano, 2005). Programs for corporate social responsibility and sound corporate governance are increasingly moving away from a "philanthropic" interpretation of corporate capitalism and toward real ways to win back the confidence of consumers and the general public while strengthening reputations. When referring to these recent changes, the words "being held responsible for" and "keeping account of" are sometimes used, which are merely superficially equivalent (The Economist, 2005). One of the crucial components of a company's ability to contend on the international market is its "accountability" (or, more accurately, its capability to accept responsibility for new issues). Additionally, this is much more crucial for the banking and insurance industries. A number of procedures and mechanisms are implied by corporate social responsibility. Internal corporate mechanisms (organizational, middle management, and corporate leadership) aimed at introducing a moral perspective, moral guidelines and agreements of principles, spreading corporate governance systems, mentoring and enhancing intellectual resources, and an Ethical Committee are some examples that can be used in the insurance industry specifically (Marsiglia, & Falautano, 2005).

Gaps Identification after Literature Review

Previous studies rarely focused on the factors influencing brand value under corporate alliances. Secondly, there is a need to explore the factors influencing Bancassurance products through corporate social responsibility.

Methodology

A qualitative research methodology has been used for this study. There are 10 interviews with respondents. Since semi-structured interviews are built around asking questions inside a conceptual framework, they were chosen for the aforementioned objective. But there is no set order or format for the questions. In research, semi-structured interviews are usually qualitative in nature. Due to its subjective, judgmental, and selective nature, a non-probability selection method called purposive sampling has been chosen. I have chosen representatives from the Insurance industry for in-depth information based on their knowledge and experiences. Thematic analysis has been applied as a tool for this research.

Thematic Analysis

According to Braun and Clarke (2006), thematic analysis is a popular technique for qualitative research and is comparable to other approaches including grounded theory, ethnography, and phenomenology. According to Braun and Clarke (2006), thematic analysis should be a fundamental strategy for qualitative research since it provides a focal point for directing a variety of qualitative research projects. Thematic analysis is a technique employed by many qualitative methodologies, according to many researchers; it is not a distinct method but rather a statement used to aid research experts. Clarke and Braun (2006) provided a methodology for the study of qualitative data that comprises the subsequent steps:

- Getting to know the data
- Producing first codes
- Theme research
- Themes analysis
- identifying and naming the themes
- Making the report.

Thematic Coding

After all interviews had been performed and transcribed, the coding procedure was initiated. A coding system was devised after several iterations and the identification of the initial 30 codes, which were explored. Then, in order to further enhance them, these coded transcripts were loaded into QSR Nvivo (version 10). Codes were often developed using information or existing hypotheses. Figure 1 is a coding snap shot.

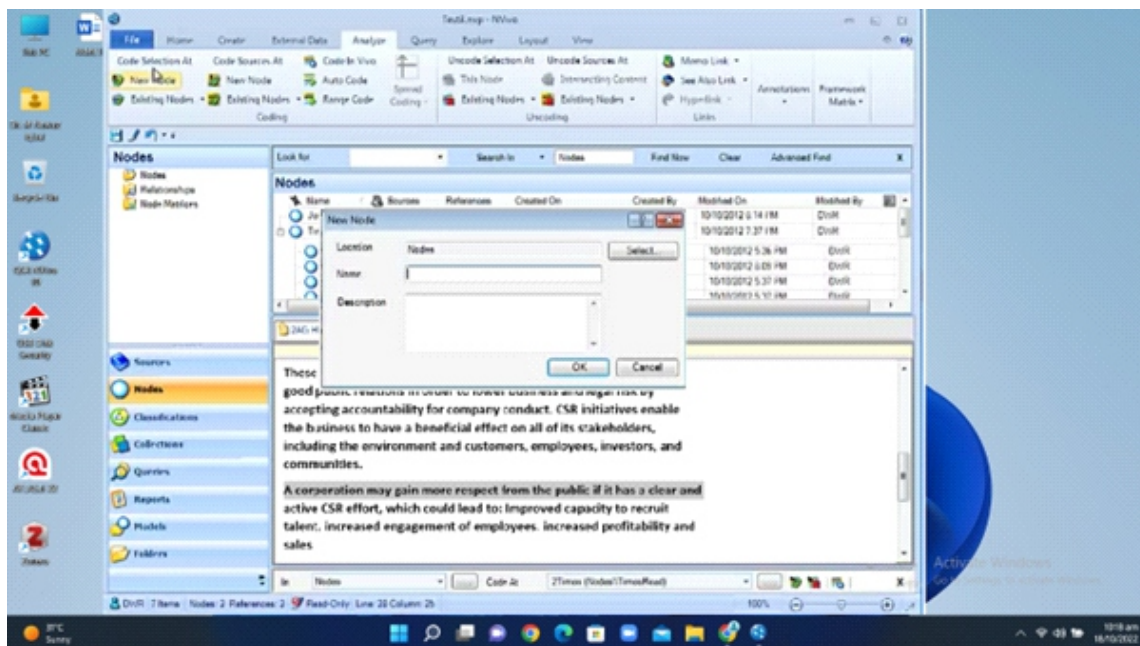


Figure 1: Coding Snap Shot

Triangulation

The first step in 'information source' triangulation is to select numerous Bancassurance stakeholders of different types from different routes (Evers, 2011). This makes it possible to consider the opinions of a variety of participants in different business channels (Evers, 2011). Second, the triangulation of "methodological" and "information type" was created as a result of employing different techniques for information accumulation (Evers, 2011). Rich field notes were immediately written after each meeting, in addition to semi-structured interviews, to document participant behavior and the environment according to occurrences.

Trustworthiness

The confidentiality and anonymity of the participant's shared information were moral requirements. Both the

notes and the material that was transcribed were scrubbed of any personally identifiable information, and each participant was given an individual alpha-numeric code instead. The researcher transcribed each interview, and no interview or no other parties were contacted to receive recordings for transcription.

