Behavioral Finance: A Bibliometric Analysis of the Literature

by

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Abstract

Behavioral Finance is flourishing with its own principle and methodology and has focused on the rationality of investor's investment planning and decisions. Most of the researchers are coming from western part of the globe. The purpose of the study is to conduct a systematic literature review and understand the progress made in last 10 years in the field of behavioral finance. The period of 2007 to 2016 is selected basically to update the latest study in the field of behavioral finance. Bibliometric analysis is applied to identify the trends in behavioural finance, number of influencing papers, top contributing authors, most popular keywords used and citation measures. This study will provide food for thought for the researchers who want to work in the field of behavioral finance. This study will also enable managers and policy makers in understanding the ongoing research in the field of behavioral finance.

Key Terms*: Behavioral Finance, Bibliometric Analysis, Literature Review*

1. Introduction

Behavioural Finance is one of the dynamic and fully developed fields which have its own principle and methodology (Redhead, 2008). Behavioural finance came in existence due to limitations of traditional theories and finance to support the investment and saving decisions (De Bondt & Thaler, 1985; Werner DeBondt, 2010).While traditional finance formulates the investment strategy whereas behavioural finance focuses on the decision process of its execution (MacKenzie, Fabian, & Lucia, 2006). Many of the key variables in behavioural models are neither observable nor measurable directly to researchers analysing data, thus most of the empirical studies in the field of behavioural finance adopt proxies in attempt to

capture or measure the effect of such variables (Darren, 2015). According to analysis of (Huang Jim Yuh, 2015), during the period 1995 to 2013, in this period of 20 years, the study in the area of behavioural finance was in 124 journals and 347 articles in which 650 authors were involved. Participation in this field is limited to from USA, Germany, Spain, England, China Israel, Australia, but there are limited scholars from south East Asia economy like India.

The main objectives of this paper are

1) To conduct a systematic literature review for past 10 years (2007 to 2016)
2) To conduct bibliometric analysis of selected papers.

This paper is structured into four additional sections. The coming section represents the systematic literature review which helps us to understand the progress in the field of behavioral finance. The second section represents bibliometric analysis, the third section represents the conclusions and recommendations and fourth section represents unique contribution, limitations and future research and directions.

2. Related Empirical Literature

Systematic review of past studies done by researchers to select, evaluate their contribution, analyse the data used have a specific methodology (Denyer & Tranfield, 2009).The systematic Literature review steps followed in this paper have been adopted using the guidelines on Tranfield et al.,(2003).

Step1: Planning the Review

At this phase, the relevance and size of the literature is planned along with the boundaries of the topic. In the current paper, main focus is on the articles published in top peer reviewed journals in the field of behavioral finance. Information and Library Network (INFLIBNET) database was used for searching keywords in databases and publishers like Emerald, Elsevier, Science Direct etc. Along with Text books and Reference Books though keyword search using keywords **Behavioural Finance, Psychology, Decision Making, Determinants, Pricing Inefficiencies, Sentiment Shifts**. Important papers for the required topic were selected.

Step2: Need for Review

The objective of conducting literature review is to explore the area of behavioral finance and identify the future research directions. The literature review will help to explore the gaps in terms of area of research, methodology adopted, findings and suggestions.

Step3: Preparation of proposal for review

Detailed review of the papers published in JSTOR, Springer, Elseveir and other top financial management journals to understand the observations and findings of the research in the said area for the present study and further a review proposal is formulated on the basis of collected papers.

Step4: Conducting Review

Behavioral finance is one of the top research areas in the field of investment management for the academician, investors, fund managers and regulators (GeorgeTauchen & Zhoub, 2011). Considering the enormous challenges in developing predicting models due to large number of determinants and factors influencing the investment decisions, it is still challenge for the researchers to explore and confirm the models.

3. **Bibliometric Analysis**

This will help in quantitative and qualitative analysis of existing literatures. In this paper bibliometric analysis is done on behavioral finance in order to analyse the current and past area of research and will help to identify gap if any so that guidance for future study can be framed. The below table 1 presents the papers analysed with their title and key findings. The journals are also tabulated for the given papers.

