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Investors Behavioural Bias and Trading Behaviour – A Systematic Review

Prathibha Shree *

Abstract

A systematic review of literature has been conducted on investor's trading behaviour, and scientific literature until the year 2020 has been reviewed. It comprises research articles, reviews, and research reports. Appropriate keywords have been used, and each chosen literature has been assessed for its quality. Based on the quantitative and qualitative research, evidence has been made, and a multi-dimensional framework has been developed, which is the basis for further research. The review examines the factors influencing women investors trading in the stock market and the behavioural biases affecting women in due course of investment and trading.

Findings from research evidence have been integrated through thematic synthesis. The findings broadly indicate that there is less participation by females trading in the stock market, and the behavioural biases explored by past researchers have not explored on females alone. Hence, this study can be further used for analyzing the behavioural biases inherent in women investors trading in the stock market.

Keywords: Women investors, trading behaviour, investment, biases, stock market

1. Introduction

"The hand that rocks the cradle rules the world is a popular saying about women."

* Management Trainee, Deloitte; prathibhashree10@gmail.com

Even Warren Buffet's investment style is described as 'women-like' because of its cautious approach. Buffet has famously said that his favorite holding period is forever, and once a decision is made, he has stuck with it for a long term. All these can be closely related to the thought process of a woman (Shukla, 2018).

Regardless of how disciplined humans are, they often trade with biases that urge them to act on emotion. Hence, the behavioural biases are the basis for behavioural finance, a paradigm of finance that seeks to supplement the standard theories of finance by introducing behavioural aspects to investors' decision-making process. This field merges the concepts of financial economics and cognitive psychology to construct a more detailed model of human behaviour in financial markets (Shanmugasundaram, 2011).

According to the United Nations World Population Report, women constitute nearly half of the world population (48.2%). Their contribution towards the economy is about 55%, including their unpaid economic activities, according to OEDC (Organisation for Economic Development and Co-operation). Hence, there is every reason that women should play an equal role in economic decision-making. Traditionally, women have been more hesitant when it comes to financial investments. They are more cautious when it comes to money. The new women investment clubs take the fear out of investing for women, and saving is a habit especially embodied in women (Kavitha, 2013).

In the past, to save or to meet emergencies as well as for future activities, women did not have any awareness about various investment outlets. But as time passed, the scenario has changed. Now, the present women, who are equally employed, know various aspects of investment through their education. As a result, they invest in different investment avenues such as shares, debentures, mutual funds, commodities, and bank deposits (Parthiban, 2015). Indian savings market has been expanding over the period, and there is a steady increase in household savings.

Moreover, the general profile of women investors is changing in tune with time. But they lag in various spheres of investment, such as awareness and preference of investment. Employed women have a greater propensity to save and invest.

Even though the general perception is that over the last few years, women have increasingly become financially independent recent surveys conducted by the CDSL(Central Depositories Services Limited) states that only less than 25% of women regularly transact in the securities market. Few investors have not even transacted once as well. Hence, this study is undertaken to examine the causes or factors by bridging the gap of confirmative bias that triggers the women investors' differential behavioural attitude as opposed to men. The review examines the factors influencing women investors trading on the stock market and the behavioural biases affecting women in due course of investment and trading.

2. Methodology

Tranfield(2003) followed the three-stage procedure–planning, execution, and reporting. In the planning stage, we identified the key objectives and the data sources. Initially, the aim is broad for comprehensive reviews: to assess the research domain's theoretical similarities and dissimilarities.

We selected the articles from electronic databases of EBSCO, JSTOR, PROQUEST, TAYLOR AND FRANCIS, EMERALD, SAGE, WILEY, AND SCIENCE DIRECT(Elsevier). Items were selected on two criteria- time frame and using the keywords, as mentioned in table(1). The period ranged over 20 years, i.e., from 2000-2020.

The second stage of the systematic review process, which is execution comprised of four steps:

1. Identifying initial selection criteria – keywords and search terms.
2. Grouping publications.
3. Compiling a consideration set.
4. Synthesis.

The first three steps are pertinent to the data collection and organization, and the last step is relevant to the data analysis.

2.1 Identification of Initial Selection Criteria: Keywords and Search Terms

S. No	Criterion	Inclusion Criteria	Exclusion Criteria
1.	Study Topic	Studies pertaining to stock market trading and investment	Other than stock market trading and investment
2.	Study Type	Theoretical and empirical research articles, review and thesis(only PhD)	Books, archives, documents, Book reviews
3.	Time Frame	2000 – 2020	Prior to 2000
4.	Language	English	Other than English
5.	Geographical	India, Rome, Arab, China and Taiwan	Other than India, Rome, Arab, China and Taiwan

A comprehensive search differentiates a systematic review from a traditional narrative review (Tranfield, 2003). A general selection requirement was employed for our initial pool to maximize the inclusion of all relevant studies. Our initial search in all the databases was undertaken using the primary keywords(for the time frame between 2015-2020): 'women investors' and 'trading behavior' document type comprised of 'journals', 'articles', 'review' and 'thesis' (but not 'book review'); language. 'English,' subject area 'business,' 'management,' 'human sciences,' gender studies,' and 'finance,' without any additional selection restrictions. Later, after reviewing all the articles obtained during 2015-2020, it was seen that trading is contingent upon investment as the investment is the base in due course. Hence, later the term 'investment' was also used in conjunction with the primary keywords. The keywords were used as a selection criterion for the topic (title, keywords, or abstract), resulting in an initial sample of around 1,000 papers as the subject is niche. We then fixed this initial set as the basis for all future analyses. The 1,000 papers were then filtered using the time frame criteria, which resulted in around 380 articles. Among those 380 papers, only articles published in reputed journals were selected, which landed to 83 articles. Articles, reviews and thesis with only the study topic pertaining to stock market trading and investment published only in English during 2000-2020 were selected. The majority of the study was conducted in India, but as mentioned earlier, to verify the consistency in the theories and to examine the differences in the pattern of trading among investors, studies in other countries were also reviewed. Since there were no articles published outside India other than in Rome, Arab, China and Taiwan, these articles were also included.

