"A study on the investor's preference towards four quadrants return model by working individuals with reference to cockroach portfolio" A Covid-19 wakeup call

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ABSTRACT: Investment is the key factor to save oneself from unexpected crises. However, investment avenues are not well planned by investors. This is because of the changing economic climate with uncertainty in leaps and bounds. Individuals get confused due to the vast information which is available to them or sometimes they lack financial and investment knowledge. In this research, working-class individuals are considered for the data collection because when the pandemic broke out, most of them suffered as they lacked investment and were not strong enough to face the impact of Covid-19. These working-class individuals have learned a valuable lesson from the Covid-19 pandemic. They have actively started to invest in different portfolios to ensure that they have enough assets for the future and the interim period. However, investment in portfolios is not the same as how it was before the pandemic. There is a drastic change in the investment pattern. Hence it is important to learn the investment behavior of the working class in the new climate (Post Covid-19 pandemic). The covid-19 pandemic is a wake-up call for many working-class individuals because it has given a bitter experience. Many individuals have come forward to invest in the best portfolio which will give them maximum returns with minimum risk. There are many investment approaches and portfolio frameworks available, however, the cockroach portfolio is quite interesting and trendy. In this research cockroach portfolio has been considered which is a four-quadrant model comprising Stocks, Volatility, Income, and trend. Investors do not invest with a conscious decision considering the Cockroach portfolio. However, through this research, we find if they prefer cockroach portfolios indirectly. A questionnaire survey has been designed based on the quadrant to collect the data from the respondents (N = 107) representing different industries. Simple random sampling has been used to collect the data. The collected data has been analysed with SPSS software. The results show that there is no significant relationship between the age of the investors and their interest to invest. However, this is concluded that many working-class individuals have come forward to take risks and invest with confidence due to the fear created by the pandemic. Moreover, individuals have become cautious enough to safeguard themselves from future uncertainties. The level of awareness of cockroach portfolio is increasing day by day but there is a need for more awareness and emphasis on this approach for various classes of individuals.

KEYWORDS: Investor's preference, Investment Behaviour, Cockroach Portfolio, Covid-19 pandemic, Working-class individuals

I. INTRODUCTION

Investing has become the need of the hour not only for high earning class but even for people who are below the standard of living. The world has faced a lot of uncertainty and people are dependent on their savings. Let us not talk about investment awareness anymore because the world has become digital, and every individual has a mobile phone with an internet connection to get information through different means. Savings has progressed to investment among different age groups. To mention, college going students have saved from the pocket money they get from their parents and investment in digital currency. People work hard to invest which is a sum of money after meeting expenses. Hence the traditional formula for investment is (Income – expense = savings/investment). However, this has changed in recent times where the new formula is (Income – Investment = Expenses). How practical this formula is right? Working people invest for various reasons and save some to meet unexpected necessities which can also be known as surprise expenses. Every individual must plan accordingly and save a portion of their earnings. For example, let us consider the Covid-19 pandemic. No one expected that they would end up paying huge money for medical expenses and Covid-19 insurance. It just mushroomed for no reason and people have now learned a lesson in the post Covid-19 pandemic to save money to meet unexpected medical expenses. Thus, savings done exclusively to meet medical expenses has become one of the most important investment avenues in recent times. Rich or poor, educated, or uneducated is not an issue until and unless an individual has the capacity and capability to save. Likewise, there are other examples which can be quoted. For instance, the 2008 world economic crisis proved that many investment diversification strategies did not work and were not on par with practicality. So, what is that one diversification strategy in investment which will help the investors be happy, confident, and risk-free with a decent return is a question

which needs to be addressed. To answer this question with a practical solution let us consider the cockroach approach. The cockroach is a creepy and dirty creature by humans but holds a few fascinating facts and humans can learn a spread of lessons from this creepy creature. The known fact is that cockroaches survived on this planet for many years the fossils date to 350 million years. The most important fact is that they can withstand radioactive dosage 10 times more than what humans can. Thus, this article is all about the cockroach approach which is a four-quadrant model suitable for investment. One of the aims of the article is to see if the respondents in the post-Covid-19 pandemic have started to invest in portfolios with conscious thought. The conscious thought is to have enough assets for the future with long-term compounding objectives and enough assets at present to face uncertainty. The data has been collected from respondents to check if individual investors' investment is aligned with the cockroach approach.

An overview of "Cockroach Portfolio"
The cockroach portfolio is a mix of assets that aims to protect one's wealth during all economic phases. There are a bunch variety of assets that would perform during the different phases of the economy. For example, stocks grow when GDP increases and in the time of Boom. Bonds etc would do well during the time of recession. So, making an appropriate mix of assets is the key to saving, investing, and enhancing wealth. Saving money is a different skill from earning money. That's where the Cockroach portfolio comes into the picture to educate the investors to save their money in the right portfolio which will have minimum risk and maximum return. The Cockroach portfolio is an upgradation of the Permanent portfolio given by a free-market investment analyst named Harry Browne. It's a portfolio allocation that contains an offensive and defensive aspect concerning the economic phase: Growth, Deflation, Recession, and Inflation. The whole idea for the classification is that each quadrant would be performing well to compensate for the loss of other quadrant drivers. The mechanism for the classification can be understood in four different layers which are: Stocks perform well in the growth period, during deflation incomes does well, During the decline volatility does well and finally during inflation there is a new trend.

