Bibliometric Study On Investment Decision Making – An Analysis Using VOS Viewer

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Abstract

An embracive overview of the research can be effectuated keeping the subject of behavioral finance and marketing from the citation and co-citation perspective by using bibliometric tool- VOS Viewer. The study manages to extract a systematic database of around 110 papers from Scopas that is significant in the given domain. Risk is the primary factor that need to be analyzed before suggesting any kind of investment product to a customer. There are originally three kinds of ladder where the risk is positioned starting from low, medium to high. The relevance of the growing technology, AI (D., M., E., & J., 2025) is far more impacting the entire trading system, making it feasible, efficient, accurate and accessible. It has also been found that (A.M.A. & N.S., 2025) there is an impact on financial decision making on the basis of personality factors, conscientiousness, extraversion, agreeableness, neuroticism, and openness to experience; these personality traits impact one's entire financial decision making process, as in the person with high openness to experience have more risk appetite than the one with having low on this trait. The risk appetite or preference impacts the conventional decision making, proven in the way of most cited research work.

Keywords: risk tolerance, decision making, investment behavior

1. Introduction

1.1 A broader overview

The nexus of previous research work forms an interconnection and cohesive part of knowledge. This paper is predominantly interplaying between the personality traits, investment decision making, risk aversion and knowledge. This paper attempts to bring out the association of marketing with different financial and investment decision making by using VOS Viewer.

Automobile industry is greatly affected by the transformation of the greenhouse effect and subsequent inclination towards the electric power vehicle (V., A., & D., 2025). This may lead to the change in investment patterns as well by the change in holding patterns. (M. & M., 2025) An investor needs to evaluate the other factors like environmental, social, sustainable factors as well before getting into any

kind of decision; the case during COVID 19 pandemic led to an unexpected fall in the market. Environmental influence has another impact on the sublimity of the market (V., O., & A., 2025). The reorient of financial flows and the influence on public policy is another way of addressing climate, due to which the entire financial stability is getting affected. Also, the learning methods influenced by eight critical criteria—cost, flexibility, learning effectiveness, interaction, concentration, learning pace, technological challenges, and practicality also holds an impression in making a strong choice (S.S., M.A., & T.J.). The importance of nudge theory (A.R., et al., 2025) along with the importance of it's key concepts -choice architecture, subtle influence, freedom of choice, cognitive biases, and benefits for individuals and society has been highlighted over here. Human decision making become mor probable by keeping the above key concepts into consideration.

The scholarly works (S., et al., 2025) in the area have explored the dynamism of stock market which creates a possibility between the traders to make a decision making based on the predictive analysis. This fundamentally also brings out that the main objective of investors is to get maximum return through a minimal amount of risk (S.K., 2025). Though complex investment decisions require thorough study, the modern portfolio theory gives a broader guideline about the importance of diversification within the portfolio and a wide range of financial instrument options (L., L.M., J.F., R., & C.-D., 2025). The economic disparities and income gap creates an inconsistency in the asset ownership (Y. & S., 2025). It's been also observed that the consistency of the behavior remains the same when it comes to measuring of the investment parameter- financial or into real estate. The emphasis on the impact of emotions, like overconfidence, locus of control, risk avoidance, agreeableness, financial literacy highly impacts the risk-taking behavior of an individual (A. & M.U., 2025). Further, various financial market events have caused the asset markets to co-move, this reduces the diversification within the portfolio (especially in the emerging market) and enhances the return losses (F., S., & K., 2025). The nexus between the BRICS nation and key emerging economies shed light to explore the financial and economic integration between the two sides od economies (M. & J., 2025).

Considering all of these we bring out a retrospective view of the scientific output and try to dig out the future view in this study. Through a thorough investigation, this maps the relationship between the crucial marketing concepts along with the influence of behavioral finance. Marketing interplays after analyzing the behavioral and investment pattern by providing a right fit of product or say an instrument for investment- financial. Real estate, energy, sustainability or climate- all related to each other in one or the other way.