Results

Interview Characteristics

Respondent Code	Gender	Method
GF_1	Male	In Personal
BS_2	Female	In Personal
HSI_3	Male	In Personal
DH_4	Male	In Personal
RK_5	Male	In Personal
HM_6	Male	In Personal
ME_7	Female	In Personal
QF_8	Male	In Personal
JP_9	Male	In Personal
MR_10	Female	In Personal

Table 1: Interview Characteristics

Following are the themes comprised from the factors explored during interviews. Themes include; corporate alliance brand value is boosted by implementing CSR towards Bancassurance relevant stake holders, corporate alliance brand value is boosted by implementing CSR towards Bancassurance customers, corporate alliance brand value is boosted by implementing CSR towards Bancassurance Employees.

Theme 1: Corporate alliance brand value is boosted by implementing CSR towards Bancassurance relevant stake holders

"...Sharing information about company's CSR initiatives may increase stakeholder participation and encourage customer support..."JP_9.

Additionally, the fundamental tenet of CSR is that organizations must fulfil their duties in order to satisfy stakeholders. Stakeholders in businesses come in many different forms, including the government, employees, communities, and partners (Nguyen et al., 2022).

"...CSR enables business and its stake holders to expand while also assuring self-growth and profitability by assisting them in having a meaningful impact on society and all parties involved in their operations..."RK_5.

Each stakeholder affects how a firm operates in a particular way and plays a different function. Businesses must therefore adopt a unique strategy for each asset in order to ensure appropriateness and provide the greatest value (Nguyen et al., 2022).

Theme 2: Corporate alliance brand value is boosted by implementing CSR towards Bancassurance customers

"...CSR can affect consumers' views and attitudes in addition to how they choose which items to buy..."DH_4.

The most significant and pervasive influences on consumer behavior are cultural. Culture, subculture, and buyer social class are a few of these cultural aspects. Social influences. Small groups, families, roles, and consumers' social position all have an impact on how they behave as consumers. These elements have a significant impact on consumer reactions (Rosanti, 2021).

"...Receiving information about a company's CSR initiatives helps consumers become more aware of CSR,

which fosters favorable views about purchasing goods from CSR businesses... ”HSI_3.

Examples of social component indicators include choosing a bank's insurance products based on a partner's or family's acceptance, referrals from friends, and other people's judgments of the value of insurance. This shows that a client's social life has no bearing on their choice to buy insurance from a bank (Rosanti, 2021). According to Sangadji and Sopiah (2013), a social class is an organization that admits people with similar social standing. Social variables frequently have an impact on a person's desire for a product. Typically, people follow their environmental behaviors, including CSR practices, when making purchases of all kinds.

Theme 3: Corporate alliance brand value is boosted by implementing CSR towards Bancassurance Employees

“...A corporation may gain more respect from the public if it has a clear and active CSR effort, which could lead to: Improved capacity to recruit talent. increased engagement of employees. increased profitability and sales... ”HM_6.

The quality of CSR disclosure and the efficiency of corporate governance procedures are related. According to Gill (2008) and Habbash (2016), corporate governance aims to ensure ethical company operations by deploying a number of organizations, such as the audit function, auditors, and executives, who are in charge of observing and regulating manager performance and decisions regarding stakeholders, the environment, and society.

“...CSR involves initiatives like promoting professional and personal growth, providing ongoing training to impart new skills, and fostering a pleasant and engaging work environment... ”BS_2.

By providing investors with information on the company's ties with its workforce, society, and environment, CSR disclosure reduces the knowledge asymmetry issue that develops between managers and owners (Jennifer & Taylor 2007; Said et al., 2009). Strong governance mechanisms assure integrity, openness, and continued revenue generation for businesses (Ruangviset et al., 2014).

Themes and its Sub themes categorization		
Factors generate during interviews	Sub Themes	Themes
Business Alliance	Corporate Alliance	Corporate alliance brand value is boosted by implementing CSR towards Bancassurance relevant stake holders
Service level agreements		
Common Channel of Communication		
Consumer understanding		
Business Coordination		
Corporate strategy		
Stake holder participation		
Brand Understanding	Brand Value	
Consumer Trust		
Brand Awareness		
Brand Equity		
Purchase Intention		
customer consistency in premium pay	Corporate Social Responsibility	
Organizational support		
Employee stakes		
Corporate understanding		
Consumer market		
Productive targets		
consumer wellbeing		
Consumer Awareness		
Uncertain financial condition		

**Table 2: Theme Meta Analysis
Theoretical Framework**



Figure 2: Banca-CSR Alliance Model (BCSRA Model)

Conclusion

A corporate alliance may raise the long-term value of the brand and the value of the relevant shareholders. According to the above results, excellent corporate social responsibility performance promotes staff productivity, boosts customer loyalty, and lowers financing costs, all of which help to raise shareholder wealth and the economic value of innovation. In order to increase their brand value through a corporate alliance, the outcome implies that the Bancassurance service providers should develop and implement CSR-related policies and initiatives using the model of the Banca-CSR Alliance. CSR improves society by giving firms a way to establish closer links with local communities while also helping to resolve global concerns. Initiatives like corporate volunteerism and charity fundraising generate direct benefits. A reduction in the deductible, copayment, and coinsurance amounts the customer must pay. Cost-sharing reductions in Bancassurance domain are sometimes referred to as surplus savings. If you meet the requirements, you must sign up for a silver category plan to receive the additional discounts. Customers strengthen a socially conscious company's brand value by increasing its future profitability and goodwill. CSR initiatives are therefore ways for businesses to improve their reputation, which has an impact on brand equity as a result.

Future Recommendations

The framework is an effort to understand the variables affecting customers' cross-purchase intentions, and it will further be able to help consumer market segmentation of Bancassurance customers. The factors found in the study are not constant, hence cross sectional and longitudinal studies are required to determine how the environment's changing conditions affect the components.

