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THE RELATIONSHIP BETWEEN RISK MANAGEMENT STRATEGIES AND INVESTMENT BEHAVIOR OF GENERATION Z RETAIL INVESTORS IN STA. MESA, MANILA

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Abstract

Risk Management Strategies and Investment Behaviors are considered important factors in the investing activities of the retail investors. This study seeks to determine the relationship between Risk Management Strategies and Investment Behavior of Generation Z retail investors. The study is a correlational research and purposive sampling was used to select the respondents for this study. Cochran's formula was utilized to determine the total sample size or total number of respondents. Spearman's Rank-Order Correlation was employed to assess the significant relationship of Risk Management Strategies and Investment Behaviors. Based on the results, it showed that risk management strategies have a significant relationship with one or more of the investment behaviors. Risk avoidance has a significant relationship with confirmation bias. Risk reduction has a significant relationship with all of the investment behaviors such as overconfidence, loss-aversion, recency bias, and confirmation bias. Risk transfer shows a significant relationship with only loss-aversion and confirmation bias. And lastly, risk acceptance also has a significant relationship with all of the investment behaviors. This study recommends exploring other types of behavioral biases under cognitive bias and emotional bias to determine their correlation with risk management strategies. Also, broadening the sample size, demographic scope, and geographic scope of the study can improve the generalizability of the study and provide a more comprehensive understanding of the relationship between investment behavior and risk management strategies. The researchers also recommend to utilize interviews and focus group discussions to gain an in-depth understanding of the underlying values and attitudes concerning investment behavior.

Keywords: *Risk Management Strategies, Investment Behaviors, Generation Z, Retail Investors, Polytechnic University of the Philippines*

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INTRODUCTION

People in Generation Z are frequently described as technologically literate, able to process various types of information across multiple platforms. They use it as an advantage not only for academic, professional, and personal use but also for investment and trading. Moreover, the biggest patrons of online trading are investors aged 18 to 29 (PSE, 2022). This means that the younger age groups are the majority of retail investors. Furthermore, according to Loyola (2022), to promote retail investors' participation in the local stock market, the Philippines Stock Exchange aims to allow access to data from the stock market and enable the utilization of e-wallets for purchasing shares of listed companies. Some famous e-wallets in the Philippines are GCash and Maya. In addition, the pandemic caused a drop in the share prices of various publicly traded companies in the Philippines and worldwide. The Philippines Stock Exchange had record share sales in 2021, and online stock market accounts surpassed one million. In the previous year, the value of online traders went up by 43.6 percent from P518.27 billion to P744.49 billion (Gonzales, 2022). In addition, those who earned less than P500,000 per annum are the majority of retail and online investors, wherein 80 percent are locally employed and 75.6 percent are located in Metro Manila (PSE, 2022).

The study of investor behavior tries to comprehend and explain investor actions, including the function of financial markets, by integrating psychology and investing on a micro level with the decision-making process of individuals and organizations from a macro viewpoint. The quantitative (objective) and qualitative (subjective) aspects of investor decision-making are based on the particular qualities of the financial service or investment product. Investment behavior describes the mental processes that people, financial experts, and businesspeople engage in in financial planning and investment management. For this reason, the researchers consider the demography and investment behavior of the respondents as significant data. Furthermore, errors are a part of life and it's the same with investments. Even with the historical information and experience available; no person or computer program consistently gets it right. This is due to the unpredictability involved with investing. Additionally, investing involves a lot of emotion, especially when the money was earned through years of discipline and hard work. Purely emotional decisions can have disastrous effects, just as decisions solely based on a computer program can also be problematic. Investing takes a lot of time and patience. On the other hand, making hasty decisions can be bad in any situation.

Also, real estate and money investments include a fair amount of risk. Individual and institutional investors weigh an investment's potential rate of return and riskiness when making actual, personal investing decisions. To protect the investment, risk management is an approach commonly employed that encompasses the recognition, examination, and addressing or reduction of uncertainties in investment choices. Also, significant consequences for businesses, people, and the economy can result from inadequate risk management (Kenton, 2021). Moreover, risk management strategies affect investors positively by allowing them to avoid potential losses in the investment and to have an action plan on managing different kinds of investments. If there is adequate risk management an investor can easily weigh the opportunity and the risk involved that must be considered while making financial decisions particularly in investment.