Search Terms

Table 1:

Journal	Search String	Keywords	Periods	Filters	No of Articles	Downloaded
JSTOR	AND /OR	Investors trading behavior	2000-2020	In India, Journals	100	17
JSTOR	AND /OR	Women investors trading behaviour	2000-2020	Journals	8	6
ProQuest	AND /OR	Women investors trading	2000-2020	Journals/Research	32	19

		behavior				
Science Direct	AND /OR	Investors trading behaviour	2000-2020	Research articles	27	5
ProQuest	AND /OR	Women investors trading behaviour	2000-2020	Documents	10	4
JSTOR	AND /OR	Investors trading pattern	2000-2020	Journals, india	412	-
Science Direct	AND /OR	Women investors trading behaviour	2000-2020	India, research articles	6	5
JSTOR	AND /OR	Trading investors behaviour	2000-2020	India, journals	112	3
JSTOR	AND /OR	Investors behaviour stock market	2000-2020	India, journals	52	2
JSTOR	AND /OR	Women stock	2000-2020	India, journals	3	1

		market				
JSTOR	AND /OR	Trading impacts stock market	2000-2020	India, journals	22	2
JSTOR	AND /OR	Women behaviour stock market	2000-2020	India, journals	12	4
ProQuest	AND /OR	Women Investor behaviour	2000-2020	Thesis	1	1
Science Direct	AND /OR	Women/ investor stock market	2000-2020	India, journals	48	12

2.2. Grouping Publications

The main objective of our research was to understand the broad theoretical foundations of the area. Our first group of interest (Group 1) consisted of both qualitative and quantitative articles. Initially, only the time frame of 2015-2020 was applied. Since there was a shortage of articles and to check the consistency of the behavioural theories and their associated theories, the time frame was revised and extended from 2000. We then obtained the second and the largest group (Group 2) in this study by applying citation-based selection criteria to the initial pool. In addition to citation biases and lags, we isolated a few papers (Group 3) to which different selection criteria were applied, as will be explained below. We checked all three groupsets for overlaps. The main entry was retained in the first group under consideration while eliminating the duplicate entries from the following groups. For example, a review was contained in Group 1, regardless of its citation rank; a highly cited paper was included in Group 2 even if it was published recently or in the early 2000s. The primary intent was to observe the theoretical relevance over the years. The highest number of articles which is 10, was chosen from the journal of Qualitative Research in Financial Markets, followed by 5 articles from the review of behavioral finance and other articles relevant to the subject was selected.(Refer appendix)

2.3. Compiling the Consideration Set

Group 1: Quantitative and Qualitative Reviews. We restricted papers with the search terms mentioned in the selection criterion (title, keywords, or abstract) of the paper to identify reviews. This search yielded around 1000 articles.

Group 2: Highly cited papers. We continued with the main body of 1000 articles that had 'trading,' 'investment,' 'women,' and 'behavior' in the topic. The citation-based analysis was widely employed as a measure of paper quality, as paper citations served as a de facto vote of its contribution towards knowledge accumulation and development. Post abstracts, we narrowed the pool down to 826 papers that contributed to either theory development or theory testing. We excluded book reviews and non-business articles. The exclusion criteria were discussed in advance and tested on a set of 20 papers.

Group 3: Recent papers (Post 2015) - Recognizing the fact that citation-based method leads to discrimination against recent publications (since newly published papers do not have the time to accumulate citations), an additional group from the most recent papers(2015–2020): Only 51 articles were published during this period. We applied an alternative quality criterion for data reduction purposes as we could not use the citation-based criteria. Auxiliary support for our selection criteria was that despite the recency, only 12 papers in this pool were cited more than five times. These papers, which were already included in our highly cited collection, together with formerly mentioned reviews and analyses, were excluded to avoid inter-group duplication. After reading the remaining abstracts, seventy-one papers were added, which contributed to either theory development or theory testing and behavioral determination resulting in a total sample of 83 articles.

3. Results

A systematic review is essential for methodically assessing the commitment of a given assortment of writing. Instead of a heuristic, a routine employs an unequivocal calculation to play out a hunt and essential examination of the report. Systematic reviews improve the nature of the survey cycle and result by utilizing a straightforward and reproducible system. Although this approach isn't without difficulties, for example, the trouble of information union from different controls, an inadequate portrayal of books, and an enormous amount of material to review – we felt it was imperative to have an approach that could manage the development field's vastness. By and large, the systematic review comprises of three sections: data collection, data analysis, and data synthesis. The logical rigor in directing every one of these means is fundamental for a quality systematic review.

Data collection - Experts can gather information from the scientists in various manners: utilizing a board of specialists to distinguish applicable papers, utilizing information on the current writing to select articles, and looking through different information bases utilizing catchphrases. Interestingly with these ostensibly emotional assortment strategies, a systematic survey approach, as used in this paper, eliminates information assortment's subjectivity by using a predefined choice algorithm.

Data analysis - Our objective in this survey is an exhaustive review and a reasonable, as opposed to an experimental union. Consequently, we are methodologically restricting to engaging rather than factual techniques in our examination of the outcomes. We needed to forfeit profundity for broadness. Since the idea of the gathered information, past the unmistakable arrangement of the papers by types, is subjective (sorts of hypotheses utilized, ways develop are conceptualized, and informative regular offered), we used the relating technique for information examination investigation. Among accessible personal investigation strategies, pattern-matching, furthermore, we chose clarification for this survey. The design coordinating is undoubtedly not an exact science. Along these lines, the analyst should search for net matches and confounds in which even an "eyeballing" strategy is adequately persuading to make a decision.

Data synthesis is an augmented product of a review as it creates a new body of knowledge dependent on intensive information assortment and careful examination. Given the information examination strategy portrayed above, we recognized four dimensions in our thought set's papers. We then planned these measurements on to a structure comprising the two consecutive parts: development as a cycle (how?) and effect (what?). Furthermore, we aggregated authoritative development determinants and their related measures and coordinated them around four hypothetical focal points in traditional exploration.