Working-class individuals and cockroach portfolio: Individuals working class do not find enough time to think about a risk-free and decent return-bearing portfolio. Maybe they do not have sufficient knowledge or time. In this regard, they get in touch with investment managers to manage their investment portfolios. However, there is a need to consider the "Cockroach portfolio". The wisdom of managing risk is very important and in this digital world where investment information is available in leaps and bounds individuals must take efforts to manage their investments. They gain knowledge, and they can be experts to manage their investments themselves without being dependent on any investment managers. When wisdom is available for free in the market; still, no one buys it. The same happens with investments too because there is plenty of infrastructure and information available, but they are not used. The idea for proper portfolio construction is lessons learned from different crises. It takes time, it does not need much knowledge but needs interest and passion. The working class had a relaxed phase before the Covid-19 pandemic as they received stable incomes and were able to manage their day-to-day expenses and saved a few amounts. However, the savings were not too huge but a decent one. However, the outbreak of the pandemic created a negative impact on all world activities and collapsed the world economies in a couple of days (Arianto, 2021). Different industries responded in different manners which had an impact on investment behavior (Farooq et al., 2021), (Gurbaxani & Gupte, 2021). The lessons learned by individuals due to the health crisis have motivated them to invest in better portfolios. In the post-Covid 19 pandemics, working-class individuals have cash in hand but do not know what to do with it as they lack investment awareness and knowledge. Most of the working class thinks only about the stock market but there are other portfolios which are not considered. It is time to learn lessons and move on to form a better portfolio. Their lessons are realistic and are learned from the experience one had in the past. Liquidity injections are important in a portfolio because risk may arise at any time, and one needs money to manage the situation. Let us take the pandemic where working-class individuals had to spend money for their friends and families and themselves. In the case in future if there is a similar crisis how will the working-class individuals hedge some volatility risks is a question which has to be addressed. This is where the concept of "Cockroach Portfolio" comes into light. Mixed strategies are important to hedge opportunities and reduce volatility risks with a combination of asset classes such as stocks, bonds, gold, and cryptocurrencies which would be a total portfolio solution for the working class. The Cockroach portfolio is a four-quadrant portfolio that combines the best of traditional long-only asset classes with derivatives to create a diversified masterpiece prepared for all economic regimes. It is a basket of assets that protects the wealth of the investors in all economic regimes. World investors have faced and come a long way due to different crises. It can be an economic crisis or a health crisis that has shattered the entire world economy. The Cockroach Strategy is intended to be a total portfolio solution that includes long volatility as well as stocks, income-producing assets, commodities, gold, and bitcoin to make an investment strategy that produces ataraxia. Ataraxia is a Greek word that means "calmness untroubled by mental or emotional disquiet", which attributes to this portfolio. Cockroach portfolio has 4 quadrants namely, Stocks, Volatility, Income, and trend.

Statement of the problem: Working individuals form a major part of the economy both in terms of direct and indirect taxes. Working individuals have become smart and ensure that they save for the future. They have been qualified and have been working in reputed institutions and earning a decent salary. Working individuals of the present era earn well and spend well. On the other hand, though they spend they are keen on investing in various portfolios. The economy is never stable with a smooth flow. There are many fluctuations, and this has created pressure to earn more and invest more. However, spending has also become an integral part of the routine life of every working individual. After spending their income on their needs and wants, they also save their excess money in the form of various instruments. Due to various reasons such as financial illiteracy, and poor guidance, individuals make bad decisions and lose their savings by investing in bad

investments. This may result in a loss of revenue for the economy which will lead to an imbalance of funds in the economy. For example, Tax is charged in capital gains while the capital loss is set off against the taxable income So, they need to protect their wealth to survive and result in the long-term functioning of the economy. So, this study aims to explore the financial intelligence of working individuals and their awareness of the concept of saving their wealth by using the "Cockroach Portfolio". Not all the investors will be aware of "Cockroach Portfolio" hence through this research we have found if investors choose portfolio which matches to Cockroach portfolio. Since this portfolio has been fashionable during the uncertainty it is assumed that even in the post-Covid-19 pandemic investors may invest considering Stocks, Volatility, Income, and trend. It also aims to find out the possibilities of using the cockroach portfolio once they became aware of it. Therefore, the study would result in finding out the investment preferences towards the four quadrants return model by working with individuals concerning the Cockroach portfolio.

Objectives of the study
1. To find out the level of awareness of the four-quadrant model (cockroach portfolio) amongst investors.
2. To study the influence of demographic factors affecting investors to prefer a cockroach portfolio.
3. To trace the various investment avenue in cockroach portfolios in other countries with the help of literature reviews.
4. To analyse the four quadrants, return drivers (stock, volatility, trend, and income) are preferred by investors.
5. To indirectly trace the impact of the Covid-19 pandemic on the investment preference though the Cockroach portfolio

Scope of the study: The scope of the study is limited to the special class of individuals known as the "working class". In general, the term working class refers to a cluster of employees who lack skills and are from a very simple job. They lack skill and are eligible to be called blue-collar employees. In this research, the term working class means those who are employed in various professions. Hence, the working class refers to the set of individuals who earn income by way of employment, profession, or business. This study doesn't include the unemployed individual's investment behavior. The reason for not selecting unemployed individuals is that demographic factors influence investment decisions. Individuals employed in any organization will have a regular flow of income. Moreover, they will have the pressure to invest in different portfolios due to the pressure to save tax. Hence income, age, occupation, and investment pressure are a few important factors that influence investment choice. Hence only working-class individuals have been considered for data collection.

