

## **Cognitive Dissonance and Market Liquidation: A Case of Pakistan Stock Exchange (PSE)**

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### ***Abstract***

*This paper aims to investigate the effect of cognitive dissonance behavior of investors on the stock returns. The study investigates that how such behavior plays a role in the liquidation of Pakistan Stock Exchange (PSE). The simple regression model was used to identify the significant impact of Cognitive dissonance on market returns. This study facilitates the investors and decision makers to make effective and efficient decisions.*

**Keywords:** Cognitive Dissonance, Market Liquidation

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### **Introduction**

Most of the time investors in the market don't want to listen to any adverse thought towards their investment decisions, because they just want to take decisions on the basis of their own thoughts. Cognitive dissonance is basically the feeling of discomfort in one's mind, which usually generates when any new information about a specific thing would contradict a person's past beliefs about such notion, or when one holds two different types of conflicting thoughts in one's mind. This concept is based on the "theory of cognitive dissonance" which was initially proposed by Festinger (1957) who states that an inner drive holds all our attitudes and beliefs in harmony and avoid disharmony. It basically occurs on the basis of biased behavior, which is a very common problem that is usually present in all types of people. At the point when a few speculators hold levered portfolios by taking part in edge getting, rehashed rounds of exchanging can bring about business sector uncertainty (Chowdhry & Nanda, 1998). Any type of biases can be the cause of so many problems and issues in so many different situations or occasions. In the situation of this particular bias, people may feel the tension and face a conflict between two different opinions or thoughts. It usually occurs, when an individual's behaviors conflict with his/her beliefs. By reducing the conflicting beliefs, we can eliminate this bias or problem. This bias is concerned with the relationship among different cognitions. The situation of dissonant arises when cognition oppositely responds to another. It also arises in the situation where decisions have to be made without any sort of R&D. Efficient R&D can increase the probability of return and reduce biased behavior regarding investment (Ho, Tjahjapranata, & Yap, 2006).

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The market liquidation means the selling of securities at high volume at low or decreasing prices. It is a situation in which a large number of investors leave the market or sell off their securities in that market out of insecurity. It occurs when any company goes bankrupt, creditors of the company are paid by the selling off its assets of that company and the remaining amount of money is given to the shareholders of the company when any type of transaction which offsets a previously established or maintained position and when the company becomes insolvent.

If the person B follows the cognitive element present in the personality of person A, it is known as consonant, and if he does not follow than it is dissonant and from here the problem of a cognitive dissonance arises (Sadaomi, 1968). This is very much true that the presence of cognitive element in the personality of an individual plays a very important role in the market, but these elements can also be beneficial or harmful when individuals are brand conscious. Joel and Michael (1972) ascertained that the behavior of brand conscious and brand loyal people will be very consistent towards their brands and the way they see and evaluate their brand. At the time of reevaluation, the restructuring / refreshing of consumer's beliefs are important and it is also the desire of a consumer in order to be saved from ethical dilemmas.

By the presence of this bias, markets can be liquidated as it can also be very harmful to different types of people like: an individual and group investors, organizations, stock markets, and the most important one are our economic conditions because the stock market usually represents the economy of the country on the basis of the performances of listed well-known companies of the country. People with such types of biases, hold the losing securities for a long period of time and don't want to learn anything for the time being as market changes because they don't want to incorporate any type of information which can contradict with his / her belief.

The objective of this study is to identify as well as analyze the cognitive biases and instability of preferences in the portfolio choices of retail investors, to analyze the individual irrationality and an aggregate outcome, to demonstrate the cognitive consequences of brand loyalty and the repurchasing behavior of investors on the basis of brands, and to analyze the human psychology.

On the basis of this study, we can analyze the factors which affect the condition of market liquidation. It helps the investors to reduce their level of discomfort by using different techniques and eliminate the problem of dissonant in order to invest in an efficient way to achieve the maximum profit's probability. And it also helps us to reduce the liquidation condition of the market and makes the market efficient so that it would be beneficial for the stock market, investors, and organizations as well. It will help us to stabilize the market.