Generally, our procedure is that of an efficient survey (Tranfield et al., 2003). Its point is a calculated combination over a divided field. It utilizes efficient information assortment systems, precise and subjective information examination strategies, and a hypothetically grounded blend. Based on the study, we employed a tabular framework in the initial blanket review, and we categorized the articles into four themes – factors affecting trading behavior, the effect of virtual trading, risk appetite, and the gender differences, respectively, which are enumerated below:

Theme 1: Determinants influencing trading behaviour

The majority of the previous studies have identified the primary determinant influencing women's trading behavior are the various contributing factors. Hence, the focus revolves around demographic, physiological, economic factors, social factors, technological factors, investment-related factors, and environmental factors.

Socio-economic factors influence the portfolio composition of individual investors investing for the first time, subsequently affecting portfolio performance (Baker, Ridder, & Vries, 2018). Sociocultural factors, personal factors, market-related factors, economic factors, investment-specific factors, firm-related factors, and accounting information are the predominant factors that influence women investors' choices regarding investment in the stock market (Kumar & Kumar, 2019). Age & Annual Income has a significant impact on choosing the type of investment, whereas marital status is insignificant (Parthiban, 2015). Besides, married women are more curious about investing than unmarried women. Younger women mostly invest in shares, mutual funds, insurance, and fixed deposits in comparison to older women. Middle-age persons prefer to invest in real estate sources of investment (Sellappan, Jamuna, & Kavitha, 2013). Furthermore, demographic and financial factors such as gender, age, and educational status, income, and investment levels determine their trading behavior across three domains (fundamental factors, unexpected market events, and personal factors) (Chandra, Sanningammanavara, & Nandini, 2017). The income effect factor was the most extensive one that explains the study on investment decisions (Islamoğlu, Apan, & Ayvali, 2015). Furthermore, there is a significant association between occupation, marital status, and monthly income, but contrastingly, there is no significant association between area, age, and educational qualification (M & M, 2018). Demographic features such as marital status and occupation do not significantly shape the retail investor's trading behavior. But retail investors'self-perceived confidence is a function of both expected and unexpected changes in the market and personal factors that largely determine retail investors' trading behavior. The self-perceived confidence level and self-reported portfolio size are positively associated, implying that overconfident retail investors believe that their superior investment skills are bound to perform better. Thus, they typically hold larger than average investment portfolios. The demographic and financial factors such as gender, age, educational status, income, and investment levels determine their trading behavior across three domains (fundamental factors, unexpected market events, and personal factors) (Chandra, Sanningammanavara, & Nandini, 2017). Accordingly, the demographic evaluation results have shown that women plan to increase their education level in the future. As a result, social acceptance that they would gain and improve their professional status would occur. They also tend to be free in monetary terms as a natural result (Islatince, 2015). Investors with top marks in national exams or the investors holding an academic degree trade stocks more actively. The contrary has for investors with no academic degree as they trade stocks less actively (Liivamägi, 2016). The relationship among attitudes, level of awareness or confidence, environment, and investment are directly proportionate (Kavitha, 2015). Financial awareness, affect & cognition have a significant impact on investment behavior (Sarkar & Sahu, 2018). Further, lack of understanding is one of the primary reasons women do not invest in the stock market (Vohra & Kaur, 2016). Demographic factors influence the investment pattern – women prefer savings & government securities and are less risk-tolerant (Bedi, Chaudhary, SurjanSing, & Kaur, 2018). Heuristics & one's skills prove crucial investing factors after a buoyant stock market (Hon, 2013). As the cultural differences between investors' stock holding increase, investors trade with lower frequency (Beracha, Fedenia, & Skiba, 2014). Men trade more than females and are overconfident (Barber & Terrance, 2015). The total impact of all weather-related moods and calendar effects seems to influence trading (Kaustia & Rantapuska, 2015) significantly. Furthermore, weather conditions affect an individual's emotional state or mood (Shahzad, 2018). Investor psychology is involved during the full moon phase, but no effect was recorded during the new moon phase. The complete moon phase influences market behavior. Thus, the full moon phase influences cognition, aggressiveness, mood & emotion, resulting in low trading performance (Brahmana, Hooy, & Ahmad, 2014). Confidence & influence are the significant factors that influence women investors in Punjab while making investment decisions (Syal & Walia, 2017). All the previously mentioned personal characteristics of an investor, such as gender, age, occupation, annual income, and trading experience impact behavioral biases (Mushinada & Veluri, 2019). The preferences differed according to the demographic profiles of individual investors (Yasemin, 2018), amongst which overconfidence is the deadly bias in the Indian Context prone to males (Prosad, Kapoor, & Sengupta, 2015) as they are over-confident on the precision of their information and thereby expect gains of trading and they may even trade when the real expected net profits are negative (Barber & Terrance, 2015). In contrast, gender, age, and general education do not affect the level of overconfidence (Kansal & Seema, 2018). These biases confound the traders in decision-making and lead them to earn low returns or meet heavy losses (Mahalakshmi & Anuradha). Behavioural biases also arise in different stages of the decision-making process. It further explores that gender and income significantly differ in the rational decision-making process (Kumar & Goyal, 2016). Using the Big Five personality framework, we also provide empirical evidence that investors' unique personality traits limit the relationship between information sources and trading behaviour. Financial advice from professionals increases investors' trading frequency with neuroticism and openness behavioral traits and reduces the trading frequency in conscientiousness and extravert investors. Similarly, financial information acquired via word-of-mouth communication results in more trading in extrovert and agreeable investors. Finally, information acquisition from specialized press causes more conscientious investors' portfolios (Tauni, Fang, & Iqbal, 2016). Also, Personality Factors are allowed by Financial Liberty, Influence of Society, and Demographic factors & Self Control (Murthy, 2018). the attitude was responsible for partial mediation between the relationship of financial knowledge and investment intention. In contrast, financial self-efficacy was exerting a dual role in the relationship between personality traits and investment intention. On the other hand, subjective norms exerted a weak positive effect on investment intention (Akhtar & Das, 2019). Furthermore, it is seen that extraversion and openness are positively linked, while conscientiousness and agreeableness are negatively correlated to financial risk tolerance (Wong & Bernardo, 2013). The preferred attributes determining a financial advisor's choice are the financial advisor's friendliness and the quality of advice provided by them. Furthermore, the results also state that the preference for the attributes of friendliness and quality of advice varies according to the respondents' age and marital status (Kaur & Vohra, 2017). The latest technologies like online trading, holding shares in DEMAT form, and transparent transactions facilitate investors' investment decisions. There is an association between investor behavior and capital market information (Shanmugasundaram, 2011). Also, the authors report significant trading volume (TV) reaction in all the three announcements clusters, where dividends increase, decrease, and are constant lending support that the dividend change announcements impact the TV response due to different investors' preferences (Felimban, Floros, & Nguyen, 2018). Time-dependent interacting effects of the prominent disposition and moral hazard biases impair trader returns (Glase & Risius, 2018). Empirical results and cross-sectional analyses have revealed no intraday trading of securities on the liquidity (Hsieh, Lin, & Wu, 2017). There exists a trade-off between diversification and externalities between foreign investors and domestic investors (Oriol, Rufini, & Torre, 2015). Predominantly, culture also influences the institutional investors' trading frequency, whereas the cultural differences between the investors' stock holding increases, investors trade with a lower frequency and vice-versa (Beracha, Fedenia, & Skiba, 2014).