Review of Literature: Literature Review is a comprehensive survey of the works published in a particular field of study or line of research, usually over a specific period, in the form of an in-depth, critical bibliographic essay or annotated list in which attention is drawn to the most significant works. The literature review acknowledges the work of previous researchers, and in so doing, assures the reader that the work has been well conceived. The researchers have conducted literature reviews on 21 articles that are on investment and related themes. This is to know in general the generic investment behavior and pattern of the individuals. These articles give immense knowledge on the influence of various factors on portfolio preferences. The factors found in the literature reviews influencing investments are presented in a visual representation (Refer to Figure No: 1.0). The figure has been developed by the authors Dr. Anand Shankar Raja M and Mr. Yunesh S. The image is an outcome of mind-mapping tool which helps the researchers to do a manual content coding analysis on the literature reviews and find the most interesting variables mentioned in the research articles. This process is called "Abstracting".
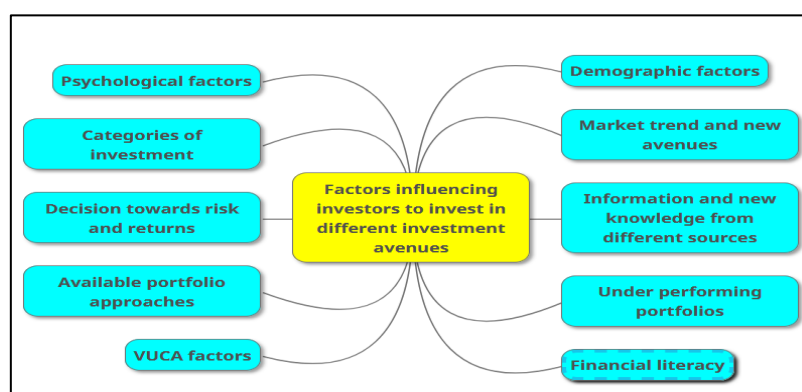

Figure No: 1.0 showing a spider diagram performed on the literature reviews
Source: The image has been created by the authors Dr. Anand and Mr. Yunes

[1] The ANZ Bank conducted a national survey on Australian individuals known as (ANZ Banking group, 2003) to evaluate their financial literacy. It was found that Australians overall were financially literate, but there were certain groups with challenges. Those groups were identified as those with a lower level of education, not working or in unskilled work, with lower incomes, with lower savings levels, single people, and people at both extremes of the age profile

[2] (Dr. Aparna Samudra, 2012) conducted a study to analyse the investment behavior of middle-class households in the city of Nagpur. The objective of the study was to find out the preference for the investment instruments of middle-class

households. Psychological attributes such as the capability to take risks, mental calculation, willingness to take financial risks and degree of risk aversion significantly affect individual investment decisions. The result of the study revealed that bank deposits remain the most preferred investment option by middle-class households followed by insurance with a maximum of respondents investing in this fixed income bearing option.

[3] (Gneezy, 2007) conducted a study on "Strong evidence for gender difference in investment "to investigate how gender differences affect investment behavior. The study categorized stocks and personal businesses were categorized as more risky investments, whereas, certificates of deposits, government bonds, and real estate were viewed as relatively low-risk and lower-return investments. Subsequently, it was found that women choose to invest in stocks and personal businesses less often and in low amounts than men, but they choose to invest more often and in high amounts in low-risk, lower-return assets, the certificates of deposits and homes

[4] (Kaur, 2015) conducted a study titled "A Study of Saving and investment pattern of salaried class people with special reference to Chandigarh (India)" to understand the saving and investment pattern of salaried individuals in the region of Chandigarh. The research was carried out by taking a sample of 200 persons in Chandigarh from various industries. It was found that people prefer a modest type of living to a luxury lifestyle. The study mentioned that people save money for various reasons such as children's education, marriage, and other goals in life. Their study revealed that people still preferred to invest their savings in traditional investment channels due to a lack of knowledge of the stock and commodity market.

[5] (Zainal Azhar, 2017) conducted "a study on investment awareness among the youth generation". The study revealed that the respondent's financial literacy is found to significantly affect investment awareness. The second major finding of this study is the personal interest factor. It is a crucial element in creating awareness of investment. The respondents indicated that if they were to invest, they needed to have a guaranteed return; they prefer to invest in low income and get a higher return for a longer-term period. The environmental factor is not found significant in this study. In conclusion, it was found that investment awareness among the youth seems lacking.

[6] (Bodla, 2009) studied the "Impact of Investor's lifestyle on their investment pattern". It specifies the lifestyle characteristics of the respondents and their influence on investment preferences. The study concludes that investors' lifestyle predominantly decides the risk-taking capacity of investors. The study found that despite the phenomenal growth in the security market, individual investors are risk averse preferring less risky investments, viz., life insurance policies, fixed deposits with banks and post office, PPF, and NSC

[7] Gupta and Jain (2008) based on an all-India survey of 1463 households found the preferences of investors among the major categories of financial assets, such as investment in shares, indirect investment through various types of mutual fund schemes, other investment types such as exchange-traded gold fund, bank fixed deposits, and government savings schemes. The study provides interesting information about how the investors' attitudes towards various investment types are related to their income and age, their portfolio diversification practices, and the overall quality of market regulation as viewed by the investors themselves

[8] (Sangmi, 2015) conducted a study on "Stock market awareness among the educated youth: A Micro Level study in India". The objective of the study is to find out the awareness about the stock market among the educated youth and if there is any significant difference in awareness due to the discipline they pursue. The result of the study concluded that educated youth as a less awareness of the stock market and it is even less among medical college students.