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The Moderating Impact of Firm Characteristics on Free Cash Flows and Financial Performance: Evidence from Pakistan Stock Exchange

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Abstract

This study aims to discover effect of firm characteristics on the linkage of free cash flows and firm financial performance. Precisely, the current study has two main objectives: first, to setup the relationship between free cash flows and financial performance of non-financial firms; secondly, to investigate the moderating impact of firm characteristics of this relationship. The firm characteristics considered in this study are firm size and age. The study used secondary panel data which was obtained from 95 non-financial firms registered at PSX for the period of 2009-2019. Regression analysis was used in data evaluation. Results pointed out that free cash flows have substantial positive effect on financial performance, while firm characteristics have a negative significant moderating effect on this relationship. The key academic input of the study is that free cash flows have a positive statistically significant effect on financial performance. The study suggests that firm managers, shareholders, and practitioners should focus more on the need for firms to generate more FCF.

Keywords: Firm Age, Firm Size (FS), Free Cash Flows (FCF), Firm Performance (FP), Pakistan Stock Exchange (PSX)

Introduction

The main goal of owners of any firm is to increase their worth by enhancing the value of their firm whereas, the manager's objectives may comprise of enhancement of their worth. Due to differences in objectives, the firm suffers as the managers and the owners work only for their goals and not for the enrichment of firm value. Due to power on the decision making of the firm, the managers made such decisions that are in their favor due to such decisions the entire firm and its shareholders will suffer. They may tend to invest in projects beneficial for them only; generating negative net present values (NPV) leading towards agency problems among the owners and the managers. This implies a waste of FCF implying the FCF hypothesis as defined by Jensen in presenting his agency theory (Jensen & Meckling, 1976). The impact of financial and non-financial attributes of the firm on its financial performance is examined in various empirical literature. The attributes commonly used for examination of such impact are Firm Size (FS), age of the firm (FA), diversification of the firm to avoid losses, liquidity of the firm, and firm's leverage. (Bist, Mali, Puri, & Bhattarai, 2017; De Kok, Fris, & Brouwer, 2006; & Dioha, Mohammed, & Okpanachi, 2018) The main objective is to explicitly mark the hypothesis of FCF and agency theory to understand how attributes of firm affect the linkage of FCF and performance of non-financial firms indexed at PSX. The attributes used in this study including firm size (FS) and firm age (FA) because literature indicates that they are the most commonly used, and their impact on the linkage of Free Cash Flows and financial performance of the firm is more significant (Mukras & Nzioka, 2015).

Free Cash flows (FCF)

FCF are the cash that is left in the business after meeting all the necessary expenditures. Richardson (2006) explained FCF as the leftover cash after paying for required expenditures including the maintenance of

assets, investing in projects yielding positive net present values. Various strategic and finance literature showed that the estimation of FCF is based on different methods. The common method used to calculate the FCFs shown by the assets employed (Lehn & Poulsen, 1989). Arslan and Karan (2007) evaluated the FCFs as operating free cash flows minus expenditure required for capital investment separated by employed total assets of the firms (TA).

Firm Characteristics

The impact of financial and non-financial attributes of the firm on its financial performance is examined in the various empirical literature. The attributes commonly used to examine such impact are firm size (FS), age of the firm (FA), diversification of the firm to avoid losses, liquidity of the firm, and firm's leverage. A study conducted by (Dioha, Mohammed, & Okpanachi, 2018) estimated the influence of firm specific characteristics on the productivity of Nigerian firms. Measurement of profitability was based on Return on Sales (ROS), whereas firm size (FS), liquidity, sales growth, firm age (FA), and leverage were used as proxies for firms' attributes. Bist, Mali, SabitaPuri, RK, and Bhattarai (2017) examined the linkage among the firm's attributes and the firm' financial performance. The sample used for analysis was based on insurance companies in Nepal. The period for analysis was based on 2008-2016. The analysis was done using the multiple regression analysis methods. Results revealed that growth in sales and leverage of firms is positively related to a firm's financial performance (FP) of firms. In contrast, the diversification of risk, liquidity of firms, and size of the firm were adversely related to firm performance.

Firm Performance

Financial performance (FP) defined as a capability of a firm to gain its strategic financial outcomes as dignified against its proposed yields (Sun, Zhao, & Cho, 2019). On the other hand, Mutende et al., (2017) described FP as the ability of the firm to attain its intended financial outcomes calculated by its proposed productions. Gleason and Barnum (1982) described robust performance as the ability of the firm to attain intended results. The study of (Hult et al., 2008) provided an interpretation of performance. Performance comprised of three forms (i) Financial performance (FP) (ii) Operational performance (OP), (iii), and overall effectiveness of the organization. Various studies addressed the subject of measuring the performance of an organization through certain indicators (Hult et al., 2008); (Richardson, 2006); (Zizlavsky, 2016) used ROS, ROA, ROI, and ROE to measure the financial performance of firm. Whereas (Ogunmokun, 2017) used the Return on equity (ROE) to measure financial performance.

Research Questions

This study addressed the following research questions:

1. What is the linkage among operating free cash flows (FCF) and firm financial performance (FP)?
2. What is the moderating impact of firm' traits on the linkage of the firm operating free cash flows (FCF) and financial performance (FP)? Traits included firm size (FS) and firm age (FA).

Research Problem and Objective

The proposed free cash flow theory of Jensen (1976) stated, introducing debt will decrease agency costs (Jensen & Meckling, 1976). Due to the presence of debt, the managers are bound to make and fulfill the obligations of debt holders which force them to make prudent decisions that are beneficial for the company. According to the FCF hypothesis, in the presence of surplus cash flows, managers may invest in adverse NPV projects. Managers' do not care about the money of the shareholders rather they benefit themselves only. Findings by (Mutende et al., 2017) showed that the firm' financial performance is positively impacted with the presence of free cash flows whereas features of the firm including firm age and firm size; put negative substantial moderating influence on the connection of operating FCFs and firm financial performance. Connection among the firm age and its productivity were examined by (Brouwer et al., 2005) The results revealed that they are very few signs of the relationship among the age of the firm with its productivity. Every sector has a different growth rate and productivity levels and it varies accordingly with the firm's size (FS).