1.2 Research questions

RQ1: When did the study on risk aversion's influence on rational decision-making start to evolve?
RQ2: Which scholarly work is having a higher influence in this field of study?
RQ3: What are the key major concepts or models useful to this study?
RQ4: What are the scopes for upcoming research work?

2. Data

2.1. Selection of Data

A vast data set of qualitative research work is collected from Scopas for the analysis. The major reason for choosing Scopas over other databases is the high number of citations, of nearly 45,000 to 50,000 titles. There were 110 peer reviewed titles that were taken for this study.

2.2. Data extraction

The data has been extracted from the Scopas data set on 24th April 2025. The search was done in a search column of abstract, keywords and title and authors. The primary paper useful in this study was "Bibliometric review of behavioral finance and risk (Shaikh & Ullah Khan, 2025). The only difference in the current paper is that the overall investment pattern along with the choice making ability is evaluated pertaining to both financial as well as non-financial avenues like real estate investment also.

Furthermore, the data is first refined to 1000 papers from the 50,000 papers using meta-analysis and systematic reviews. The database is then further structured down to 110 papers based on only focusing on papers that are directly or indirectly having an impact on investment decision making. The data is then exported in CSV format and finally given for analysis.

Fig-1 gives an overview of the entire extraction process-

Step 1: Selection of Database
With advanced search, the data is selected in the scopas .
Step 2: Data extraction
Data is initially extracted by the name of abstract, keywords and title and then limited to 110 counts by te help of limiting the topic.
Step 3: Eligibility
The data is refined to a subject area of field study, bibliometricstudy, ad economics and business.
Step 4: Inclusion
The data is refined only to social studies, and peer reviewed

Fig 1: Data Extraction Process

2.3. Descriptive analysis of data

The data is analysed using VOS Viewer tool. The descriptive data was extracted and then uploaded in the CSV format in Vos Viewer. The overall view of the entire data is then formulated in pictureque form. All the papers taken were of recent publication in year 2025.

3. Result and Discussios

RQ1 is to trace about the rational decision-making evolution. This can be directly connected with one of the studies on loss aversion (A.M.A. & N.S., How Does Loss Aversion Mediate the Relationship Between Personality Traits and Efficiency of Skills in Investment Decision-Making?, 2025). The effectiveness of decision making can be evaluated through personality factors, can be guided by *Big Five Theory*- a model in personality psychology that highlights on five broad dimensions of human personality- Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism, each factor triggers a decision-making influence. The rationale decision is not only required while analysing a financial market but also while making a right choice on investment into real estate. *Prospect theory*- another behavioural economic theory that given an overview on an analysis of decision under risk, is another concept that answers this above research question RQ1.

RQ2 was there to establish the key research works in the given field. The work relevant to psychology of decision making, personality traits, risk aversion, risk attitude, financial stability and market knowledge are the major focus areas that influences this study. Technological innovation plays a pivotal role in today's scenario that changes the decision ability (J., et al., 2025). Furthermore, any kind of decision need a good prospective and perspective to handle any hindrance in the given point. Lot of technological advancement is featuring around to make the task easy for making acceptability towards the financial instruments globally, but women still encounter an obstacle to handle such technology with ease (D., N., S., & V., 2025). The dependency theory can be at an extent be justified in this study.