Psychology plays a pivotal role in due course of an investor's trading behaviors where selling a stock for a loss Vs selling stocks for a gain has different effects on its share owner customers' attitudes and behavior. Losses induce negative emotions, resulting in lower satisfaction and behavioral loyalty and an increased propensity to complain about the company. Investment gains, however, result in more positive feelings, which lead to increased preference of the company and whose stocks were traded over its competitors and increased engagement in positive word-of-mouth (Hoffmann & Ketteler, 2015); thereby, it is inevitable that common investment mistakes are caused by cognitive and emotional weaknesses (Baker & Nofsinger, 2002). An empirical introduces the hypothetical figure of the "tele investment evangelist" in an attempt to weave dimensions of celebrity, ritual, and religion together to explain investors' undeterred faith in the ability to pick individual stocks and "beat the market" (Allen, Keller, & McGoun, 2015). Weather conditions also influence investors' trading behavior (Shahzad, 2018), where empirical studies reveal that sunniness & temperature has the right direct sign for trading. Precipitation is statistical and economical. The total impact of all weather-related moods and calendar effects seems to influence trading (Kaustia & Rantapuska, 2015) significantly. The weather conditions prevent the investor from making a rational decision. Investor's psychology is also impacted during the full moon phase, affecting cognition, aggressiveness, mood & emotion, resulting in low trading performance (Brahmana, Hooy, & Ahmad, 2014).

Theme 2: Risk appetite or risk attitude by investors trading on the stock market

Every trading is influenced by the drive of risk appetite or risk attitude irrespective of the male or female and varies depending on the type of investors.

Indian investors with higher risk propensities are likely to evaluate different aspects such as market risks and company risks forcing them to consider decisions (Pandit & Yeoh, 2014). Contrary to investors' opinion towards the traditional finance paradigm, investors still believe in "high risk – high return, low risk – low return," which means that the traditional finance paradigm has a weakness. It has been proven that investors sometimes act irrationally (Indriani & Sari, 2018). Arab women have lower financial risk tolerance levels, investment, confidence, and investment literacy relative to Arab men investors, but herding behaviour is more prevalent in women than men (Salem, 2019). Most female investors are newcomers in the capital market newcomers; they are risk-avert (Ulla & Chowdhury, 2010 & 2011).

Women prefer savings & government securities and are less risk-tolerant (Bedi, Chaudhary, Surjan Sing, & Kaur, 2018). Implicit attitude, unconscious and uncontrolled thinking is seen to differ from conscious processes. Furthermore, there is no gender gap in risk attitude and risk tolerance. The endings suggest that experience and financial knowledge are likely the most important determinants of risk attitudes, with no significant difference between men and women (Hari, Pirsch, & Rawitzer, 2018). On the contrary, most women employees of the IT/ITES sector in Pune do not follow herd investment bebehaviour (Deshmukh, 2017). Both male and female investors are apparent and focused on financial goals while investing. But, there exists a significant difference between both genders regarding risk appetite (Mehta, 2015). There is no significant impact on the area, age, and educational qualification among working women (Tirupur M & M, 2018). The level of instruction contributes to explaining the shift in investors' risk appetite. On the other hand, studies prove positive linkages between age and income factors and risk aversion.

Furthermore, there is evidence between age and the long trading position. In contrast, there is no significant relationship between income and the probability of adopting a long trading position. The instruction level positively influences the long trading position for men but negatively for women. Ultimately, there is some evidence that the probability of having long trading position increases as the financial expertise decreases (Sebai, 2014). The undifferentiated treatment of individual traders as "dumb noise traders" stating that investors can perform a higher order of verbal reasoning actions: they follow news passively, search for company-specific information actively, and prove to be resistant to (potential) persuasive attempts by banks, compare prices of similar warrants across issuers, conduct feedback-trading strategies and learn from trading experience. However, they cannot perform tasks that require a higher degree of mathematical reasoning ability, such as determining product margins or issuer default risk. They are unable to avoid the conjunction fallacy or to develop a sound understanding of more complex products. Our findings suggest that individual investors are not "dumb"; they are merely not able to solve mathematically more demanding tasks, which, however, seem most relevant to achieve higher performance (Blonski & Blonski, 2016).