The results revealed that there is no correlation between productivity and age of the firm. The results of the above studies showed inconsistent and mixed findings of the FCF hypothesis, this study finds how the presence of operating Free cash flows in an organization affect the performance of the firms. The second objective of this study is to calculate the moderating impact of firm attributes; including its size (FS) and its age (FA) on the linkage of operating FCF and FP.

Significance of the Study

This study is beneficial for shareholders and external stakeholders too. As the main motive of any shareholder is to earn profit. Management must work in the best interest of the company' shareholders. This study will be helpful for shareholders as they are the real owners of the company, the presence of cash flow in an organization enables the management to invest in profitable projects which impacts positively on the performance of firms, which in turn increases shareholder's wealth. The shareholders will be able to understand that this cash flow is appropriately invested by the management. Stakeholders are the relevant persons who have a direct or indirect interest in a particular entity. Stakeholders are largely worried about the financial performance, financial position, and cash flows of the entity, primarily its free cash flows. Generally, stakeholders have a strong perception that investment in a large, mature firm is safe. Firm size depicts a strong signal about its operations, leading to larger revenues and profits, eventually yielding higher returns. Firm size can be measured in terms of total assets, total sales revenue, or total equity of the business. As the entities move upward in their life cycle, they tend to achieve growth in terms of strong financial indicators, they become prominent and eventually conduct their day-to-day operations in an efficient manner owing to the learning effect. Older firms have greater experience and knowledge of the market and ongoing operations, which help them to generate strong financial results, eventually creating a positive impact on relevant stakeholders, including prospective investors. This study would be an interpreter in sectors other than the sample used and will benefit directors, regulatory authorities, and investors to better understand role and linkage among these variables. They are in a good position to gain in-depth knowledge of these variables and will help them to resolve the surrounding myths.

Literature Review

Financial Performance of Firm (FP) and Free Cash Flows

Chibuike and Celestine (2022) examined the effect of Management of free cash flows on (FP). The study consists of population of ten (10) listed pharmaceutical companies in Nigeria. Data was gathered from annual reports of companies from 2011 to 2020. Results showed affirmative and irrelevant effect of operating activities on liquidity. Moreover, result shows a positive and insignificant effect of investing activities on liquidity. Moreover, result indicates adverse but substantial effect of financing activities on the liquidity of listed pharmaceutical companies in Nigeria. It was proposed that listed pharmaceutical companies should be enhanced to have a reasonable strategy of controlling cash flows so that the firm's effectiveness may be enhanced. It was further suggested that they should re-calculate strategies for management of cash flows to enhance the generation of more cash reserves. Yo (2020) studied the connection between board leadership organization and firm performance. Findings shows diverse results are because of various performance measures used, research designs, selection of data sampling and approach of dealing with endogeneity issues. Future researchers may advance to robustness of research by using different theoretical lenses to consider how different governance factors moderate the relationship among board leadership and financial performance of firms. Gregory and Wang (2010) studied the impact of the presence of free cash flows (FCFs) on a firm's financial performance (FP). By employing the regression model, a sample of 505 listed firms from Taiwan Stock Exchange for 5 years (2002-2007) was used for analysis. The results of the study were conflicting. On the one side, the finding revealed that free cash flows (FCFs) statistically affected the (FP) of the firm. On the other side, it employs that the presence of FCFs negatively affecting the financial performance due to unusual expenditures made by the management. A Gregory (2005) calculated the linkage

among financial performances and FCF. Findings revealed that a merger is more beneficial with the firm having free cash in contrast to the firm having lesser free cash flows. In the study, the employed hypothesis was tested using “long term returns”, “analyzed announcement month return”. If daily returns around announcements were used in the study the results different. Moreover, the study focused on financial performance only. Luo (2008) found that companies with excessive cash flows experienced lesser future returns. The study found that debt financing can further control overinvestment behaviors. Arslan and Karan (2007) evaluated the FCFs as operating free cash flows minus expenditure required for capital investment separated by employed total assets of the firms (TA). This measure of FCF nullified the fact that expenditure on capital also inculcates the assets present in an organization and the chances available to organizations for investment. Therefore this method has shown lesser free cash flows. Kamran, Zhao, and Ambreen (2017) improved this method of calculating the free cash flow, he calculated the FCFs as (Operating free cash flows minus expenditure required for capital investment divided by employed total assets of the firm for the time frame of three (3) years). In this study, FCF is measured as defined by (Mutende et al., 2017) as Free Cash Flows as cash available after making necessary adjustments for non-cash expenses and changes in capital expenditures (CAPEX) to remove inconsistencies.

Free Cash Flows (FC), Firm Characteristics (FA and FS) & Financial Performance (FP)

An organization comprises of various features i.e. sales growth, managerial structure, size of firm, leverage, liquidity, and age of the firm. These features directly and indirectly contributed to the performance of firms. According to Kogan (2012) & McKnight (2009) firm characteristics included the specific attributes of the firm including its age, size, leverage, liquidity, a pattern of sales and assets growth, the structure of ownership, characteristics and composition of BOD, payout policies (dividends) and growth opportunities. Lasisi (2017) studied the linkage of firm attributes with profitability. Data used for analysis was based on listed agricultural firms at the Nigerian Stock Exchange covering 9 years (2008-2016). The analysis was based on panel data. Findings revealed that growth in sales and liquidity is positively correlated with performance whereas leverage of the firm is negatively related to profitability. Coad (2013) examined how the company's performance varies with its age (FA). Spanish Manufacturing Companies Board for 9 years (1998-2006) is used as a sample for analysis. The results suggest that companies advance with age, with an increase in the life of the company that you will witness because it was noted that aging companies enjoy stability in their profits, their debt ratio is lesser and equity ratios are high, their productivity is at maximum level and with time, their size also increases. As with the age of the company increases, it can easily convert growth in sales into the growth in earnings and productivity. However, findings by (Loderer, 2010) were in contrast with the above findings. It considered whether the profitability of a firm decline with age. The results revealed that there is an adverse correlation amid the age and profitability of the company, and it employed different estimation techniques and regression specifications and the method of measuring the age of the company. Babalola (2013) did significant academic work on learning the connection among profitability of firms and firm size. The investigation was based on the data of Nigerian stock exchange for the years (2000-2009), results show a positive connotation among firm size and firm profitability. Doğan (2013) found that most studies on examining the linkage of firm size and profitability, has established a positive linkage among firm size and firm' profitability; still, there exist further need to find this relationship among firm size and profitability of firm based on strong evidence-based on fluctuating data sets. Isik (2017) examined the relationship by using the manufacturing industry of turkey. Their findings are contrary to the above studies. Findings revealed that there is no connection between firm size (FS) and profitability. Findings also revealed that in a huge size manufacturing industry, the relationship is definite and clear only in that industry, and in some circumstances, there was an inverse linkage of FS and FP. In the context of Pakistan, there are limited studies on the assessment of the relationship among these variables. Azhar (2019b); Shah (2004); Vij (2015) tried to examine the firm's profitability with varying proportions of working capital. To know the realistic nature of the linkage among the size and productivity of firms more literary work is required to understand the different