Table 1: Review of selected papers

Sr. No.	Authors	Article Title	Year of Publication	Key Findings	Journal
1	Avanidhar Subrahmanyam	Behavioural Finance: A Review and Synthesis	2007	The impact of well-documented biases such as overconfidence and the disposition effect on market makers and the concomitant implications for transaction costs would seem to be a valuable topic for research.	European Financial Management ,
2	Fünfgeld Brigitteand Wang Mei	Attitudes and behaviour in everyday finance: evidence from Switzerland	2009	Factor analysis revealed five underlying dimensions of financial attitudes and behaviour: anxiety, interests in financial issues, decision styles, need for precautionary savings, and spending tendency. Cluster analysis segmented the respondents into five	International Journal of Bank Marketing

				subgroups based on these dimensions with an ascending order of specific needs for financial products. Gender, age, and education were found to have significant impacts.	
3	Werner DeBondt,William Forbes,Paul Hamalainen and Yaz Gulnur Muradoglu	What can behavioural finance teach us about finance?	2010	The paper highlights numerous benefits that behavioural finance research can contribute to the financial industry, but at the same time there is an evident discrepancy between the academic and the professional world when it comes to utilising behavioural finance research.	Qualitative Research in Financial Markets
4	Shalini Kalra Sahi	Neurofinance and investment behaviour	2012	Neurofinance is a very young discipline. It tries to relate the brain processes to the investment behaviour. Most of the researches in the domain of neurofinance focus on trading behaviour. It would be interesting to explore the workings of the brain for other investment behaviours too like personal financial planning decisions, etc.	Studies in Economics and Finance
5	Harvey, Muradoglu, G., & Nigel	Behavioural finance: the role of psychological factors in financial decisions	2012	The primary input to behavioural finance has been from experimental psychology. Methods developed within sociology such as surveys, interviews, participant observation, focus groups have not had the same degree of influence. Typically, these methods are even more expensive than experimental ones and so costs of using them may be one reason for their lack of impact.	Review of Behavioural Finance

6	Nancy R. Lee and Margaret Miller	Influencing positive Financial behaviour: the social Marketing solution	2012	Relevant behaviors identified, including those related to establishing a bank account, increasing savings, using credit wisely, avoiding over indebtedness, applying for micro finance loans, adopting new technologies, reducing chances of fraud, choosing the right insurance, reporting abuse, and shopping around and comparing offers. Potential target audiences were broad, ranging from sex workers in India, to farmers in "self-help" groups in Kenya, to girls aged 10-18 in Mongolia, to the homeless in San Francisco, to households on tea estates in India	Journal of Social Marketing
7	Egidijus Bikas Petras Dubinskas	Behavioural Finance: The Emergence and Development Trends	2013	This article reveals the aims of recognition and emotional factors on market movements focusing on a limited number of investor rationality and explains the psychological effects of investing activities.	Procedia - Social and Behavioral Sciences
23	Sunil Wahal, M.Deni zYavuz	Style investing,co movement and return predictability	2013	High co movement momentum portfolios have significantly higher future returns than low co movement momentum portfolios. Overall, our results suggest that style investing plays a role in the predictability of asset returns.	Journal of Financial Economics
8	Irene Wei Kiong Ting Hooi Hooi Lean Qian Long Kweh Noor Azlinna Azizan	Managerial overconfiden ce, government intervention and corporate financing	2014	CEO overconfidence is significantly and negatively related to corporate financing decision; second, a higher degree of managerial overconfidence would result in lower leverage in	International Journal of Managerial Finance

		decision		GLCs, whereas the effect does not significantly exist in NGLCs; third, a larger ownership of government in a firm will reduce the negative effect of managerial overconfidence on corporate financing decision; fourth, the moderating effect of government ownership on the association between managerial overconfidence and corporate financing decision in GLCs is more effective than NGLCs.	
9	Andrius Guzavicius Rita Vilke Vytautas Barkauskas	Behavioural finance: corporate social responsibility approach	2014	The conducted research has proved that when making decisions under the uncertainty and risk conditions, people experience the effect of different illusions, emotions, false perception of information and other "irrational" factors. Corporate social responsibility reflects a new role of business in society	Procedia - Social and Behavioral Sciences
10	Camelia Oprean Cristina Tanasescu	Effects of Behavioural Finance on Emerging Capital Markets	2014	The results indicate that trading is influenced by the investors' irrational behavior. Thus, the rationality hypothesis can be rejected for both capital markets.	Procedia Economics and Finance
11	Colin Milligan, Rosa Pia Fontana, Allison Littlejohn and Anoush Margaryan	Self-regulated learning behaviour in the finance industry	2015	Data analysis confirms a relationship between the learning opportunities provided by a role, and learning undertaken Regression analysis identifies three key SRL behaviours that appear to mediate this relationship: task interest/value, task strategies.	Journal of Workplace Learning