In contrast, first-time investors do not hold diversified portfolios. As a result, experience high market risk and, on average, underperform the highly experienced investors. However, males have higher unsystematic risk in their portfolios than females, and older investors have more diversified portfolios than younger investors (Baker, Ridder & Vries, 2018). Contrastingly, overtrading was significant in rising stock markets, but not substantial in falling markets where the degree of female investors who overtraded was significant in growing markets, and the degree of overtrading investors who were high in extroversion or agreeableness was significant in rising markets (Zhang, Wang, Wang, & Liu, 2014).

Theme 3: Gender differences in trading

Gender differences also play an important role in trading and while making investment decisions. They emphasize the cumulative of all the factors contributing to the change in behaviour as those mentioned above (1).

Investment decision-making behaviour is influenced by the gender composition of a fund management team. Specifically, the underlying focus lies in how portfolio choice is affected by the team's risk aversion and loss aversion. Evidence states that a male presence increases the probability of selecting a higher-risk investment. However, all the male teams are not the most risk-seeking. Having a male presence can increase loss aversion (Bogan, R & Dev, 2013). Trade liberalization affects gender inequality (Juhn, Ujhelyi, & Sanchez, 2014). For the most part, men are seen to be trading more than women; however, this finding is not consistent amongst men of all ages. No statistically significant difference was found in the absolute returns earned by men and women, but women above the age of sixty were found to outperform men in most of the periods examined. Generally, men have a statistically more significant variance in returns than women. Still, an anomaly is noted amongst women between the ages of 30 and 40 who have a statistically significantly more substantial conflict in return than men. Furthermore, older investors had higher variances in return than their younger counterparts (Willows & West, 2015). On the contrary, there is no significant difference among the male and female households with regards to the preferred investment alternative, the amount allocated to investments, the time horizon for investments, the relative risk aversion, the risk tolerance, the perception of risk, the level of confidence, the use of windfall income, the portfolio diversification strategy, the importance of expert's advice and the factors influencing the investment in the capital market (Kansal & Singh, 2014).

Further, there is a negative association between female CEOs and chairwomen and bank default risk during the financial crisis indicating that female-induced conservatism is particularly essential for the survival of smaller banks that are less able to absorb external shocks and may face less stringent market and regulatory oversight. (Palvia, Vähämaa & Vähämaa, 2015). Women over the age of 60 years appear to perform better than men. For the younger age groupings, the same result is inferred, but only on a risk-adjusted basis. An exception is noted for women between 30 and 40 years of age. However, the presence of women directors on boards of firms has no explanatory power to explain the initial returns of IPOs (Handa & Singh, 2015). The moderating effect analysis results indicate that gender differences moderate the effects of social influence on behavioral intention to use mobile stock trading.

In contrast, age differences moderate the impact of effort expectancy on mobile stock trading use intention. This implies that to facilitate the choice to use mobile stock trading, and securities firms need to consider stock investors' technological perceptions and risk perceptions of this type of trading (Tai & Ku, 2013). Studies reveal that female investors display higher preferences for a firm's liquidity, dividend payments, a firm's trading volume, stock price, and firm's age than male investors across investor groups (Khan, Tan & Chong, 2016).

Theme 4: Influence of virtual trading

Virtual trading also influences and affects the trading behaviour of investors.

Male and younger traders preferred online trading, where investors with a higher gross return tended to switch to using online trading. Even though investors traded more actively after going online, their trading performance was not negatively affected. It did not significantly increase speculative trading even though the investors could assess, but online trading's order execution efficiency was better than that of phone-based trading (Lin, Chiu, & Kang, 2010). The difference in gender arises because men possess high self-efficacy (Endres, Chowdhary, & Alam, 2008). The behavioral testing of online trading has proven that online investors are more confident and irrational (Barber & Odean, 2002). The recurrence of signing on to social network sites signals those have higher budgetary danger resilience.

Moreover, social networks' increasing usage for the social association is related to lower financial risk tolerance. The outcomes are generally consistent when the sample is grouped based on prior financial knowledge (Wasiuzzaman & Edalat, 2016). It is seen that trader performance can be enhanced through the transparency and social interactions on social trading platforms where the social trader's account is subject to behavioral (i.e., Disposition) and relational factors (i.e., Moral-Hazard, Social Feedback), which are comparable to incumbent investment environments. Furthermore, there are closely related time-dependent interacting effects of the prominent disposition and moral hazard biases that impair trader returns. The disposition effect describes the tendency of a trader to prematurely close winning trades or overrun losing trades. Studies show that the disposition effect intensifies with an anterior increase in moral hazard expressed through capital entrusted to a trader. In other words, when greater attention is laid to a trader enhances the trader's urge to avoid losses, even if it means passing on optimal returns (Glase & Risius, 2018).

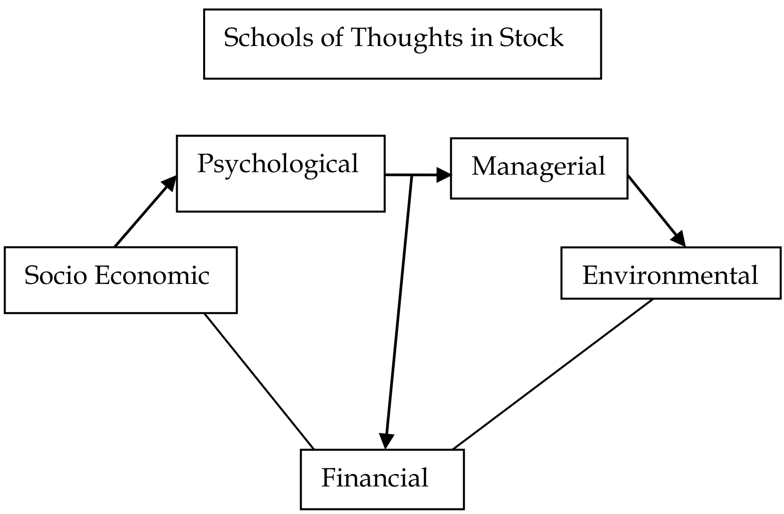
4. Synthesis

The socio-economic school of thought comprises all the demographic factors and cultural factors. The predominant and recurring demographic characteristics were age, gender, educational qualification, family background, marital status, and income, respectively, that influenced the trading behaviour. The cultural factors were religion and the tradition of one's religion.