nature of findings. The main objective is to explicitly mark the hypothesis of FCF to find out how attributes of firm affect the linkage of FCF and performance of non-financial firms indexed at PSX. The attributes used in this study including firm size (FS) and firm age (FA) because the abovementioned literature indicates that they are the most commonly used, and their impact on the linkage of Free Cash Flows and financial performance of the firm is more significant.

Theoretical Support: Agency Theory

This theory is attributable to (Jensen & Meckling, 1976), who advocated that core linkage exists between principal and agent, and agency problem emerges when managers start working for their own self interests rather than safeguarding their owners. The shareholders who are the owners want to maximize the value of entire firm, which eventually improves their wealth, whereas managers solely think of their own stake. This difference of goals and objectives between two primary stakeholders lead to lower value of firm and it in turn creates lower free cash flows available to be distributed among resource providers. It is the duty of managers to protect the interests and goals of shareholders in an effective manner, leading to smooth conduct of business operations, making profitable investments, generating greater sales revenues and profits, leading to improved free cash flows available for distribution.

Stakeholder Theory

This theory was advocated by (Freeman & Medoff, 1984). This theory argued that not only shareholders are the main stakeholder in any firm but also the other stakeholders associated with the firm are also equally important, so value creation is equally pertinent for all the stakeholders. It is the duty of executive managers to align the interests and goals of all the stakeholders including internal and external in an effective manner, which will eventually improve and enhance the confidence of customers as well, leading to customer loyalty, which in turn will lead to increased buying, which will generate greater revenues for the entities, yielding higher profitability, leading to augmented free cash flows with the entity.

Shareholder Theory

Friedman (1970) believed that firms only and only have one responsibility towards its owner's which is their wealth maximization, and the goal of any firm is to generate value for its shareholders only. Firms have nothing to do with any other aspect apart from investing in profitable avenues, which may yield lucrative returns, eventually leading to serving the interests of their owners in the form of superior earnings, ultimately providing larger free cash flows.

Research Hypothesis

H1: Free cash flows have a significant effect on the financial performance of firms listed at the Pakistan Stock Exchange.

H2: Firm characteristics have a significant moderating effect on the relationship between free cash flows and financial performance of firms listed at Pakistan Stock Exchange.

Research Methodology

This study is based on existing theory and develops hypotheses that can be verified. The research design adopted for this study was a cross-sectional descriptive survey of all non-financial firms listed at the PSX. Secondary data is taken from the annual reports published by the companies listed in PSX (KSE-100 index). The data collection has been made from the joint stock valuation published by the State bank of Pakistan (SBP) and Pakistan Stock Exchange (PSX). The sample selected in this study is based on non-financial sector companies (NFS) over 11 years starting from 2009-2019.

Free Cash Flows (FCF) and Firm Performance (FP)

The objective of this research is to recognize and study the linkage among free cash flows (FCF), firm size (FS), firm age (FA), and firm performance (FP). Whereas regression equation used for regression analysis is

as under: The regression equations for the calculation of the first hypothesis is as follows:

$$\bar{Q}ROA_{it} = \alpha_0 + \beta_1 FCF_{it} + \epsilon_{it} \text{-----Eq-1}$$

$$\bar{Q}Tobin's Q_{it} = \alpha_0 + \beta_1 FCF_{it} + \epsilon_{it} \text{-----Eq-2}$$

In the above-stated equation.

$\bar{Q}ROA$ =Firm' financial performance, ROA

$\bar{Q}Tobin's Q$ = Financial performance of a firm in terms of Tobin's Q

α is the Constant term; β shows a beta coefficient.

FCF= Operating Free cash flows (FCF)

ϵ = Error term.

The regression equations to examine the second hypothesis, representing the moderating variables are as follows:

Firm Age:

$$\bar{Q}ROA_{it} = \alpha_0 + \beta_1 FCF_{it} + \beta_2 AGE_{it} + \beta_3 AGE_{it} * \beta_4 FCF_{it} + \epsilon_{it} \text{-----Eq-2a}$$

$$\bar{Q}Tobin's Q_{it} = \alpha_0 + \beta_1 FCF_{it} + \beta_2 AGE_{it} + \beta_3 AGE_{it} * \beta_4 FCF_{it} + \epsilon_{it} \text{-----Eq- (2ai)}$$

Firm Size:

$$\bar{Q}ROA_{it} = \alpha_0 + \beta_1 FCF_{it} + \beta_2 SIZ_{it} + \beta_3 SIZ_{it} * \beta_4 FCF_{it} + \epsilon_{it} \text{-----Eq- (2b)}$$

$$\bar{Q}Tobin's Q_{it} = \alpha_0 + \beta_1 FCF_{it} + \beta_2 SIZ_{it} + \beta_3 SIZ_{it} * \beta_4 FCF_{it} + \epsilon_{it} \text{-----Eq- (2bi)}$$

i” = cross sections “t”= time series “ ϵ ”= error term

ROA_{it} = Generated Return on assets of a firm 'i'

FCF ϵ = Free Cash flows in year t

FS $_{it}$ = Firm Size (FS)

FA $_{it}$ = Firm Age (FA)

$\beta_1, \beta_2, \beta_3,$ and β_4 are estimated coefficient of explanatory variables.