Fig 2, gives an overlay visualization of the authors who contributed immensely in this domain.
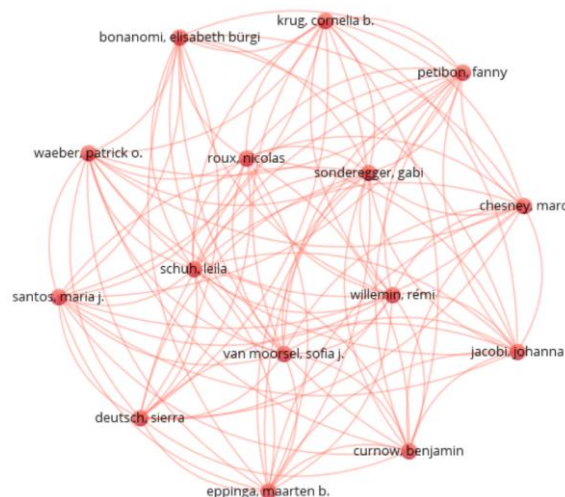

Fig- 2 Most relevant citation of authors, Overlay Visualization
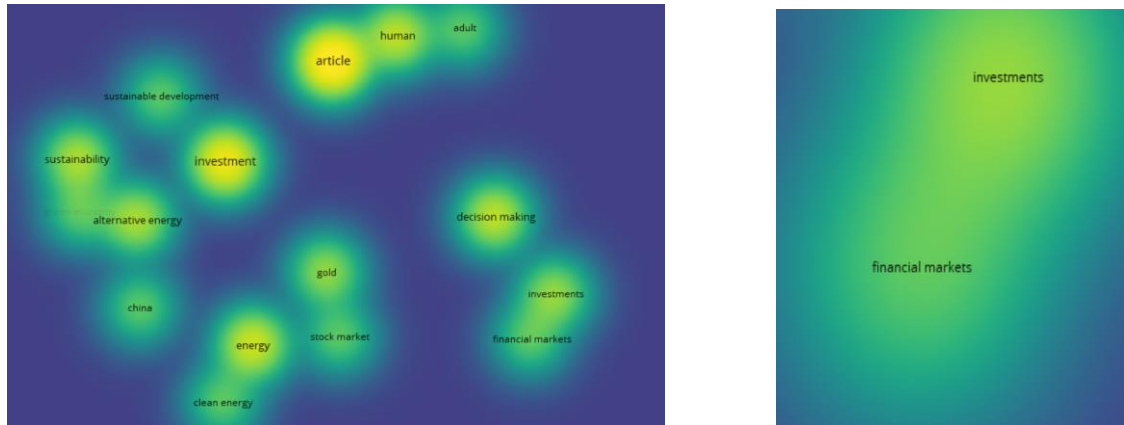
Fig 3- Overlay visualization of major work

Fig 3 displays the prominent areas with the highest number of publications in the area. While fig 2 illustrates the interconnection between the authors, fig 3 to it's affiliated keywords and major areas of studies. The study investigates the relationship between product diversification strategy and cost stickiness (M., D., M., & A., 2025). The focus is on making a more informed decision (I., R., L., & T., 2025) by enhancing the capabilities of question and answering. Gold investments provide a shield towards any kind of uncertainty and cryptocurrency aid in refining an investment portfolio (M., X., C., & C.W., 2025). The study from the previous work also provides evidence towards the interdependence between the bonds and various financial indices (N., C., & E., 2025). By assessing and correlating the complex scaling behavior the study assesses the role of green bonds in financial markets (W. & B.M., 2025). The overlay visualization depicts instances to be used to show the developments over time. Many authors co-site the same pair of papers creating a cluster of work.
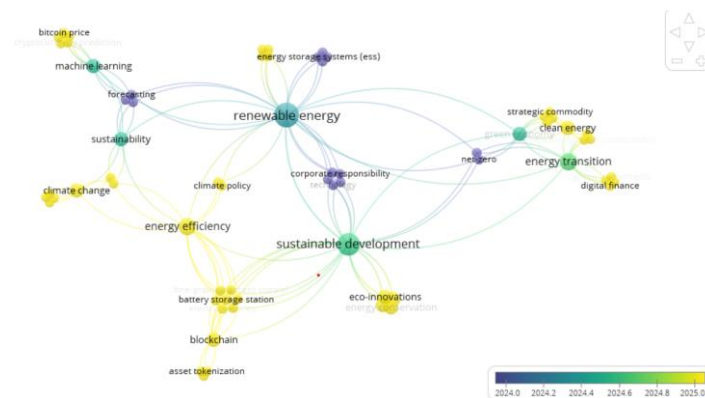