12	Duxbury Darren	Behavioral finance: insights from experiments I: theory and financial markets	2015	Experiments complement the findings from empirical studies in behavioral finance by avoiding some of the limitations or assumptions implicit in such studies.	Review of Behavioural Finance
13	Huang Jim Yuh,Shieh Joseph C.P., Littlejohn Allisonand Kao	Starting points for a new researcher in behavioral Finance	2015	More research papers in behavioral finance are emerging, making it a significant area of study. Most of the papers can be classified as empirical or theory. The number of papers in the review class should be increased to assist scholars and professionals in understanding behavioral finance and its application.	International Journal of Managerial Finance
14	Xiang Dong Worthington Andrew	Finance-seeking behaviour and outcomes for small- and medium-sized enterprises	2015	Business objectives together with a large number of firm-level characteristics, including firm age, size, industry and sales, profits, growth and exports, significantly affect both finance-seeking behaviour and outcomes. The authors find evidence that the pecking-order and agency cost theories of capital structure at least partly explain the financial behaviour of Australian SMEs	International Journal of Managerial Finance
15	Milligan Colin,Fontana Rosa Pia, Littlejohn Allisonand Margaryan	Self-regulated learning behaviour in the finance industry	2015	Data analysis confirms a relationship between the learning opportunities provided by a role, and learning undertaken. Regression analysis identifies three key SRL behaviours that appear to mediate this relationship: task interest/value, task strategies and self-evaluation. Together they provide an insight into the learning processes that occur during intentional	Journal of Workplace Learning

				informal learning.	
22	Yen-Cheng Chang, Hung-Wen Cheng	Information environment and investor behavior	2015	A one percentage increase in intangible returns for small firms (large firms) lead to a 2.33% decrease (0.70% increase) in monthly returns over the next 12 months. The results are robust to firm characteristics adjustments, alternative measures of firm information environment and private information, idiosyncratic risk, and microstructure effects.	Journal of Banking & Finance
16	Mahmoud Lari Dashtbayaz, Shaban Mohammadi	The effect of managerial overconfidence on investment	2016	Overconfidence leads investors to predict their skills over estimate and find the belief that they cannot market timing. Detection and mitigation of confidence too, is a fundamental step in designing the foundations of a good financial plan. Too much trust in their own people, the strongest findings in the psychology of judgment.	International Journal of Accounting and Economics Studies
17	Irene Wei Kiong Ting Hooi Hooi Lean Qian Long Kweh Noor Azlinna Azizan	Managerial overconfidence, government intervention and corporate financing decision	2016	CEO overconfidence is significantly and negatively related to corporate financing decision a higher degree of managerial overconfidence would result in lower leverage a larger ownership of government in a firm will reduce the negative effect of managerial overconfidence on corporate financing	International Journal of Managerial Finance

				decision the moderating effect of government ownership on the association between managerial overconfidence and corporate financing decision is more effective	
18	(Tuyon & Zamri, 2016)	Behavioural finance perspectives on Malaysian stock market efficiency	2016	The tests confirmed the presence of asymmetric dynamic behaviour of prices predictability as well as risk and return relationships across different market states, risk states and quantiles data segments. Collectively, these evidences lend support to bounded adaptive rational of investors' behaviour, dynamic stock price behaviour, and accordingly forming bounded-adaptive market efficiency	Borsa _Istanbul Review
19	Dr. Bilal Aziz Muhammad Abdullah khan	Behavioral factors influencing individual investor's investment decision and performance, Evidence from Pakistan Stock Exchange.	2016	Preliminary results show the height positive relation of heuristics on the investment performance while prospect not affect the investment performance.	International Journal of Research in Finance and Marketing
20	Muhammad Tanvir, Muhammad Sufyan, Aitzaz Ahsan	Investor's Emotional Intelligence and Impact on Investment Decision	2016	The results revealed that emotion intelligence is having significance impact on investment decisions and plays a vital role in selection of securities. Investors are having self-awareness, self-management, motivation and empathy but low concentration on relationship-management. The overall study revealed	International Journal of Academic Research in Economics and Management Sciences

| 21 | Geetika Madaan Sukheja | Review Paper On Behavioural Biases In Financial Decision-Making | 2016 | low emotion intelligence and much influence by decision. | |
| | | | | The study concluded that this multidisciplinary research area investigates the issues that impact the decision-making process and explains the irrational nature of individuals, groups and organizations. Behavioral finance tries to address those psychological traps that are confronted while making decisions under uncertainty. | International Journal Of Marketing, Financial Services & Management Research |

Source: Author's own compilation

The table 2 presents the areas of research focus. It shows that majority of researchers have focused on quantitative modeling and literature review. Limited numbers of work are seen in areas of conceptual paper, case study and empirical study which show an area for future study.