The above stated equation 2a, 2(a)(i) and 2b, 2b(i) presented the model of moderation. The moderation happened if the independent variable i.e. FCF and the moderating variables firm size and firm age are not significant with the interaction term. Whereas, if FCF and moderating variables are widespread with the interaction time period, then the impact of moderation is also significant (Adelegan, 2011). To quantify the impact, the coefficient of 3 and 4 were added. This impact of moderation; FS and FA is statistically described as an interface that impacts the strength and/or **course** of the relation among FP and FCF (Baron, 1986). The term * in the above-stated model indicates moderation.

Data Analysis Descriptive statistics

Descriptive statistics included the mean, maximum value, median, and standard deviation of dependent, independent, and moderating variables. The mean is the average, the median is the number in the middle, and the standard deviation is the how disperse is data from mean. In the data the maximum value indicates the highest value and minimum shows the lower value. Table 4.1 represents the values representing various descriptive statistics of study variables including independent variable (FCF), dependent variable (FP) measured by (ROA & Tobin's Q), and moderators (FS & FA).

Table 4.1 Descriptive Statistics

Variables	Obs	Med	Max	Mean	SD
ROA	950	6.81	1292	8.89	45.04
Tobin Q	950	0.62	2.78	0.55	0.59
FCF	950	-29251.5	26956	11265	163.92
FSIZE	950	6933954	17902463	35835632	95405724
FAGE	950	41	159	46	23

Correlation Analysis:

Correlation analysis was employed to examine the presence of linkage among study variables including (firm financial performance, (ROA) (Tobin's Q) free cash flows (FCFs), firm size (FS), and Firm Age (FA), as depicted by Table 4.2. The most common reliable measure used for the establishment of an association between the variables is the Pearson correlation. The value of Pearson correlation varies within the range of -1 and +1 (Bluman, 2009). The positive correlation is the addition in one variable in corresponding additions in other, whereas negative correlation is the additions in one variable leads towards subtraction in other variables i.e. reverse relationship among variables. If correlation doesn't exist among the variables under study this is called as no correlation. To examine the linkage among variables, correlation is used in this study.

Table 4.2 Correlation Analysis between Dependent, Independent Variable and Moderating Variables

Variables	1	2	3	4	5
Tobin Q	1				
ROA	0.681**	1			
FCF	0.107**	0.047*	1		
FSIZE	0.033**	0.123*	0.061	1	
FAGE	0.304**	0.226*	-0.186*	0.0164	1

FCF, FP (ROA), firm attributes (FS & FA)

The correlation results revealed that the independent variable (FCF) is positively correlated with the Dependent variable, i.e. firm performance (ROA) ($r = 0.047$). Results show that the moderating variable, i.e. firm size is positively correlated with the dependent variable, i.e. Firm performance (FP) ($r = 0.123$). Results show that the moderating variable, i.e. firm age is positively correlated with the dependent variable, i.e. Firm performance (FP) ($r = 0.226$).

FCF, FP (Tobin's Q), firm attributes (FS & FA)

The correlation results revealed that the independent variable (FCF) is positively correlated with DV, i.e. firm performance (Tobin's Q) ($r = 0.681$). Results show that the moderating variable, i.e. firm size is positively correlated with the dependent variable, i.e. Firm performance (FP) ($r = 0.033$). Results show that the moderating variable, i.e. firm age is positively correlated with the dependent variable, i.e. Firm performance (FP) ($r = 0.304$).

Regression Analysis:**Hypothesis 1:**

In the first place test was carried out to examine our first hypothesis i.e. = H1: Free cash flows have an important effect on the firm's financial performance listed at the Pakistan Stock Exchange (PSX).

To find which model of regression is properly fit in our data, we have executed a fixed and random effect

model of regression. To calculate the impact of FCF on FP, the Hausman test has been executed to contrast among the random and fixed models and then find the best-fitted model for our analysis. The result in the below table 4.3 shows that the $\text{prob} > \chi^2$ of using the ROA and Tobin's Q

Therefore, we have employed a fixed-effect model in our analysis.

4.3 Hausman Test for Fixed Effect and Random Effect

Description	ROA	Tobin Q
Chi Square	3.56	6.05
Prob > Chi Square	0.0000	0.0000

HO: FCF has no significant impact on financial performance (ROA)

The results in the below table 4.4 specified that FCF describes 72% of the variability in (ROA). It means that a 28% variation in ROA is represented by other factors not incorporated in this study. Since the t stats probability for the free cash flow is equal to 0.016 and the p value < 0.05, therefore, the study rejected the null hypothesis. From the F stats, it can be interpreted that "F-statistics" is significant as a value shows 25% ($p < 0.01$), which are both significant at a 5% significance level. The "T statistics" value is 2.48 greater than 1.96 indicating the good result for our regression analysis.

Table 4.4 Results of Regression Analysis

Predictors	Financial Performance (ROA)				
Variable	B Coefficient	SE	T Stats	P Value	
FCF	0.36	0.14516	2.48	0.016	
C	0.058	0.0542	1.07	0.000	
R Square	0.72				
Adjusted R Square	0.69				
F Stats	25				
P Value	0.000				

$$\bar{Q}ROA = 0.058 + 0.36FCF + \epsilon$$

Where $\bar{Q}ROA$ shows the financial performance of firms indicated by Return generated on assets.