According to Enskog (2022) Investor behavior impacts investment strategies and return on the financial markets which continues to differ worldwide. In addition, demographic factors are useful factors and contribute to the differentiation and classification of retail investors. (Paisarn et al., 2021). On the other hand, wealthiest investors are less guided by their emotions than others (Enskog, 2022). Furthermore, according to Harshman (2022) the United

States, China, Japan, Germany and the United Kingdom are included in the top 5 countries with ultra-wealthy individuals. Unlike the Philippines, Thailand may be considered in terms of living environment and have less individualism. Individual attributes and various psychological and behavioral patterns greatly impact Thai investors' investment decisions (Paisarn et al., 2021). Given that the study's demographic is limited to other countries, this study aims to determine if the same result can be concluded with a different demographic profile of respondents.

This research tests the degree of effectiveness of risk management strategies of Gen Z retail investors and the level of agreement of their investment behavior. Given that many Filipinos, particularly younger generations, are interested in and participating in retail investment, the outcome primarily benefit retail investors, particularly Gen Z, in terms of effective retail investment. Also, from this study, future retail investors can obtain knowledge regarding risk management strategies that can be helpful for investment and trading. Risk management strategies are among the finest ways to mitigate and manage risks because investors cannot completely remove them in their ventures.

Objectives

This study aimed to assess the relationship between the risk management strategies and investment behavior of Generation Z retail investors in Sta. Mesa, Manila.

Specifically, it sought to answer the following problems:

1. What are the demographic profiles of the respondents:
    a. Age
    b. Sex
    c. Civil Status
    d. Status of Employment
    e. Monthly Income
    f. Number of Years Investing
    g. Types of Investments
2. What is the degree of effectiveness do risk management strategies of Gen Z retail investors have in terms of the following techniques:
    a. Risk Avoidance
    b. Risk Reduction
    c. Risk Transfer
    d. Risk Acceptance
3. What is the level of agreement of the respondents' investment behavior in terms of:
    a. Overconfidence
    b. Loss Aversion
    c. Recency Bias
    d. Confirmation Bias
4. Is there a significant relationship between the risk management strategies of Gen Z retail investors to their investment behavior?

METHODS

Methods of Research

This study used correlational research to identify if there is a significant relationship between the risk management strategies and investor behavior of Generation Z retail investors in Sta. Mesa, Manila.

A type of non-experimental study known as correlational analysis investigates two variables and assesses their statistical connection without making significant efforts to control other factors. For two key reasons, correlational research rather than experimental research is frequently used by researchers who are interested in statistical correlations between variables. They first disagree that the statistical association represents a cause-and-effect connection. The researcher assumes that the statistical relationship of interest is causal, but is unable to alter the independent variable since doing so would be unethical, impossible, or both. This is the second justification for choosing a correlational study over an experiment, according to Price (2019).

Population, Sample Size, and Sampling Technique

The number of respondents for the study was determined using Cochran's formula. The respondents of the study consist of three hundred eighty-five (385) retail investors residing in Sta. Mesa, Manila. The respondents were selected through a purposive sampling technique.

Description of Respondents

The researchers gathered information from 385 respondents who are living in Sta Mesa, Manila and are retail investors that are non-professional market participants, who tend to make smaller investments and have limited access to financial information than institutional investors, who tend to make larger ones and have access to detailed financial analysis. Only 18 to 26-year-olds that are part of the generation that came after millennials which is Gen Z, iGen, or centennials are part of the respondents. The researchers profile the respondents according to their age, sex, civil status, occupation, income, number of years investing, and types of investments.