[9] (Lusardi, 2009) In United States of America conducted a study on "Planning for retirement: The importance of Financial Literacy". It was found that individuals who planned for their retirement had higher wealth after retirement compared to the individuals who did not do financial planning for retirement. Wealth also had an impact on the financial market's performance. The author has also investigated new methods for stimulating saving and promoting financial education drawing on the experience of the United States as well as countries that have privatized their welfare systems, including Sweden and Chile. In the study, the author evaluated the link between financial literacy and financial planning. Financial literacy leads to better financial planning for retirement. In the US it was found that financial literacy was very low. The author has found out that with financial education, financial planning for retirement improved for the low-income group.

[11] (Patil, 2019) In Bangalore conducted a study "Is retirement planning a priority for Individuals ?". The study also reveals that there is a strong correlation between the act of saving with a personal retirement plan and the pattern for saving. It did not find any demographic factors influencing their decisions. Based on the primary data and its analysis, it can be concluded that the individuals in Bangalore who have 'saving for retirement' is very less (24%), and a minuscule number of individuals (8 individuals) have subscribed to pension plans. Therefore, it concluded that planning for retirement is not a priority for individuals in Bangalore)

[12] (Zoubi, 2017) studied the preferred Avenues of Investment of Investors and Their Exposure to the Equity Market. The results of the study indicate that investors prefer to invest only in safer avenues. It also stated that the advertisements for various investment schemes are not adequate, as most of the respondents are aware of the various schemes only through parents, friends, and relatives. Further analysis of the data indicates that family culture plays a dominant role in investment decisions. Among the conventional investment avenues, bank deposits and gold are the most preferred avenues, while

insurance schemes and post office instruments are getting increased attention. Most of the respondents have not preferred to invest their savings in UTI and Mutual funds.

[13] (Athma, 1999), a research study conducted on the view of financial specialists towards little sparring plans. Amid their exploration found that the post office schemes, Indira Vikaspatra (IVP), KVP, and post office repeating store records were most mainstream in the country and urban zones. They interpret their review by saying that the purpose of investments was tax-saving benefits. It also stated that in rural areas, old age security was the main reason for investment

[14] (R Renukadevi, 2016) published a Decision Support Model for Portfolio Revision by Using Charting Method. This was published to help the investors in making revision decisions and study the intersection point of share price for portfolio revision. This strategy helps evaluate your portfolio on the intersection of share prices on the same industry shares. From that, we revise the portfolio not only in a profitable manner but also to avoid losses preferably. We can hold more profitable shares through this revision process. The person who does not have an idea about technical analysis can simply adopt this strategy to make out his portfolio a profitable one.

[15] Niels Bekkers, Ronald Q. Doeswijk, and Trevin w. Lam published an article regarding Strategic Asset Allocation. The goal of this article is to explore which asset classes add value to a traditional asset mix and to determine the optimal weights of all asset classes in the optimal portfolio. The article adds to the literature by distinguishing 10 different investment categories simultaneously in a mean-variance analysis as well as a market portfolio approach. The study suggested their mean-variance analysis suggests that real estate, commodities, and high yield add the most value to the traditional asset mix of stocks, bonds, and cash. Adding these three asset classes comes close to an all-asset portfolio.

[16] (Hamish Anderson, 2014) in the United States and international markets, concluded the performance of the 'Permanent Portfolio'. They observed that superior risk-adjusted returns are given by the permanent portfolio, but throughout a buy-and-hold strategy which is based on the raw returns, it is likely to underperform. They also observed that there is a likelihood that the permanent portfolio is in the interest of predominantly risk-averse investors

[17] (Fan, 2022) conducted a study on The Relationship Between Financial Worries and Psychological Distress Among U.S. Adults. It was conducted to find the correlation between financial worries and psychological distress among US adults and tests its moderating effects by gender, marital status, employment status, education, and income levels. Using a sample from the nationally representative NHIS data in 2018, this study found a significantly positive association between financial worries and psychological distress among U.S. adults. Moreover, the associations were different by socio-economic characteristics, including marital status, employment status, household income, and home ownership.

[18] (Kumar, 2015) conducted a study to find out the investment preference and behavior of individual investors in Coimbatore city. The research paper concluded that the education of investors is immensely important for present-day investors in Coimbatore. Investors, before making investments, need to collect investment-related information from the internet and consult with friends, peers, and investment experts. Most investors prefer to invest in a savings account followed by Gold and Silver, a Fixed deposit account, and the like. The outcome of the research shows that most investors prefer bank deposits followed by investments in gold & silver investment.

[19] (Mohammed Abdullah Ammer, 2022) investigated the determinants of investment awareness among the young Saudi generation. Using a sample of 409 students from the School of Business and Applied College at King Faisal University, where they examined the determinants of the investment awareness level among these students. Specifically, we investigated the relationship between financial literacy, spending patterns, self-control, saving behavior, attitude toward risk, family financial socialization, and investment awareness level. The results show that financial literacy, self-control, saving behavior, and family financial socialization have a positive and significant impact on students' investment awareness levels. Overall, the university students showed a reasonable level of investment awareness.