HO: FCF has no substantial impact on financial performance (Tobin's Q)

Results in the below table 4.5 represent that FCF describes 56% of the variability in FP of firm calculated by (Tobin's Q), meaning that only 44% variation in (FP) is described by other variables not incorporated in this study. The F stats equals to 18 indicates that this model has strong explanatory powers. As the p value < 0.05, therefore rejected the null hypothesis i.e. FCF has no substantial impact on performance (measured in terms of Tobin's Q). The "T statistics" value is 4.03 greater than 1.96 indicating the good result for our regression analysis.

Table 4.5 Results of Regression Analysis

Predictors	Financial Performance (Tobin Q)				
Variable	B Coefficient	SE	T Stats	P Value	
FCF	0.41	0.1017	4.03	0.0001	
C	0.558	0.1817	3.07	0.0000	
R Square	0.56				

Adjusted R Square	0.54
F Stats	18
P Value	0.0000

The regression equation employing the above relationship is as under;

$$\bar{Q} \text{ Tobin's } Q = \alpha + \beta FCF + \epsilon$$

$$\bar{Q} \text{ Tobin's } Q = 0.558 + 0.41FCF + \epsilon$$

Hypothesis 2:

H2: Features of the firm including (FS) and (FA) have a major moderating impact among FCF and financial performance of firms indexed at PSX: Second objective of the study is to find the moderating impact of firms' attributes (FS) and Firm Age (FA) on the linkage of operating (FCF) and firm financial performance (FP). To find which model of regression is properly fit in our data, we have executed a fixed and random effect model of regression. To examine the influence of FCFs on FP of firms, with the moderation of FS and FA, the Hausman test has been executed to contrast among the random and fixed models. The result in the below table 4.6 shows that the $\text{prob} > \chi^2$, Therefore, we have employed a fixed-effect model in our analysis.

Table 4.6 Test Statistics

Test	Observation	Statistics	Statistics value	Degree of Freedom	P Value
Hausman	950	Chi square	3.5	1	0.005

ROA, FCF, and Firm Attributes (FS & FA)

Table 4.7 reveals that the constant is significant (negative), indicated by the beta coefficient of -0.016, p-value 0.045. Findings show that firm attributes show a negative moderating impact on the linkage among (FCF) and FP (measured in terms of ROA). The findings shows that firm age has a coefficient = -0.510 and a p-value = 0.0255 which is significant at a 5% significance level, whereas FS has positive coefficient of 0.321 and p-value = 0.0321. The overall impact is assigned to the greater negative impact of FA. Findings show that the impact of firm attributes (FS and FA) explains 72% variations in (ROA) with the linkage among FCF and FP (ROA). Whereas the 28% variations are due to other factors that are not considered in our study. Therefore, we have rejected the null hypothesis.

Table 4.7 Results of Regression Analysis

Predictors	Financial Performance (ROA)			
Variable	B Coefficient	SE	T Stats	P Value
C	-0.016	0.128	0.125	0.045
FCF	0.152	0.0162	2.48	0.038
FSIZE	0.321	0.087	3.69	0.0321
FAGE	-0.510	0.451	1.13	0.0255
R Square	0.72			
Adjusted R Square	0.69			
F Stats	25			
P Value	0.0000			

Regression equation representing the above linkage is as under.

$$\bar{Q}ROA = -0.016 + 0.152FCF + 0.321FSIZ - 0.510AGE + \epsilon$$

Tobin'Q, FCF, and Firm Attributes (FS & FA)

Table 4.8 depicts that constant is significant (positive), shown by the beta coefficient of 0.57, p-value 0.000. Findings have shown that FS and FA shows statistically significant negative moderating impact among free cash flows (FCF) and FP (Tobin's Q). The findings have shown that firm age' coefficient = -0.628 and p-values = 0.0008 having significant of 5%, whereas Firm Size' = 0.377 and p-value = 0.0000. In general, negative impact is due to firm age. Findings reveal that the impact of firm attributes (FS & FA) explains 54% variations in the firm performance (Tobin's Q) with the linkage among FCF and FP (Tobin Q). Whereas the 46% variations are due to other factors that are not considered in our study. Therefore, we have disallowed the null hypothesis as here exists a moderating effect of firm attributes on firm's performance of the non-financial firms listed at PSX.

Table 4.8 Results of Regression Analysis (Tobin Q)

Predictors	Financial Performance (Tobin Q)				
Variable	B Coefficient	SE	T Stats	P Value	
C	0.57	0.3184	1.79	0.0000	
FCF	0.08	0.0321	2.48	0.0000	
FSIZE	0.377	0.1232	3.06	0.0000	
FAGE	-0.628	0.3123	2.01	0.0008	
R Square	0.54				
Adjusted R Square	0.52				
F Sats	20				
P Value	0.0000				

The above model shows the following:

$$\hat{Q}it \text{ Tobin's } Q = 0.57 + 0.08 FCF - 0.628FAGE + 0.377FSIZ + \epsilon$$

This study is based on two hypotheses. In the first hypothesis, we hypothesized that FCFs put a significant positive impact on financial performance that was found significant and validated our hypothesis. The performance of firms can be increased by the presence of free cash flows which is contrary to the agency theory (Jensen, 1986) and consistent with the findings of (Wang, 2010) (A Gregory, 2005), and ((Mutende et al., 2017). The second hypothesis of our study is that the attributes of the firm (FS) and (FA) put a substantial moderating impact on the linkage among free cash flows (FCF) and FP (ROA, Tobin's Q). The study found that firm attributes show a statistically significant negative moderating impact on the linkage between FCF and FP (ROA). Firm Age has shown a negative significant impact, whereas Firm size has shown a positive significant impact. Therefore, we can conclude the overall negative effect based on our results is attributed to the greater negative effect of firm age on firm size. Findings by (Pervan, 2017) also showed that firm age adversely impacted financial performance. Firm size is an important attribute of the firm. It is mainly dependent on the assets and sales generation of the firm. The findings of the various empirical studies are in alignment with our findings. Those studies include Babalola (2013); Dogan, (2013); Gupta (1969); Serrasqueiro (2008); Shubita (2012); and Vijayakumar (2010).