Table 2: Areas of Research Focus

Authors	Type of Research	No of Papers
Subrahmanyam (2007), DeBondt et.al (2010), Kalra S (2012), Muradoglu et. al (2012), Duxbury D (2015), Yuh J H et. al (2015), Sukheja (2016),	Review	7
Lee N et. al (2012), Wahal S et. al (2013), Ting I W K et. al (2014), Guzavicius A et. al (2014), Oprean C et. al (2014), Tuyon et. al (2016), Aziz B et. al (2016), Tanvir M et. al (2016),	Quantitative Modelling	8
Milligan C et. al (2015), Dong X et. al (2015), Chang Y C et. al (2015), Ting et. al (2016),	Empirical Survey	4
Brigitteand W et. al (2009), Bikas E et. al (2013), Colin M et. al (2015), Dashtbayaz M L et. al (2016),	Case Study	4

Kukacka J et. al (2013), Aron et. al (2012), Boussaidi R (2013), Doker et. al (2015)	Conceptual	4

Source: Author's own compilation

The table 3 presents the distribution of literature on the basis of country of research. It can be analysed in the mentioned table that most of the research are performed in developed countries and very limited papers are available in developing and Asian countries.

Table 3: Selected Studies in context of different Countries

Sr. No.	Country	Researchers
1	**Australia**	Dong et. al (2015)
2	**India**	Sahi K S (2012), Sukheja G M (2016)
3	**Iran**	Lari M et. al (2016)
4	**Italy**	Chang Y C (2015)
5	**Lithuania**	Bikas E et. al (2013), Guzavicius A et al (2014)
6	**Malaysia**	Ting IWK et. al (2014), Ting IWK et. al (2016), Tuyon J et. al (2016)
7	**Pakistan**	Aziz B et. al (2016), Tanvir M et. al (2016)
8	**Romania and Brazil**	Oprean C et. al (2014)
9	**Switzerland**	Brigitteand F et. al (2015)
10	**Taiwan**	Yuh H J et. al (2015)
11	**United Kingdom**	DeBondt et. al (2010), Harvey et. al (2012), Milligan C et. al (2015), Darren D (2015), Colin M et. al (2015)
12	**USA**	Subrahmanyam A (2007), Lee N et. al (2012), Wahal S et. al (2013)

Source: Author's own compilation

Citation Measure analysis is conducted for top 10 papers in terms of the maximum number of citation on Google Scholar Citation index in Table 4. The citations represent the number of times the paper have been referred or cited in other papers. The paper of Subrahmanyam A (2007), have maximum of 305 citations, followed by Brigitteand et. al (2009) with 79 citations and so on.

Table 4: Top 10 papers: Citation Measure

Sr. No.	Authors	Article Title	Year of Publication	Journal	Country	Google Citation Index
1	Avanidhar Subrahmanyam	Behavioural Finance: A Review and Synthesis	2007	European Financial Management,	USA	305
2	Fünfgeld Brigitteand Wang Mei	Attitudes and behaviour in everyday finance: evidence from Switzerland	2009	International Journal of Bank Marketing	Switzerland	79
3	Sunil Wahal, M.Deni zYavuz	Style investing,co movement and return predictability	2013	Journal of Financial Economics	usa	55
4	Harvey, Muradoglu, G., & Nigel	Behavioural finance: the role of psychological factors in financial decisions	2012	Review of Behavioural Finance	United Kingdom	33
5	Werner DeBondt,William Forbes,Paul Hamalainen and Yaz Gulnur Muradoglu	What can behavioural finance teach us about finance?	2010	Qualitative Research in Financial Markets	United Kingdom	24
6	Nancy R. Lee and Margaret Miller	Influencing positive Financial behaviour: the social Marketing solution	2012	Journal of Social Marketing	USA	21
7	Egidijus Bikas Petras Dubinskas	Behavioural Finance: The Emergence and Development Trends	2013	Procedia - Social and Behavioral Sciences	Lithuania	21
8	Shalini Kalra Sahi	Neurofinance and investment behaviour	2012	Studies in Economics and Finance	India	16

9	Jasman Tuyon Zamri Ahmad	Behavioural finance perspectives on Malaysian stock market efficiency	2016	Borsa _Istanbul Review	Malaysia	11
10	Colin Milligan, Rosa Pia Fontana, Allison Littlejohn and Anoush Margaryan	Self-regulated learning behaviour in the finance industry	2015	Journal of Workplace Learning	United Kingdom	10

4. Conclusion and Recommendations

The present study presents the structure review of papers in the field of behavioral finance which is fully developed and emerging area of research. In the past 10 years with the selected literature under study it can be concluded that there are limited study in country like India and other developing nations. The current review has captured the past research publications, outlined the present status and shows the future research directions. The analysis shows that there limited number of researchers in the field of behavioral finance and it is expected that in future more and more researchers will add to this area. The kind of research shows that trend is towards review papers and quantitative modeling and thus provides future scope in the areas like conceptual as well as empirical study in the area of behavioral finance and investment decisions.

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