[20] (Shukla, 2016) published a research paper about drivers of saving. The study identifies GDP growth, real interest rate, demographic variables, political instability, and financial deepening as key drivers are aggregate saving among other variables. Key drivers of private corporate saving have been identified as profitability, capital formation, and size of the firm. The following text presents observed issues and contradictions, and directions for future research.

[21] (Srivastava, 2018) conducted A study on risk management during uncertain market conditions. The main objective of the study includes analysing and understanding the risk-return linear relationship and the importance of portfolio diversification. The result of the study shows that There is a significant difference between the diversified portfolio return in 2006-07 (pre-crisis period) and in the 2009-10 (post-crisis) period. The study suggested that during an economic downturn, investors should play safe and invest cautiously and intelligently.

II. RESEARCH METHODOLOGY

For this study, the data is collected from working-class individuals. The data used for the study is both Primary data and Secondary data. The data collected is used to interpret and derive the result of this study. The primary data is collected by using the questionnaire prepared and sent to the concerned people i.e., working individuals who are known as samples. A

simple random sampling technique has been adopted for data collection. The data has been exclusively collected from working individuals who are from the city of Coimbatore, Tamil Nadu. Coimbatore is a metropolitan city in down south India that is known for its industrial development and employment opportunities. Coimbatore is considered to be a suitable geographical location to conduct trade says CII (Prithiviraj, 2016). Coimbatore has also created a remark by providing employment opportunities to women. A study conducted by (Rekha & Vishnupriya, 2019), says that women investors in the city of Coimbatore who actively invest in different investment avenues fall in the age category of 25 to 35 years. A few early research conducted a few years before in the city of Coimbatore about investment behavior say that the majority of investors prefer to invest in mutual funds followed by life insurance (et al., 2012). Hence much research work has been conducted in the city of Coimbatore. However, in the post-Covid-19 pandemic, there is not much research to study the investment perception of individuals in the city of Coimbatore, Hence the scope of the study is restricted to the city of Coimbatore. In the recent times, many MNC's have started their operation in the city of Coimbatore and invites people from various walks of life. Coimbatore is now a smart city and has a mixed population. A recent study by (Dr.V.Ramanujam, K. Chitra Devi, 2023) was conducted in the city of Coimbatore. In this study it is mentioned that the socio-economic factors play a major role in investment decisions. Moreover, the authors also concluded that people with high income show better preference towards investment.

Sample population: The sample used for the study is only a particular class of individuals recognized as "working individuals". As mentioned above working-class individuals have started to plan for better portfolios after the Covid-19 pandemic. Working-class individuals have been put under tax pressure and hence majority of the earning class individuals invest in different portfolios. However few individuals invest with a conscious decision, and few invest only for the sake of investing to avoid tax burdens and to have a safe and secured life. They have started to give importance to layered portfolios, which will protect wealth in different economic seasons. Hence the population is working-class individuals.

Sample size: It comprises 107 respondents from various industries because in this article there is a need to see how different working class have planned their portfolios. In the future, the sample size can be increased to study many investors.

Sampling Technique: Simple Random sampling is used for the study for the data collection purpose. A simple random sample is a subset of individuals chosen from a larger set in which a subset of individuals is chosen randomly, all with the same probability. Working-class individuals represent different industries and are influenced by the economic seasons. However, to get a flavour of investment behavior 107 respondents are considered for the study.

Data collection: Data collection is the process of gathering and measuring information on targeted variables in an established systematic fashion which then enables one to answer relevant questions and evaluate outcomes. The goal for all data collection is to capture quality evidence that then translates to rich data analysis and allows the building of a convincing and credible answer to questions that have been posted. Data collection is of 2 types. Primary data is the data that is collected from first-hand sources. The data would be collected by asking the concerned people through the questionnaire prepared. The data would be collected by asking the prepared questionnaire to the sample. This is the vice versa of primary data. It is the data collected and interpreted prepared by the external parties i.e., data not collected by the researcher. Except for the documents used for the literature review, The secondary data can be collected from other documents from other agencies.
- Data analysis tools
- Percentage analysis
- Weighted average analysis
- Chi-square analysis

Questionnaire Development Process: The questions for the questionnaire survey have been hand-picked after a detailed introspection of the literature related to the Cockroach portfolio. The survey has been classified into three layers. The first layer exclusively is about demographic questions. The second layer is about the questions related to the basics of investment behavior and the third layer has questions about the Cockroach Approach Quadrant. The questionnaire has been attached in the annexure for perusal. The future authors can use the survey instrument with permission and citations.

Hypothesis: There is always an assumption that age teaches individuals different lessons. Few lessons are learned only after experiencing bitter experiences in life. It is quite understood that the 2019 Covid pandemic has taught working individuals the importance of investment. In this regard, age plays a major role in understanding investment. Hence, age has been considered along with interest in investing in the cockroach approach. Hence the following hypothesis has been framed.
H1: There is a significant association between the age of respondents and their interest in investing in Cockroach portfolio investment.
H0: There is no significant association between the age of respondents and their interest in investing in Cockroach portfolio investment.

Limitations of the study: This study has various limitations which may be a hindrance in finding the exact scenario of a big population. The study takes around 107 respondents as a sample size for the data collection. Since the sample size is small, this may not be a very accurate presentation of the population. The other limitation is that the study is limited to only

Cockroach Portfolio. Other portfolios such as Dragon portfolio etc aren't considered. In addition, the geographical location is restricted to the city of Coimbatore, Tamil Nadu.