Conclusion, Limitations and Policy Implications**Conclusion of the study**

This study reveals that financial performance of the firm and its free cash flows (FCF) are positively related. However, the attributes of firm have a negative remarkable moderating impact. Results revealed that companies listed on PSX have operative command that allowed the managers to make prudently the investment decisions, leading towards the increase of wealth of shareholders. Finally, company traits showed

bad moderating effects on the linkage among FCF of the firm and its performance. Firm Age poses greater negative impact whereas firm size has shown positive impact. The greater negative impact is attributed towards the age of the firm.

Limitations of the Study

This study is based on the hypotheses of Free Cash Flows (FCF). For the proper allocation of free cash flows (FCF) resources of an organization, the directors keep a check and balance on the decision-makers of the organization. The results of this study are in favor of this view and suggest that with the effective control mechanism the performance of firms can be increased. However, a possible restraint of this study is that it does not replace directors' opinions, as they can also persuade management actions by playing the role of advisor. The population sample used for this study was chosen from PSX; therefore, our conclusions were entirely limited to Pakistan. The third limitation of this study is that our finding regarding the attributes of the firm is entirely based on firm size and firm age, by the combination of other factors such as sales growth, the pattern of payouts, liquidity and leverage the results can be different.

Policy Implications

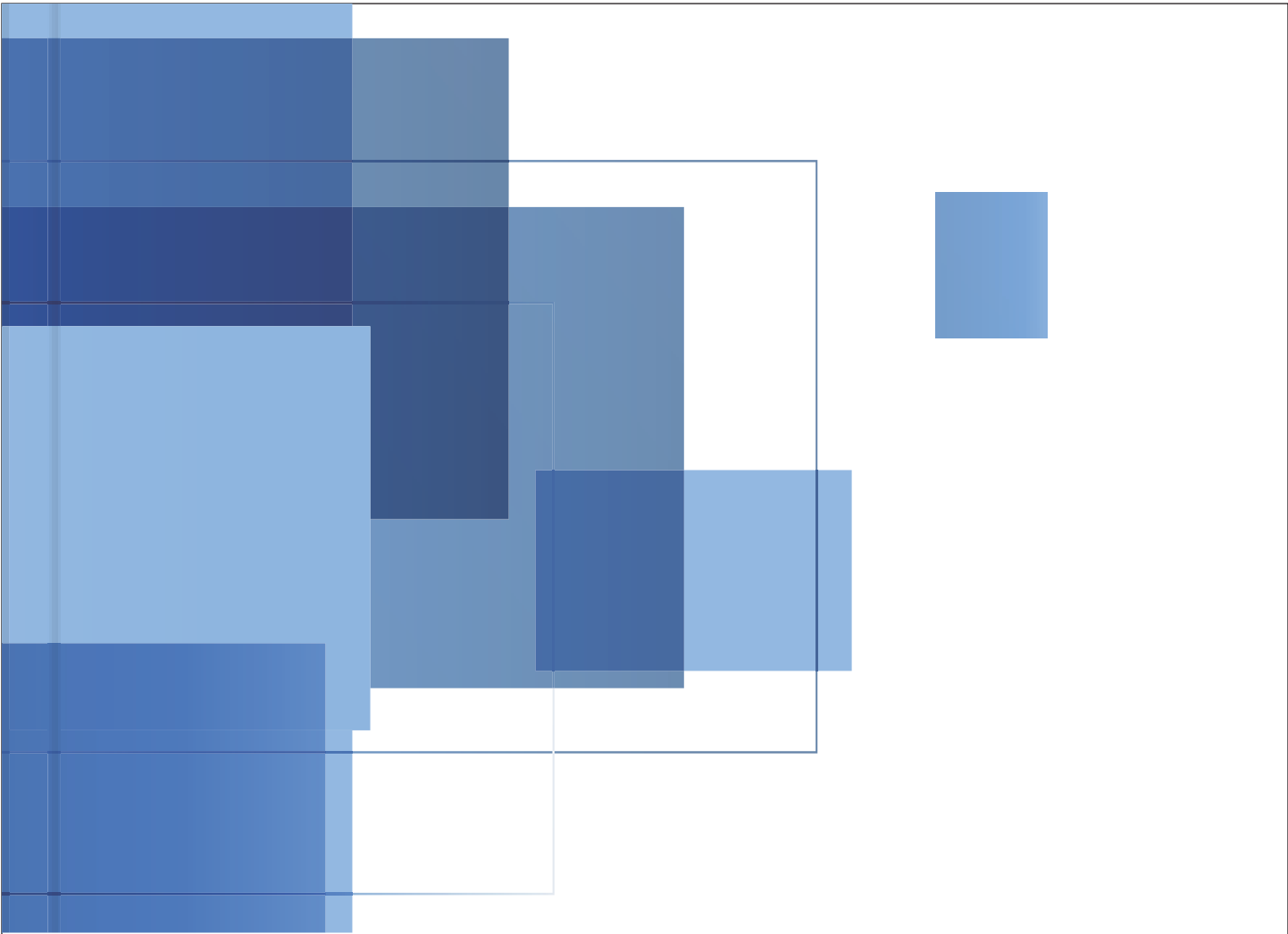
This study recommended that PSX companies should keep a handsome amount of free cash in an organization which will contribute towards the betterment of their performance so the key decision-makers should make efforts to increase the amount of free cash in the organization. This study recommends that the management, investors, Board of Directors, and other key personnel, should focus on the generation of more amount of free cash that can help in the growth of the business also. If the firm does not have good investment opportunities available, this free cash can be used to make payments of dividends to shareholders. Whereas the control of free cash is also an important issue for the organizations. To enhance the performance of the firm, therefore, the reasonable cash flow in any business is an efficient strategy to increase the overall performance of firms. Research shows that strong factors (company age) play a major negative role between free cash flow links and strong financial performance, prompting firm policy makers to review existing processes and build new ones in old firms so that they can adjust to the new environment to reap the benefits.

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