The psychological school of thought was only the investor's mood and emotions, which seems to be the prime reason for bias in trading. The environmental and psychological school of thought exhibits an inter-relationship as weather affects the investor's mood, which leads to biased trading. The managerial school of thought arises on gender playing in various key positions in an organization. All the above factors significantly impact the financial school of thought, which represents the monetary benefits of trading, which is contingent upon the risk appetite. There exists a cause-effect relationship between the determinants across all schools of thought. The reasons and the precautions for the determinants cause-effect stated in the above schools of thought are not probed. If probed, it would lead to a new school of thought, which is marketing. Marketing is an inherent domain in the field of commerce, trade, and management. For a business to achieve a market position, it has to market itself. Similarly, to boost both genders' participation equally, the stock market has to incorporate marketing strategies and devise plans accordingly, which would imbibe the trading enthusiasm among the citizens.

5. Findings

Most of the studies on women investor behaviour have been done considering the various demographic factors, psychological factors, technological factors, and environmental factors coupled with the ultimate determination of the individuals' risk attitude. But the prime reason or the root cause for the change in the differential behavior in women leading to less participation in the stock market has not been probed. The literature review leads to the identification of the various schools of thought-socio-economic, psychological, managerial, environmental, and financial in the domain of gender participation and relevance. There are thirteen behavioral biases(Zahera & Bansal, 2018) that affects investing, but the most predominant bias–confirmative bias explicitly affecting women investors trading in the stock market has not been explored.



6. Discussion

6.1. Theoretical Background/ Philosophical Underpinnings

In olden times, the power of decision-making was vested in the hands of males, whereas the female's right to socio-economic activities, practices, and employment opportunities were curbed. But nowadays, women started to earn through trading in various investment avenues and other forms of employment. In the stock market, there are different kinds of investors, such as institutional investors, foreign investors, retail investors, etc., out of which 25% of female investors own a DEMAT a/c, a sign of female entry into trading. Generally, women are more conscious and cautious than men in making decisions, but in stock markets, the speculative characteristic predominates the latter aspect. Hence, given the above, women's behaviour is examined through the theories, namely, Behavioural Theory and Gender Discrimination Theory, respectively. The finance field was reluctant to accept psychologists' view, who had proposed the behavioral finance model. Behavior finance was considered first by the psychologist Daniel Kahneman and economist Vernon Smith, who were awarded the Nobel Prize in Economics in 2002. This was the time when financial economists started to believe that the investor behaved irrationally. Human brains process information using shortcuts and personal filters, even in investment decisions.

Behavioral Theory describes the evolution, causes, and effects of change in human behavior at consequent stages. According to the heuristic model, the sequences of steps in successful behavior change are - pre-contemplation, contemplation, preparation, action, and maintenance. This applies to organizations and individuals involving conceptualizing and readiness for change. People do not always move through the stages of growth linearly – they often recycle and repeat certain sets. For example, individuals may relapse and go back to an earlier stage, depending on their motivation and self-efficacy level.

The cognitive formulation views human behavior in terms of a three-way, dynamic, reciprocal model in which personal factors, environmental influences, and behavior continually interact. Thus, Human actions are shaped through a complex interplay of determinants at different levels.

Gender discrimination takes many forms. Many social practices seen as usual from a religious or cultural perspective (which may have deep historical roots) leave women out of the economic mainstream. These social practices may have profound economic consequences because they do not allow society to take advantage of women's talent. This paper investigates these financial consequences. However, gender discrimination may have many other significant effects, including psychological, sociological, and religious. Hence, the investor's trade behaviour grows from predominant roots as opposed to women's action in particular.

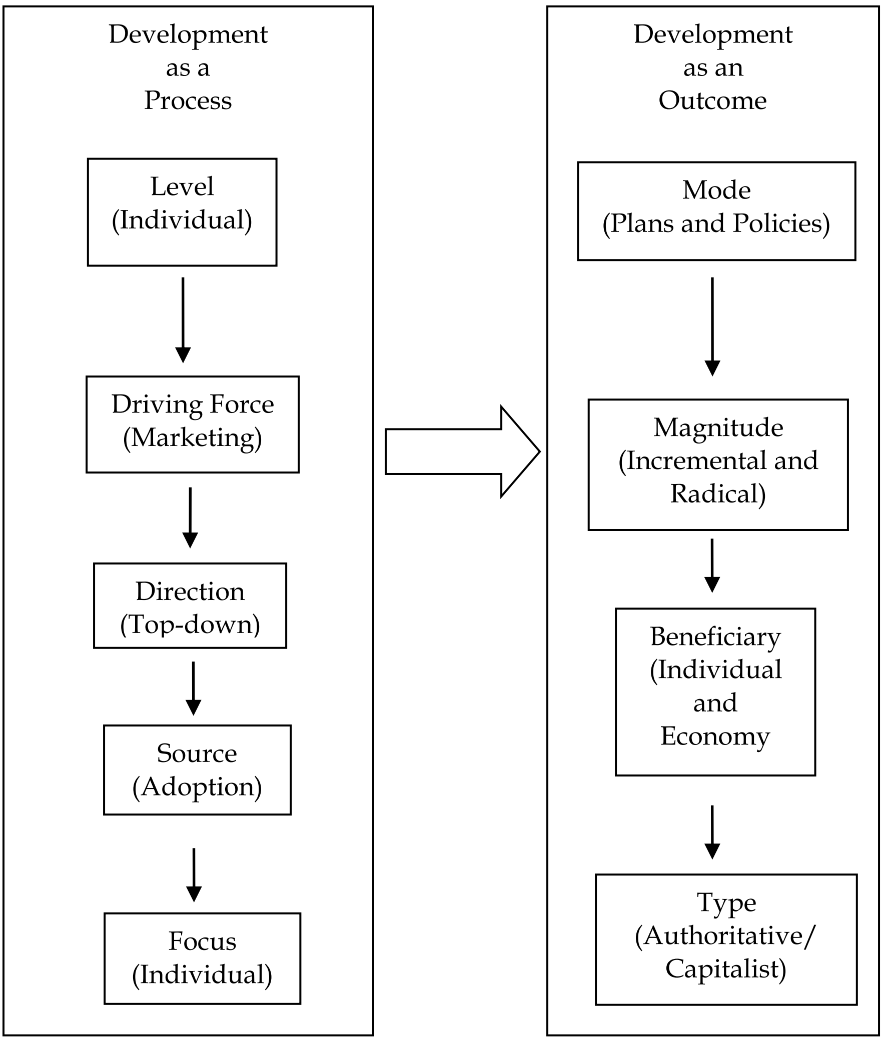
The predominant contribution in this paper is the consolidation of a large body of knowledge.