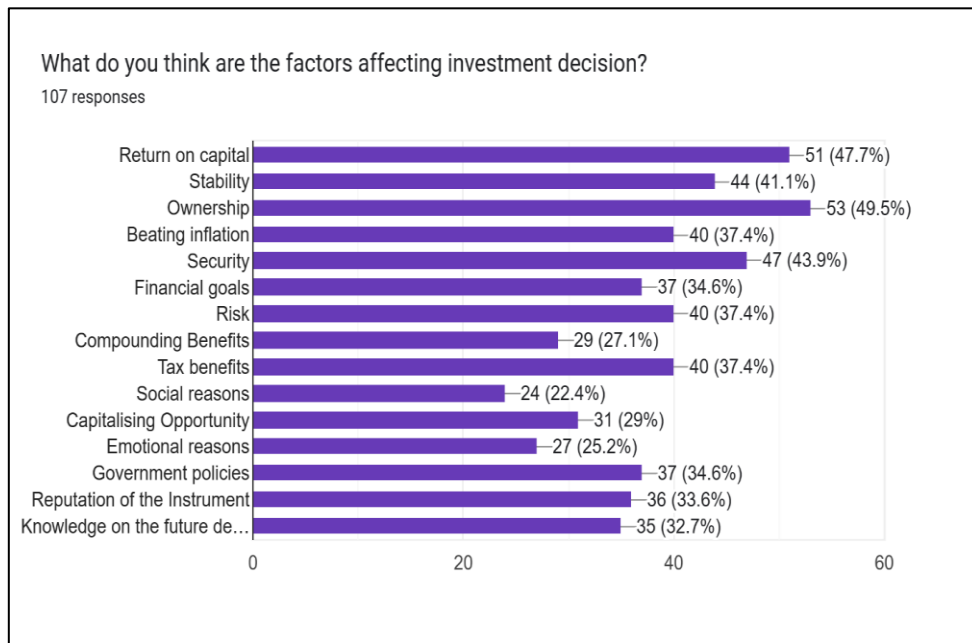| Table No: 1.0 Showing the factors affecting the investment decisions of the investors		
Factors	**Frequency**	**Percentage**
Return on Capital	51	47.7%
Stability	44	41.1%
Ownership	53	49.5%
Beating inflation	40	37.4%
Security	47	43.9%
Financial goals	37	34.6%
Risk	40	37.4%
Compounding benefits	29	27.1%
Rax benefits	40	37.4%
Social reasons	24	22.4%
Capitalizing opportunity	31	29%
Emotional reasons	27	25.2%
Government policies	37	34.6%
The reputation of the instrument	36	33.6%
Knowledge of the future demand	35	32.7%

Figure No: 1.1 showing the factors affecting investment decisions (Ranking)

Interpretation: From the above analysis (Table No: 1.0) it is understood that the greatest number of respondents (53) have ownership as the primary factor in affecting investment decisions. It is then followed by return on capital with 51 respondents and security with 47 respondents. All other factors are then followed. Ownership in assets is proved because the aim of the cockroach approach is also to ensure that individuals have a lot of assets for the future which will grow and reap expected returns. On the other hand, having enough ownership of assets in the interim is important to manage unexpected crises like the global pandemic.

Weighted average analysis: Weighted average is a calculation that considers the varying degrees of importance of the numbers in a data set. In calculating a weighted average, each number in the data set is multiplied by a predetermined weight before the final calculation is made.

Table 1.1 Showing the Quadrant preference of the respondents					
Quadrant Driver	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Stock	36	15	27	13	16
Volatility	5	49	33	13	7
Trend	8	23	48	18	10
Income	20	18	33	23	13

Weights for the Column
Level 1(Highly satisfied) – 5
Level 2(Satisfied) – 4
Level 3(Neutral) – 3
Level 4(Not satisfied) – 2
Level 5(Highly not Satisfied) – 1

Table 1.2 Showing the Quadrant preference of the respondents (Weighted Average)							
Quadrant driver	Level 1	Level 2	Level 3	Level 4	Level 5	Total	Weighted average
Stock	180	60	81	26	16	363	24.2
Volatility	25	196	99	26	7	353	23.5
Trend	40	92	144	36	10	322	21.4
Income	100	72	99	36	13	320	21.3

Interpretation: After analysing the data with the Weighted average, we can see that Stock is the highest preferred quadrant driver followed by Volatility, Trend, and Income respectively.

Chi-square analysis: Chi-square is a statistical test used to examine the differences between categorical variables from a random sample to judge the goodness of fit between expected and observed results.

Figure No: 1.0 Showing the relationship between the age and the interest of respondents to use the Cockroach portfolio

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	17.114	28	.946
Likelihood Ratio	19.831	28	.871
N of Valid Cases	107		

The chi-square test for testing the association between the age of respondents and their interest in investing in cockroach portfolio investment.

Interpretation: As a result of the analysis done with the help of SPSS, it is concluded that the age of a person does not affect their interest in investing in a cockroach portfolio investment. Since the P value (0.946) is more than the significance level of 0.05, the null hypothesis (H0) proves to be true.

Findings suggestions and conclusion
Findings
After the analysis and interpretation of data, the next step is to list the findings from the analysis followed by suggestions and the conclusion of the study. The findings refer to the insights found by the analysis of the data.