The study will help determine the cognitive limitations and how market liquidates. The findings of the study will enable to identify the limitations of human minds which affect market liquidity. The study of variation and conflicting logic developed in the minds will help find significantly influencing factors.

## Literature Review

We have an inner drive to hold all our attitudes and beliefs in harmony and avoid disharmony referred to as “cognitive dissonance theory” by Festinger's (1957). In simple words, a situation in which past beliefs which are developed on the basis of any past experience that contradicts with any new information, then an uncomfortable situation creates in a mind which is known as cognitive dissonance. Joan (1967) talks about the principal role of cognitive dissonance on the basis of the theory of Festinger and finds that the situation of dissonance will motivate people to achieve the situation of the consonant.

In the stock market, the investment climate and investor's financial stability are variables on the basis of which the relationship between investor and the stock market would be stronger or weaker. The rules of the investment make no distinction between the types of the capital (Jon & John, 2002).

The first and foremost source of resistance to change for any cognitive element is the responsiveness of such elements to reality. The main dilemma of the market is that majority of investors are usually unaware of the entity in which they are investing (Welker & Wood, 2011). Brand loyalty plays a very important role in success or failure of the market by evaluating the investment company but purchasing and repurchasing patterns of individuals on the basis of brand loyalty would also play a very important role in market liquidation and its success or failure. Brand value is very much like an onion. It has layers and a core. The core is the user who will stick with you until the very end. The buyer collects, analyzes, interprets, and evaluates the information regarding different alternatives but chooses his/her most preferable alternative which will satisfy their self-interests (Robert, 1969). As of the post-choice dissonance, an investor would prefer to select the investment product which will increase the repurchasing probability.

The existence of dissonance, being psychologically uncomfortable, will motivate the person to try to reduce the dissonance and achieve consonance. When high financial leverage is present, investors instead expect smaller firms to be able to appropriate value from their R&D capital better than the larger firms (Yew, Mira, & Chee, 2006).

Peter (1990) conducted a survey on economics and psychology which helps in generating gains or profits and also helps us in solving problems regarding investments. Psychology was unable to play an efficient role in the position where the probability of bounded rationality is high. Psychologically, the situation will be uncomfortable where the dissonance exists.

The human psychology is also a very important factor for the market but the attitude of individuals is the base of all types of investment.

According to Choi (2006), the fund managers can generate an excessive amount of returns in order to fulfill their transaction cost and other expenses. The situation, where the collaboration of social psychology and public opinion exists; would be the most favorable situation in order to bear fruitful results (Nehemia, 1963).

The positive attitude of individuals towards investment makes the market successful and also helps the market to reduce liquidation but there are so many kinds of individuals in the market who use different kinds of investment strategies in the market. There are really only three types of people: those who make things happen, those who watch things happen, and those who ask, what happened?

Christopher and Judith (1999) identified the effect of sentiment on prices which is bounded by the marginal transactions cost that would be incurred by an arbitrageur attempting to profit by trading against sentiment. There are so many kinds of investors in the market some like investing through mutual funds but some like to make decisions on the basis of analyzing the past and present information about the market (Zheng, 1999). The majority of investors focus on the short-term future performances on the basis of the selection of a variety of products that provide efficient short-term benefits.

The several types of investment decisions play an important role in returns of the stock market but the rationality of market is the base for these types of decisions. One is neither wrong nor right because the person around one disagrees with one's opinions and beliefs. One would be right because one's reasoning and data would be right. Alexander, Vikram, and Rajdeep (2006) conducted a survey on hot markets, IPO pricing, and investor sentiments which isolate that the presence of a class of irrationally exuberant investors coupled with short sale restrictions, lead to long-run under performance.