Research Instrument

In this study, a researcher-made questionnaire was utilized as the main data-gathering instrument. Pre-testing was done among some of the respondents of this study to validate the questionnaire. The study passed the reliability test with Cronbach's Alpha of 0.876 indicating a high level of internal consistency. This means that response values for each participant across the items were consistent. The survey questionnaire is related to the problems enumerated in the study. The survey questionnaire comprises three (3) parts: Part I: This includes the demographic profile of the respondents: Age, Sex, Civil Status, Occupation, Income, Number of Years Investing and Types of Investments. Part II: This consists of assessment of the degree of effectiveness of risk management strategies of Gen Z retail investors based on the following techniques: Risk Avoidance, Risk Reduction, Risk Transfer and Risk Acceptance. Part III: This consists of the level of agreement of the Generation Z retail investors to their investment behavior specifically: Overconfidence, Loss Aversion, Recency Bias and Confirmation Bias. The researchers used two (2) Likert Scale in ranging the respondent's answers. Table 1 was used in measuring the effectiveness of risk management strategies of Gen Z retail investors while Table 2 was used to assess the level of agreement on their investment behavior.

Data-Gathering Procedure

The researchers prepared a validation letter signed by their thesis adviser. The letter alongside with the questionnaire was then sent to the validators, specifically the statistician and two professionals closely related to the study. After acquiring the certificate of validation, the researchers carried on with their pre-testing. The researchers formulated a three-part questionnaire online using google forms. It was answered by 38 respondents and their responses were used for the reliability test. The researchers disseminated the link for Google forms through different social media platforms. The researchers spent two and a half months administering the survey and completing the 385 responses required in the study. The link was accompanied with a caption that contained the brief thesis background, the purpose of the survey, and the information with regards to the preferred characteristics that the respondent must have (such as being a resident of Sta. Mesa, Manila, being a retail investor, and being a member of the Generation Z). Since the data gathering was conducted online through Google Forms, the researchers asked for the respondents' consent through the Data Privacy Act ensuring that any data gathered are confidential and were used solely for the study. The researchers also participated in survey-swapping to complete the total number of responses needed. To assess the respondents' credibility, the researchers added an additional question at the beginning of the form asking for their residency. Based on the purposive sampling technique the researchers expected to gather 385 respondents to provide 95 percent on data accuracy. The researchers obtained a total number of 479 responses, however, 85 of the responses were not qualified due to the respondents' residency. After evaluating and tallying every response, the researchers were left with a total of 385 responses subject for analysis of the statistician and interpretation.

Statistical Treatment of Data

The gathered data were tallied, tabulated, and analyzed to summarize and interpret the results using the following correlational statistical measures: Frequency and Percentage Distribution to analyze the data gathered about the demographic profile of the respondents, Ranking helps in better grasping the fundamentals of frequency and percentage distribution, and Spearman Rank-Order Correlation to measure the relationship between the variables of the study.

RESULTS and DISCUSSION

A. Profile of the Respondents

Table 1

Distribution of Respondents by Age

Age	Frequency	Percent
18	5	1.3
19	7	1.8
20	34	8.8

21	81	21.0
22	82	21.3
23	44	11.4
24	58	15.1
25	41	10.7
26	33	8.6
Total	**385**	**100.0**

Table 1 shows the distribution of respondents by age. Majority of the Generation Z retail investors in Sta. Mesa, Manila were 22 and 21 years old at 21.3 and 21.0 percent, respectively. While the 54.6 percent were composed of aged 20 and 23 to 26 years old individuals. The young investors aged 18 and 19 years old shared 1.3 and 1.8 percent, correspondingly.

Generation Z along with millennials had easier access to different types of stock compared to other generations which makes them invest. According to Albright (2022) Gen Z investors more different types of investments including cryptocurrency, stock, bonds etc. than those of other generations. This clearly shows that many young adults participate in investing particularly in crypto and exchange-traded funds (ETF) and use it as a tool to enter different types of investment including bonds and stocks.