Fig-4 Network visualization – text data set

Fig 4, also known as graph visualization, allows us to understand the pattern and correlation between investment and other rationale areas. Socially responsible behavior can be examined through diversification potential of bonds, commodities (A., C., M.C., & J.M., 2025). The graph or line analysis gives an overview about the recent research that is to examine the integration of behavioral finance mechanism, machine learning, sustainability and other influencing factors that creates a model for effective decision-making framework. This addresses the RQ3 by highlighting the major focus areas where

the work is going in currently. If we look at the above figure 4 carefully, we could assess and identify the financial risk in it , by developing a measuring tool and making use of comprehensive decision-making process. The shifting paradigm of the study can be demonstrated through keyword analysis.
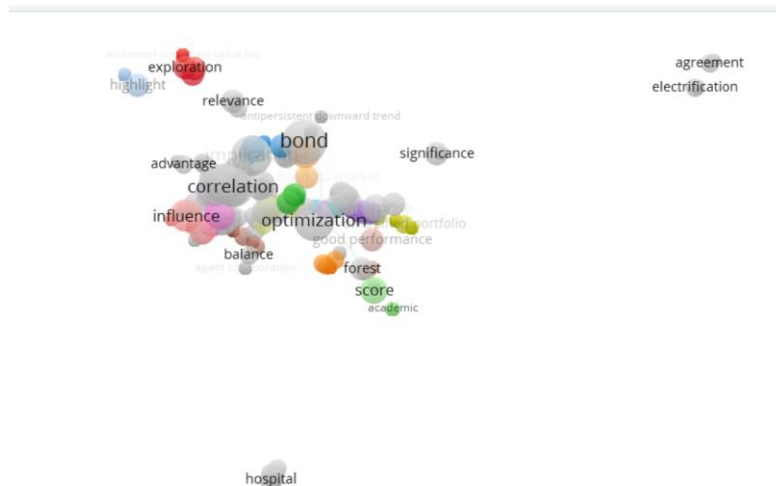
Fig 5- Network Visualization, Co-occurrence network

RQ4: This field is still very novice and untapped even after an enormous increase in the publications in this field. Fig 5 gets 3663 data, that shows the possibilities of work in this area of knowledge. The combination or individual analysis of factors by means of correlation, exploration, balance between the financial instruments is one more opportunity where the work can be devoted. Additionally academic and investment correlation is another point of study that can be done in this area. Further the balance between exploration and correlation, or the use of optimization theory to analyze or measure the investment pattern along with the behavioral aspect could be one more area of study. There is a significant contribution to the export of the global commodity market to economic growth (K.S., M.O., K.C., J.C., & A.K., 2025) , and the dividend comes at some level of environmental degradation. The analysis via different exploration research work could be another scope of study at large. Fig 5 also illustrates the different research themes that can be investigated based on study's findings.

4. Conclusion

The dynamics of research have changed over time, starting with the conceptual framework or models on psychological and personality traits to connect that with the risk to behavioral biases. The risk is the prominent factor that creates an impact in future decision making, irrespective of the field of investment, energy, real estate, or finance. The personality traits along with other behavioral factors greatly impact the choice of deciding. Demographics, another factor that influences the decision making- female for eq-finding difficulty in using technology to invest in financial market is less likely to make larger investment in that instrument than a male. Gen X may be less likely to make aggressive than Gen Z or Gen Y due to the age factor.

More data availability and technological advancements can create more opportunities for research work on risk aversion and consumer behavioral statistics. Additionally, people should close their knowledge

gaps in the coming years and comprehend a holistic view of decision keeping the risk factor in mind. The AI is this field could create a breakthrough transformation to predict a behavioral pattern of investors.

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