The investors think and act that on the basis of their personal preference or judgment they can maximize their utility (Mark, 2000). He ascertained that maximally rational, rational, and minimally rational markets and all these types of market conditions are based on the type of investors present in the market because investors make the markets.

Market rationality can be the cause for market efficiency but the individual's irrationality can affect the market in so many ways as well. Whenever irrationality exists in individuals they will often learn from their faults (Ernst & Jean-Robert, 2005). The aggregate effects which exist under the decision of multiple players can be the result of few amount of irrationality of individuals.

Individual's irrationality is an essential item that plays a very important role in market liquidation but the cognitive dissonance bias may affect the thinking, behavior, and decisions of the individuals. Adam (2010) studied in the light of cognitive dissonance theory that when the events

of the real world have disconfirmed beliefs then they will create the situation of psychological discomfort. The financial crisis occurs when the rules, regulations, and policies are not clear in the financial sector.

### Data and Methodology

We took the primary data with the help of 160 questionnaires from investors at ISE tower, on the basis of which we can identify that how the cognitive dissonance behavior of individuals can be the cause for market liquidation. In this study, the analysis will be based on regression and correlation results.

The standardized regression term is:

$$\tilde{Y} = \beta_0 + \beta_1 (CD) + \varepsilon \quad \text{Eq. (1)}$$

### Results and Discussions

First, measuring the reliability of this data in order to confirm that either this data is significant for our results or not.

Table 1. *Reliability of variables*

Variables	Reliability
ML	.723**
CD	.562*

Note. \*p>.5, \*\*p>.7, \*\*\*p>.9

The results of reliability show that the validity of the responses of market liquidation is 72.3% which is very good and acceptable measure, and the validity of the responses of cognitive dissonance is 56.2% which is also the good result but shows little dispersion in the responses of people.

Table 2. *Degree of association between variables*

Variables	Correlation	Sig
CD-ML	.173	.094*

Note. \*\*\*P<.01, \*\*p>.01 but p<.05, \*p>.05 but p<.1

The results of correlation analysis shows that the dependent variable “market liquidation” is positively correlated with the independent variable “cognitive dissonance” at the value of .173 which is moderately significant at .094, because the value would be highly significant at p<.01, would be significant at p>.01 but p<.05, moderately significant at p>.05 but p<.1, and lower significant at p>.1.

Table 3. *Regression between variables*

R-Square	0.033
Adjusted R-Square	0.031
Standard Error	0.59843
Number of Observations	160
F-stat	3.113
Significance	0.091*

Note. \*p<.1, \*\*p<.05, \*\*\*p<.01

The value of R<sup>2</sup> which is .033 shows that 3.3% variation in the dependent variable “market liquidation” is due to the variation in the independent variable “cognitive dissonance”. F-Statistics are carried out to find out the overall significance of the model used. As the value of F-stat is 3.113 at the significance level of .091 which shows that the model is the moderately fit. The  $\beta$  shows the direction of influence of an independent variable on the dependent variable by some amount.

Table 4. *Regression Results*

Variables	Standardized $\beta$	t -stat	sig
Constant		2.546	0.093*
CD	.173	1.960	0.087*

Note. \*p<.1, \*\*p<.05, \*\*\*p<.01

According to results of ANOVA, the dependent is significant as there are so many other factors which affects the market movements and will ultimately leads to the liquidation phenomenon. The estimated results suggest that if there is 1 unit change in CD, there will be about less than half of the unit (.173) change in ML.

## Conclusions

This result will be very helpful for decision makers or investors in order to make the decision at right time in order to get good returns and it should also be beneficial for the returns of the stock market. On the basis of the results of correlation, it is proved that there is a degree of association exists between independent and dependent variables. The results show that market liquidation is positively associated with cognitive dissonance, means that when cognitive dissonance behavior will increase then the chances of market liquidation will also increase.

Future research should be conducted on the basis of mediating variables because this research is just limited to the extent of independent variables.

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