Simple percentage analysis
- It is inferred that most of the respondents were from the age group of 22-31
- It is inferred that many of the respondents have an income range of 5 LPA to 10 LPA
- It is inferred that most of the respondents have less than a 10% saving level
- It is inferred that most of the respondents aren't aware of the Cockroach portfolio
- It is inferred that many of the respondents aren't using any portfolio currently
- It is inferred that most of the respondents may use the Cockroach portfolio after knowing about it while a close percentage of respondents are interested in using the Cockroach portfolio
- It is inferred that most of the respondents have income as their current quadrant driver
- It is inferred that many of the respondents are risk taker type of investors
- It is inferred that most of the respondents aren't investing in Equities
- It is inferred that many of the respondents think that ownership is the reason to invest in equities
- It is inferred that most of the respondents think that volatility in the market is the reason to avoid equities

- It is inferred that most of the respondents are investing in fixed-income-bearing securities
- It is inferred that many of the respondents are investing in fixed deposits concerning the Income quadrant
- It is inferred that most of the respondents consider "risk-free" as the reason to invest in the fixed income bearing securities
- It is inferred that most of the respondents consider "High tenure" to avoid fixed income-bearing securities
- It is inferred that most of the respondents are investing in futures and options i.e., volatility drivers
- It is inferred that most of the respondents consider "knowledge of the volatility" as the reason to invest in volatility drivers
- It is inferred that most of the respondents consider "High capital requirement' as the reason to avoid investing in these drivers
- It is inferred that most of the respondents are investing in trend drivers
- It is inferred that most of the respondents consider "capitalizing the volatility" as the reason to invest in these drivers
- It is inferred that most of the respondents consider "complex nature" as the reason to avoid these drivers
- It is inferred that most of the respondents consider "ownership" as the main factor affecting investment decisions. It is followed by return on capital, security, and other factors

Weighted average analysis: From the weighted average analysis, it could be inferred that Stock is the most preferred quadrant. The second place is taken by the Volatility quadrant. The third one preferred by the investors is the Trend quadrant. The least preferred quadrant by the investors is Income.

Chi-Square analysis: From the Chi-Square analysis, it was found that the age and the investor's interest in using the Cockroach portfolio have no relationship. Practically speaking it is not possible for any individual to develop interest and then start investing in portfolios. Because in most of the case investment becomes a priority and need for life. In this regard, individuals may be matured enough at a young age and may be strong in their cognitions. They would interact with others to gain more knowledge about the latest portfolios and may also spend time to do a self-search to gain more knowledge. On the other hand, in this digital world where Information Technology has influenced the life of everyone in decision-making age is not a major influencing factor. Every young individual has a smart phone with internet connection to enhance their knowledge. Hence, there is more exposure about the investment avenues among the working population.

Suggestions
- Various steps need to be taken to promote the Cockroach portfolio to increase the awareness of the investors. Since we could also see that most of the respondents have responded maybe and yes in favour of using the cockroach portfolio, promoting it can lead to widespread usage and result in protecting the wealth of many investors.
- Since many people park their money in the income quadrant, it is suggested that their money should be diversified in other quadrants to earn higher returns and become part of the Cockroach portfolio
- To make people invest more money in equities, the government should provide tax benefits for the investors.
- We could see that the Income quadrant is the current driver for many respondents while it is least preferred by investors. The preferability factor for other investments can be used as a trigger to promote other quadrants. This is not required for the income quadrant as it is already popular with investors
- Since age has no relationship with the interest to invest in the Cockroach portfolio, it can be promoted to any person irrespective of age factor.

III. CONCLUSION

Any economy functions from the revenue collected from the working class, may it be in the form of direct tax or indirect tax. These taxes form a major part of revenue for the government. On the other side, we could see people making bad financial decisions and making losses as they do not have proper knowledge of investment or have not taken investment seriously. The Covid-19 pandemic has been a wake-up call to many working-class individuals. Few previous studies conducted on factors influencing investment decision in Coimbatore it was mentioned that friends, family members, source of information has a major influence (Ms. Princey Caroline, 2018). However, in the Post-Covid-19 pandemic it may be due to fear and anxiety. Individuals started to think about investing in a combination of avenues that would give them a decent return with minimum risk. When individuals strategically think and plan for their portfolio, they keep in mind four important factors: Economic condition, inflation, deflation, and decline. As mentioned before Information Technology has made it simple and easy to collect information about the market. Hence, working-class individuals are selected as they are getting prepared for the next uncertainty plan for their portfolios. Since there is always a need to determine the level of awareness towards cockroach portfolio, interest towards investment, passion in investment planning, etc. Though demographic factors have a very positive impact on investment decisions and preferences, age has been the most important variable. Hence it was also proved from the data analysis that age has no significant relationship with investment interest. More than age it is the fear created by different economic seasons to provoke individuals to invest. Even in this research many of the investors fall between the age of 21 to 30 which is quite surprising, however, it has nothing to do with interest or passion for investment. If they still invest actively, it is the experience they had in the past. However, the returns are always mysterious like the deep blue ocean. There is a loss from investments and there are different reasons for it. However, to protect wealth in any economic phase, a Cockroach portfolio would be the ideal solution. It is a win-win situation for both investors and the government as both must deal with the economic seasons. However, from the above chapters, we saw that the biggest problem is that most people are

unaware of them. This must be promoted by the Government and other statutory bodies like RBI, SEBI, etc. From various literature reviews, we could see that income quadrants like fixed deposit, post office deposit, etc are popular among people in other countries as well as India. We could see a similar pattern in this study as well. Another quadrant should also be promoted to fit in the Cockroach portfolio.