The various theories of behaviour linked to the stock market into an economical, theoretically grounded, multi-dimensional framework of enhancing stock market participation, connecting the two meta-constructs of development as a process and as an outcome. The second contribution is the application of a rigorous and transparent review method followed by synthesis. The systematic approach is still relatively rare in reviews. As Newbert (2007) argued that even extremely comprehensive studies done by the academic experts in the field would not be immune from selection bias towards the literature known to the reviewers without a systematic framework. Therefore, promoting a systematic approach to scholarly reviews helps to develop a higher standard of academic rigor. Thirdly, we identified the various school of thought. A new school of thought- marketing was identified, thus providing ranges for each of the determinants stated in the school of thought and map. The determinants are mapped as categorical dimensions onto development as a process and as an outcome. Fourthly, we highlight the gaps in the literature that create opportunities for future research. Substantial and considerable light is also thrown on the practical implications of the review.

7. Multi-Dimensional

7.1. Approach/Framework

As all the schools of thought possess inherent limitations and lack weaknesses, a multidimensional approach of the development as a process (what and how) and the outcome of the developmental process (why) can be constructed. This approach would benefit all the stakeholders in an economy, as the stock market participation is stagnant and deteriorating because of the determinants cause-effect relationship in the schools of thought.

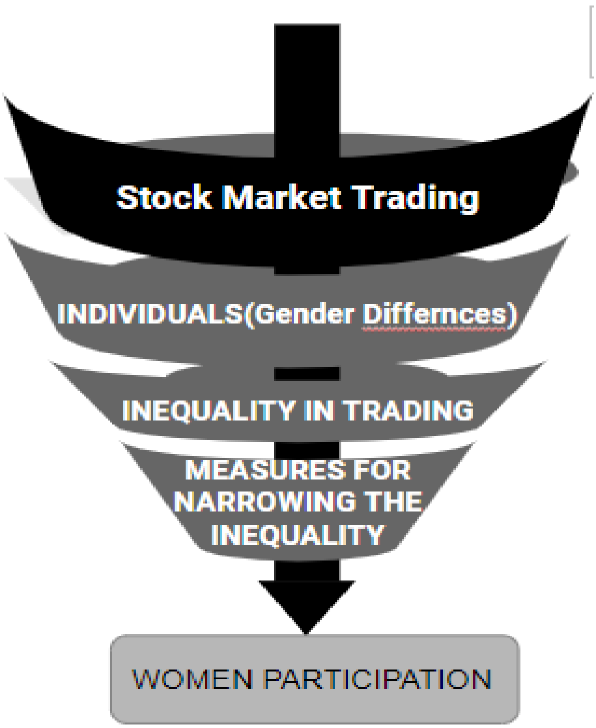


Overall, the development as a process answers the question – 'HOW' and 'WHAT,' and the development process as an outcome answers the question 'WHY.' Level, driving force, direction, source, and focus deals with the problem of how and what, whereas mode, beneficiary, magnitude and type deals with the question of why.

The dimension of level in the development as a process is directly linked with the focus, as individuals are the prime sustainable component in the stock market. To bring the focus into the light, the initiative has to flow from the top-level authorities in the stock market regulators. The control exerted by the stock market regulators results in the type outcome, which is authoritative or capitalist. The driving force encompasses the marketing initiatives, which leads to the mode in the outcome, which comprises of the streamlined plans and policies for each gender specifically, and the efficiency and effectiveness of the driving force are reflected in the magnitude of the outcome that might be incremental or radical in the trading participation by the genders. When the driving force is adopted (source), the outcome is directly attributable to the individuals (traders on stock market-enabling financial independence) on a micro-level and on a macro level to the economy as a whole (revenue generation, improvement in the economic indicators) which ultimately paves a way to the economic development.

8. Scoping out the Study

Past studies reveal the determinants of an individual's behaviour, but the prime reason, precautions, or measures for the cause-effect relationship has not been probed into. The heuristic model for the stock market is impractical. It applies to a few individuals trading in the stock market. Hence, the sequential process of pre-contemplation, contemplation, preparation, action, and maintenance is not put into practice. A multidimensional framework or approach is to be designed to revamp the process as development and outcome. Individuals in the stock market have to be prepared for the readiness to dynamism - risk appetite and processing of data, i.e., distinguishing between noise (trading on rumors without verifying) and information (analyzing the right data). Several inconsistencies in the biases arise from the determinants, but past studies have not explored the accelerators for narrowing the emergence of biases. The funnel approach (Diagram 1) outlines the study's scope, which branches out to behavioural finance.



9. Practical Implications

In addition to contributing to research, the study also contributes to practice. Despite advocating about trading in books, hardly any are grounded in a sound theoretical perspective. The shortcomings of this approach, as identified for researchers, exist for practitioners as well. Hence, there is an immediate need and urge to take a more holistic perspective on stimulating stock market trading participation. The research outcome will be useful to the stock market regulators as the multi-dimensional framework will act as a guiding force in catalyzing the stock market trading participation. If the problem of inequality in trading continues, the men will surpass the women at a comparatively higher rate in terms of liberty, decision-making, their funds will remain idle without any scope for growth or earning an adequate return, and hence women will be confined to their sphere without any signs of progression in terms of the funds held with them. The policymakers have to devise and implement policies concentrating on women to promote female participation in stock trading. This study is undertaken to enable the policymakers to efficiently and effectively frame the policies by including various provisions to draw women's attention and instill the trading behaviour in them.