Table 2

Distribution of Respondents by Sex

Sex	Frequency	Percent
Male	176	45.7
Female	209	54.3
Total	**385**	**100.0**

Table 2 indicates a minimal difference of 8.6 percent in the distribution of respondents by sex. For female Generation Z retail investors, there are 209 respondents. While for the male investor, there are a total of 176 respondents. Moreover, according to Philippine Stock Exchange Inc. (2022) the number of male investors and the number of female investors is almost the same wherein the percentage of male investors who have retail accounts are 50.2 percent while the number of female investors that also have retail accounts are 49.8 percent. This shows that regardless of gender, many Filipinos participate in investing particularly in retail investors that was provided by the PSE.

Table 3

Distribution of Respondents by Civil Status

Civil Status	Frequency	Percent
Single	363	94.3
Married	20	5.2

Separated	2	0.5
Total	**385**	**100.0**

Table 3 shows the distribution of respondents by civil status. Majority of the Generation Z retail investors in Sta. Mesa, Manila were single wherein it composed of 94.3 percent of the respondents. While the 5.2 and 0.5 percent were composed of married and separated individuals respectively. Since the age of the respondents under the Generation Z ranges from 18-26 where most of the respondents were not yet married. Philippine Statistics Authority (2021) presented that 27 years old for women and 29 years old for men are the average median age of marriage. Hence, many of the respondents were single because the oldest age of Generation Z is currently at 26 years old while the average marriage is between 27 and 29.

Table 4

Distribution of Respondents by Status of Employment

Status of Employment	Frequency	Percent
Full-Time Employee	87	22.6
Working Student	146	37.9
Self-employed	31	8.1
Unemployed	121	31.4
Total	**385**	**100.0**

Table 4 provides information on the distribution of respondents by status of employment. Since the respondents of the study are Gen Z retail investors, most of the respondents are currently studying which clearly showed by the data above. Most of the investors are working students composed of 37.9 percent of the respondents while 31.4 percent or 121 investors are unemployed. And the number of full-time employees is 87 which is 22.6 percent of the respondents. While, self-employed investors consist of 8.1 percent of the respondents. According to Mercurio (2019) Gen Z contributed 14.7 percent of the country's workforce which is less than the number of Gen Y millennials which is 27.5 percent. However, in 2025 it is expected for Gen Z to have a growth of 20.3 making the Gen Z workforce to 35 percent in total. Also, according to Garcia (2023), despite having a full-time job, Gen Z along with millennials are taking part-time or side jobs as a source of additional income. This shows that there are still unemployed Gen Z and there are those who have already started their career either as a full-time or part-time employee.

Table 5

Distribution of Respondents by Monthly Income

Monthly Income	Frequency	Percent
P0 to 10,000	159	41.3
P10,001 to 20,000	99	25.7
P20,001 to 50,000	116	30.1
P50,001 and above	11	2.9

Total	**385**	**100.0**

Table 5 indicated the distribution of respondents by monthly income. Most of the respondents have P0 to P10,000 monthly income composed of 41.3 percent of the data gathered. While 30.1 and 25.7 percent of the respondents had P20,001 to P50,000 and P10,001 to P20,000 monthly income respectively. And the least number of respondents had P50,001 and above income which comprised 2.9 percent of the total respondents. Based on Glassdoor (2023) the average salary of part-time workers in the Philippines is P10,000 pesos per month. Moreover, according to Mojarro (2022) most college students who work are in the field of call center or BPO industry wherein the average salary is P20,000 pesos per month.

Table 6

Distribution of Respondents by Number of Year Investing

Number of Year Investing	Frequency	Percent
Less than a year	143	37.1
1 to 2 years	184	47.8
3 to 4 years	48	12.5
More than 5 years	10	2.6
Total	**385**	**100.0**

Table 7 presented the distribution of respondents by number of years investing. Majority of the Generation Z retail investors in Sta. Mesa, Manila were investing for 1 to 2 years composed of 47.8 percent of the respondents. And 37.1 percent of the respondents were investing for less than a year. While 12.5 and 2.6 percent of the respondents were investing for 3 to 4 years and more than 5 years correspondingly. Based on Manulife (2021) most of the Generation Z and Millennials experienced financial and mental health problems during the pandemic. And the resolution for these problems specifically for financial problems is through investing. Furthermore, 87 percent of surveyed Millennials and Gen Z respondents from the study conducted by Manulife mentioned that they started making steps to secure financial stability by investing in different types of investment. Moreover, Gen Z have easy access to online platforms that allow them to participate in the market and one most notable type of investment is cryptocurrency and insurance plans. This shows that many Gen Z investors started investing due to the pandemic which started 3 years ago.