Scope for future research
Cockroach portfolio is gaining importance in the recent years. However, there are not much exclusive empirical studies using this approach. Future researchers can do a comparative study between different income class individuals to find the influence of certain factors such as: Behavioural, emotional, cognitive on investment decisions. On the other hand, it is also understood from few interviews from the YouTube and from the secondary sources of data that entrepreneurs also follow the cockroach portfolio for various reasons. It would be more interesting to analyse the entrepreneur's investment decisions because as business aspirants they may be highly prone to uncertainty and other changing economic conditions. Entrepreneurs can also be further classified to determine the level of interest, knowledge in investment etc. Investment managers preferences and recommendations to their clients about the cockroach portfolio. These investment managers would have a rich knowledge about the four-quadrant model and its pros and cons. Hence this perspective can also be explored in-depth.

Questionnaire

Part A – Demographic questions
1. Age of respondent :
2. Place of respondent :
3. What is your income level? (Per Annum)
a) Less than 300000
b) 300000 to 500000
c) 500000 to 10,00000
d) More than 10,00000

Part B – Basic investment questions
4. What is your saving level?
a) Less than 10%
b) 10% to 20%
c) 20 % to 30%
d) More than 30%

5. **Have you heard of the cockroach portfolio?**
a) Yes
b) No

6. **Are you currently using any portfolio?**
a) Yes
b) No
c) If yes, specify the type of portfolio

7. **Would you be interested in using a cockroach portfolio?**
a) Yes
b) No

8. **Currently, what is your quadrant driver in your investment?**
a) Stocks
b) Volatility
c) Income
d) Trend

9. **Which type of investor are you?**
a) Risk aversive
b) Risk taker
c) Moderate

Part C - Quadrant-related questions
Stock
10. **Do you invest in Equities?**
a) Yes
b) No

11. **What do you think is the reason to invest in equities?**

a) High return
b) Ownership
c) Dividend
d) If there are any other reasons to invest in equities. please specify

12. What do you think is the reason to avoid equities?
a) Volatile in nature
b) Tax rate
c) The entities are unreliable
d) Others, specify

Income
13. Do you currently invest in fixed income-bearing securities like debentures, or bonds?
a) Yes
b) No

14. What is the fixed income-bearing securities in which you invest?
a) Bonds
b) Debentures
c) Treasury bills
d) Fixed Deposit
e) Corporate deposit
f) Others, specify

15. What do you think is the reason to invest in fixed-return-bearing instruments?
a) Risk-free
b) Reliable
c) Recurring
d) Others, specify

16. What do you think is the reason to avoid fixed-income securities?
a) Low return
b) High tenure
c) Others, specify

Volatility
17. **Do you invest in Futures and Options?**
a) Yes
b) No

18. What do you think is the reason to invest in those drivers?
a) High return
b) Knowledge of the volatility
c) Low time decay
d) Others, specify

19. What do you think is the reason to avoid these drivers?
a) High capital to invest
b) High risk
c) Others, specify

Trend
20. Do you currently invest in trend drivers like currencies, commodities, indexes, etc?
a) Yes
b) No

21. What do you think is the reason to invest in these trend drivers?
a) Good return
b) Capitalizing the volatility
c) If there is any other reason to invest in d

22. What do you think is the reason to avoid these trend drivers?
a) Risky
b) Complex
c) Others, specify

23. **From the below statements, indicate to what extent you agree with the four-quadrant factors using a Likert five-point scale.**

Statements	SD	D	N	A	SA
1. I feel that stocks are Riskier investments					
2. Stocks are Used as a medium to beat inflation rather than an income source					
3. Stocks are a mandatory asset in any portfolio					
4. Income instruments are a great type of instrument with an increase in age					
5. Income instruments may be risk aversive but can't sustain in the long term with only them in the portfolio					
6. Volatility drivers are only for high-net investors					
8. Using the opportunity in the trend drivers can be a dual-edged sword					
9. Stocks are a better investment than trend drivers					
10. Using a cockroach portfolio can secure my wealth					

Note: SD – Strongly Disagree, D – Disagree, N – Neutral, A – Agree and SA – Strongly Agree

24. **What is the satisfaction level of the quadrant drivers in a cockroach portfolio?**
Indicators: HS – Highly Satisfied, S – Satisfied, N – Neutral, NS – Not Satisfied, HNS – Highly Not Satisfied

Drivers	Highly satisfied	Satisfied	Neutral	Not satisfied	Highly Not satisfied
1. Stock					
2. Volatility					
3. Trend					
4. Income					

25. **What are the factors affecting your investment decision? – Rank the factors**

Rank – Factors influencing investment decision	Rank 1 to 15
1. Return on Capital	
2. Stability	
3. Ownership	
4. Beating Inflation	
5. Security	
6. Achieving financial goals	
7. Risk	
8. Compounding Benefits	
9. Tax Benefits	
10. Social Reasons	
11. Capitalizing opportunity	
12. Emotional reasons	
13. Government policies	
14. Reputation of the Instrument	
15. Knowledge about the future demand of the industry	

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