10. Further Research

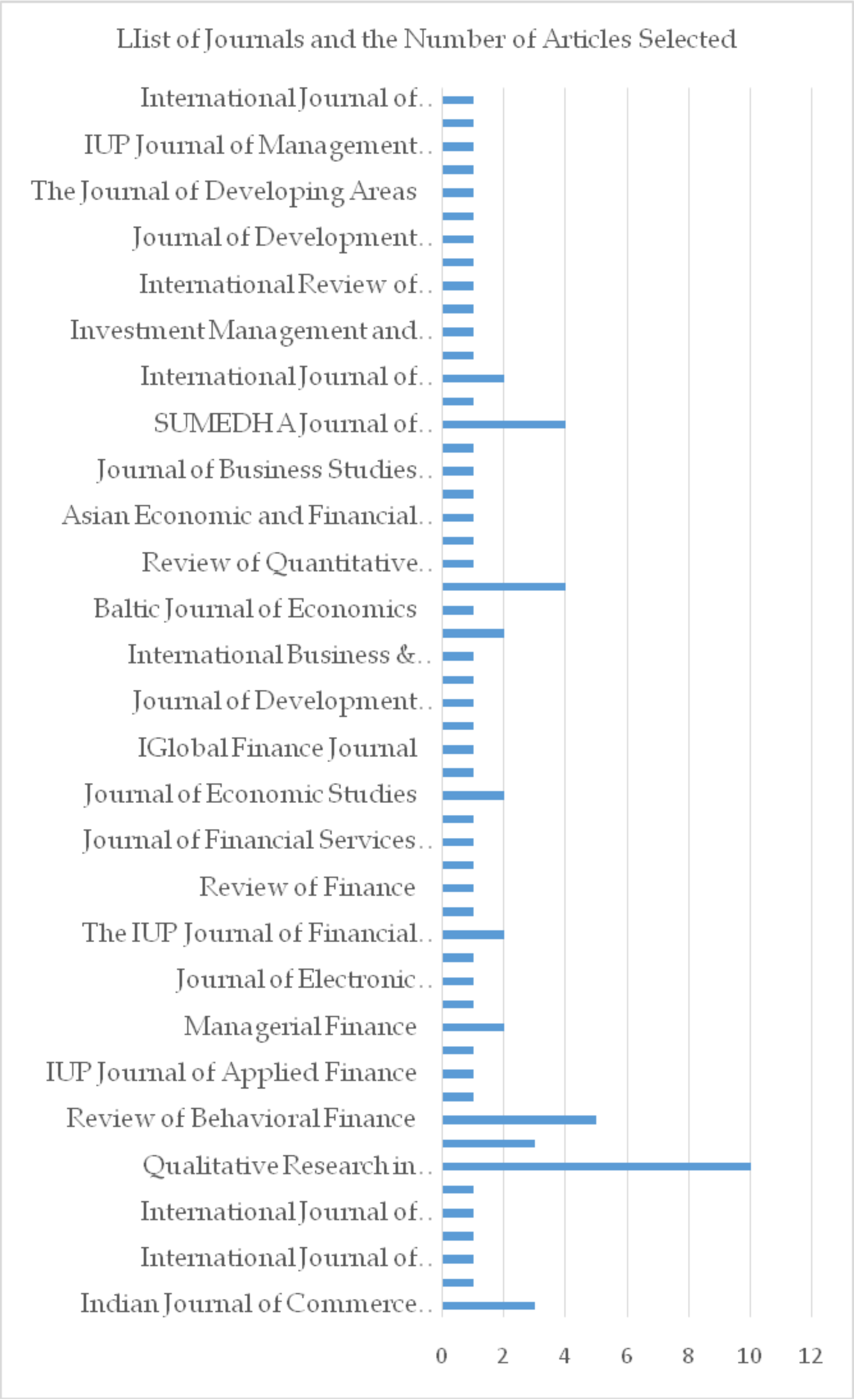
This study offers golden opportunities that are unearthed in the current study. Several inconsistencies in the biases arise from the determinants, but past studies have not explored the accelerators for narrowing the emergence of tendencies.

There are 12 biases as explored by past studies in the trading behaviour of individuals. Still, studies have generalized the biases, but women remain behind in the race of stock market trading. Hence, one predominant bias responsible for other biases is the confirmative bias.

Hence, further researchers can undertake confirmative bias affecting women investors' trading behaviour. As the global economy is witnessing women entrants in the political field, entrepreneurship, and in various other areas, research can be conducted on women entrants in the stock market to gauge their active participation. Hence, in this regard, future researchers can provide suggestions and measures to the stock market regulators to boost women's involvement in stock market trading. The successful implementation will result in massive advantages to the individuals and the economy as described in the multi-dimensional framework, and the literature map lays a base for further research.

11. Appendix

List of journals and the number of articles selected


LList of Journals and the Number of Articles Selected
International Journal of..
IUP Journal of Management..
The Journal of Developing Areas
Journal of Development..
International Review of..
Investment Management and..
International Journal of..
SUMEDHA Journal of..
Journal of Business Studies..
Asian Economic and Financial..
Review of Quantitative..
Baltic Journal of Economics
International Business &..
Journal of Development..
IGlobal Finance Journal
Journal of Economic Studies
Journal of Financial Services..
Review of Finance
The IUP Journal of Financial..
Journal of Electronic..
Managerial Finance
IUP Journal of Applied Finance
Review of Behavioral Finance
Qualitative Research in..
International Journal of..
International Journal of..
Indian Journal of Commerce..
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2
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6
8
10
12

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