Table 7

Frequency Count of Respondents by Type of Investments

Type of Investment	Frequency
Cryptocurrency	237
Stocks	231
Bonds	101
Mutual Funds	92
Index Funds	15

Insurance Plans	141
Business	98
Equity	20
Debt Investment	10
Real Estate	32
Others	6

Table 7 indicates the distribution of respondents by types of investment. Most of the respondents have invested in cryptocurrency and stocks wherein 237 and 231 of them invested in it respectively. Meanwhile, insurance plans and bonds were followed to be the most invested category by the respondents composed of 141 and 101 respondents respectively. While, the number of respondents that had the business and mutual funds investment composed of 98 and 92 respectively close to the number of bonds investment. And the number of respondents that have investment on real estate, equity, index funds, debt investments and others were below 40, wherein it composed 32, 20, 15, 10, and 6 respondents correspondingly. The other types of investment are money market funds, bank-savings accounts, foreign exchange, and allowance. Wherein two respondents indicated a bank savings account and other two respondents indicated foreign exchange. According to Lopez (2023) the most popular investment held by Gen Z investors is cryptocurrency. This trend is probably being driven by the fact that this generation grew up in a time of rapid technological advancement, social media, and improved access to the financial markets according to a new joint report from the CFA Institute and Financial Industry Regulatory Authority's Investor Education Foundation.

B. Assessment as Perceived by the Respondents

a. Assessment of Generation Z Retail Investors in the Risk Management Strategies

Table 8

Assessment of Respondents in Risk Avoidance Strategies

Risk Avoidance	Not Effective at All	Slightly Effective	Moderately Effective	Very Effective	Extremely Effective	Total
	Frequency (f)					
I was able to save my money by abstaining from investing in trading.	12	31	97	122	123	385
I limit my invested money in the market.	6	18	95	165	101	385
Other than my knowledge on trading, I also consult other professionals/traders.	6	27	60	176	116	385

I withdrew my investments earlier than expected.	23	46	108	124	84	385
I am not worried since I refrained from making that investment.	12	26	102	151	94	385

Table 8 shows that out of the 385 Generation Z retail investors, the majority of them perceived that risk avoidance strategies are at least moderately effective to extremely effective ways of risk management. The respondents noted that (a) consulting to other professionals/traders with a percentage of 45.7; (b) limiting investment in the market with a percentage of 42.9; (c) not worried about refraining from making an investment with a percentage of 39.2 and (d) withdrawal from investments earlier than expected with a percentage of 32.2 were perceived to be very effective while (e) abstaining from investing in trading with a percentage of 31.9 as extremely effective means of risk management based on the most reported counts. Overall, the least effective were by limiting the money invested and by consulting the other professionals/ traders apart from the investor's knowledge with a 1.6 percent from being not effective at all. Particularly when it comes to investment decisions, risk plays a significant role as an important factor that might alter people's decision-making. Sivaramakrishnan & Srivastava (2019) stated that the impact of risk avoidance and financial well-being on the intention to invest in the stock markets was examined on their research. They discover that the intention to invest is negatively impacted by both risk avoidance and financial well-being. This proved that the respondents' perception in investing tend to involve the avoidance of a particular threat or when a propensity to feel uneasy in the face of uncertainty.

Table 9

Assessment of Respondents in Risk Reduction Strategies

Risk Reduction	Not Effective at All	Slightly Effective	Moderately Effective	Very Effective	Extremely Effective	Total
	Frequency (f)					
I allocate my funds into different kinds of investments that are inversely correlated to each other. (Equity, Debt, Mutual Funds, Real Estate, etc.)	4	21	97	160	103	385
I check the necessary information about a security before investing.	2	10	66	154	153	385
I normally monitor my investment as part of good measure.	2	15	73	133	162	385

I apply a specific amount when investing in stocks, bonds and/or mutual funds on a regular basis.	3	10	76	169	127	385
Before deciding on any type of investment, I check how the management is performing and apply certain key ratios (debt-equity, PE, etc.)	3	10	73	160	139	385

Table 9 shows that out of the 385 Generation Z retail investors, the majority of them perceived that risk reduction strategies are at least very effective to extremely effective ways of risk management. The respondents noted that (a) applying a specific amount when investing with a percentage of 43.9; (b) checking the management performance and apply certain key ratios before deciding on where to invest with a percentage of 41.6; (c) allocating funds into different kinds of inversely correlated investment with a percentage of 41.6; and (d) checking necessary information about a security before investing with a percentage of 40.0 were perceived to be very effective while (e) monitoring investments as part of good measure with a percentage of 42.1 as extremely effective means of risk management based on the most reported counts. In general, the risk reduction strategies that were observed to be least effective were checking necessary information about security before investing and normally monitoring investment as part of good measure at 0.5 percent noted in not effective at all. A company can mitigate or lessen the impact of a risk if it cannot be eliminated. Stated by Ibe (2018) that among the industry's best practices are the efficient use of management information systems, warning systems, and early problem detection systems. On the other hand, Diversification of investments may help to lower risk, according to recent evidence. The ideal combination of assets was discovered by AbuBakar and Rosbi (2018) using Modern Portfolio Theory to maximize return for any given degree of risk. This means that the best risk-reduction strategy reduces known investment risk probabilities and occurrences to the absolute minimum while maximizing the investment's capacity for return.

Table 10- Assessment of Respondents in Risk Transfer Strategies

Risk Transfer	Not Effective at All	Slightly Effective	Moderately Effective	Very Effective	Extremely Effective	Total
	Frequency (f)					
I purchase insurance before investing for future financial risks.	17	43	98	128	99	385
When investing, I use contracts with indemnification clauses for risk transfers.	14	34	110	160	67	385
I invest in a futures contract to mitigate possible losses and to	9	29	117	149	81	385

transfer any related financial risk to another party.						
I invest in a forward contract to mitigate possible losses and to transfer any related financial risk to another party.	17	25	102	153	88	385
I initially purchase stock options before deciding to purchase any stocks to get protection against price volatility risks.	19	28	95	160	83	385

Table 10 shows that out of the 385 Generation Z retail investors, the majority of them perceived that risk transfer strategies are at least moderately effective to very effective ways of risk management. Based on the peak count, all risk transfer strategies were mainly assessed as very effective with the following percentages: (a) use of contracts with indemnification clauses for risk transfers with 41.6; (b) purchase of stock options before deciding to purchase any stocks to get protection against price volatility risks at 41.6; (c) invest in a forward contract to mitigate possible losses and to transfer any related financial risk to another party with 39.7; (d) invest in a futures contract to mitigate possible losses and to transfer any related financial risk to another party at 38.7; and (e) purchase of insurance before investing for future financial risks at 33.2. Furthermore, it was perceived that investing in a futures contract to mitigate possible losses and transfer any related financial risk to another party at 2.3 percent was the least effective risk transfer strategy and not effective at all. Vong & Levinson (2020) discussed the ethical issues that may arise when risk is transferred from one group to another. Such issues include the unfair concentration of risk, the transfer of risk to populations that are already vulnerable or disadvantaged, and the exertion of undue influence over prospective participants.

Table 11

Assessment of Respondents in Risk Acceptance Strategies

Risk Acceptance	Not Effective at All	Slightly Effective	Moderately Effective	Very Effective	Extremely Effective	Total
	Frequency (f)					
I opted for some of my investments to absorb potential losses coming from any risk that are too small to pose a serious threat.	6	14	90	157	118	385

I take into consideration the inflation risk, currency risk, liquidity risk and credit risk before I make an investment.	2	20	83	161	119	385
I make sure that I have enough self-insurance to make up for possible loss from risk before making an investment.	2	17	87	151	128	385
When investing, I believe it is fair to have risk in every investment I partake.	3	10	69	164	139	385
If the risk is too low which not likely result in a huge loss, I tolerate the risk in my investment.	4	18	60	167	136	385

This table shows that out of the 385 Generation Z retail investors, the majority of them perceived that risk acceptance strategies are at least moderately effective to extremely effective ways of risk management. The following risk acceptance strategies were mainly assessed as very effective with the following percentages: (a) tolerating the low-level risk which not result in the huge loss at 43.4; (b) accepting the presence of risks in every investment at 42.6; (c) taking into consideration the different types of risks before investing at 41.8; (d) opting for investments to absorb potential losses at 40.8; and (e) having enough self-insurance to make up for possible loss from risk before making an investment at 39.2. In addition, socio-economic and demographic factors can also impact an investor's vulnerability to investment risks. Just as flood-prone land users adapt to and perceive floods and flood-prone land use policy, investors also adapt to the ever-changing investment landscape and manage risks in a manner that ensures the benefits of their investments outweigh the potential issues that may arise from not monitoring the risks effectively (Fortino et al., 2018).

b. Assessment of Generation Z retail Investors in the Investment Behavior

Table 12

Assessment of Respondents on the Investment Behavior in Terms of Overconfidence

Overconfidence	Strongly Disagree	Disagree	Moderately Agree	Agree	Strongly Agree	Total
	Frequency (f)					
I continue investing even after I receive negative information.	78	141	71	56	39	385

My investment decisions are mostly based on my personal knowledge and experiences.	20	78	89	149	49	385
I focus more on individual stocks or certain kinds of securities which I think earn high returns.	12	33	107	174	59	385
I trade in the market more frequently than to invest in a long-term run.	17	60	99	157	52	385
I am more confident with my investment decisions from my interpretation or comprehension by gathering information.	17	57	77	158	76	385

This table shows the 385 Generation Z retail investors' assessment of investment behavior in terms of overconfidence. The majority of the respondents were agreed with (a) focusing more on individual stocks or certain kinds of securities with 45.2 percent; (b) being more confident in investing decisions from their interpretation with 41.0 percent; (c) trading in the market more frequently than investing in a long-term run with 40.8 percent; (d) basing investment decision on personal knowledge and experiences with 38.7 percent. On the other behavior such as (e) to continue investing even after receiving negative information with 36.6 percent, the young investors disagreed based on the most reported counts. A study stated that it has been observed that overconfident investors engage in aggressive stock trading in an effort to profit from mispricing. Additionally, overconfident investors neglect the risk (Abdin et al, 2022). This study is also true of the respondents' assessment of investment behavior in terms of overconfidence. Investors prefer to invest in stocks since they think that they achieve gains.

Table 13

Assessment of Respondents on the Investment Behavior in Terms of Loss-Aversion

Loss Aversion	**Strongly Disagree**	**Disagree**	**Moderately Agree**	**Agree**	**Strongly Agree**	**Total**
			Frequency (f)			
I invest in low-return, guaranteed assets than more profitable but riskier ones.	11	48	107	149	70	385

I hang onto a losing investment longer in the hopes that it may bounce back.	19	61	107	143	55	385
I tell myself that an investment is not a loss until when the investment is sold or realized.	9	54	91	153	78	385
I do not encounter the fear of future losses whenever I allocate my money in smaller investments.	23	63	92	140	67	385
I tend to focus on gains and revenues I may possibly get in my low-cost investments.	15	26	85	159	100	385

This table shows the 385 Generation Z retail investors' assessment of investment behavior in terms of loss aversion. The majority of the respondents were agreed (a) tending to focus on gains and revenues at 41.3 percent; (b) telling themselves that it is not a loss at 39.7 percent; (c) investing in low-return, guaranteed assets at 38.7 percent; (d) hanging onto a losing investment longer at 37.1 percent; (e) not encountering the fear of future losses at 36.4 percent based on the most frequent counts. Simultaneously, according to Yang (2019) experimental data indicates that individuals are around two times more reactive to losses than profits.

Table 14

Assessment of Respondents on the Investment Behavior in Terms of Recency Bias

Recency Bias	Strongly Disagree	Disagree	Moderately Agree	Agree	Strongly Agree	Total
	Frequency (f)					
I form my decision whether to invest or not based on the recent market performance.	11	42	68	154	110	385
I look into the short-term performance of an investment more than its long-term returns.	16	57	102	133	77	385
I am motivated to invest when market prices are	7	44	89	152	93	385

going up because it gives me a chance to take profit.						
I understand that the revenue I am gaining now may possibly occur again in the future.	8	50	73	168	86	385
I tend to invest more if the business I am engaged in is in a hot hand or in a massive success.	18	35	65	149	118	385

Table 14 shows the 385 Generation Z retail investors' assessment of investment behavior in terms of recency bias. The majority of the respondents agreed that (a) understanding that revenue currently gaining may possibly occur again with 43.6 percent; (b) investing or not based on the recent market performance at 40.0 percent; (c) motivated to invest when market prices are going up at 39.5 percent; (d) investing more if the business is in a massive success with 38.7; and (e) looking into the short-term performance of an investment more with 34.5 percent are good recency bias behaviors when it comes to investment based on the most frequent counts. Based on the findings of Kureshi et al. (2023) investors don't depend on their prior knowledge or data that even suggests that recency bias has a minimal impact.

Table 15

Assessment of Respondents on the Investment Behavior in Terms of Confirmation Bias

Confirmation Bias	**Strongly Disagree**	**Disagree**	**Moderately Agree**	**Agree**	**Strongly Agree**	**Total**
	Frequency (f)					
I have faith in the value of the assets I invest in due to the supporting theories I have researched.	11	31	67	172	104	385
I focus on positive information about the investment and discount the negative ones.	14	51	84	152	84	385
I list the different potential outcomes of my investment and internalize information objectively.	13	35	102	142	93	385
I actively seek out credible sources to critique and confirm my investment decision.	4	33	82	153	113	385
I prefer to invest in an asset that fits my portfolio and has good value.	14	32	67	150	122	385

Table 15 shows the 385 Generation Z retail investors' assessment of investment behavior in terms of confirmation bias. The majority of the respondents agreed that (a) having faith in the value of the assets due to the supporting theories researched at 44.7 percent; (b) seeking credible sources to critique and confirm investment decision at 39.7 percent ; (c) focusing on positive information about investment at 39.5 percent; (d) investing in an asset that fits a portfolio at 39.0 percent; and (e) listing different potential outcomes of investment at 36.9 percent are good confirmation bias behaviors when it comes to investment based on the most frequent counts. According to Cheng (2018) the term confirmation bias refers to people's resistance to changing their initial beliefs. When new information is congruent with their existing beliefs, people was more open to seeing and accepting it. It's true that individuals are wary of accepting information that goes against their prior beliefs. In the context of the financial markets, investors may maintain their original belief (e.g., the stock increase) even after it has begun to decline (creating the disposition effect) or after they have located a buyer for their stocks (creating speculation). As a result, it appears that Gen Z investors seek for information selectively, which might be a source of confirmation bias.

C. Test of Significant Relationship

Table 16

Relationship between Risk Avoidance Strategies and Different Investment Behaviors

Risk Management Strategy	Investor Behavior	Correlation Coefficient (*r*)	P-value*	Interpretation
Risk Avoidance	Overconfidence	-0.0440	0.3900	No significant relationship
	Loss Aversion	0.0910	0.0750	No significant relationship
	Recency Bias	-0.0530	0.3030	No significant relationship
	Confirmation Bias	-0.1430	0.0050	**Significant Relationship**

H_o: There is no significant relationship between the assessment of Generation Z retail investors in terms of the risk management strategies and investment behavior

**If P-value is less than or equal to 0.05 level of significance, we reject H_o, otherwise fail to reject H_o.*

Table 16 shows if there is any significant relationship between risk avoidance and the four investment behaviors. Out of the four (4) investment behaviors, only assessment of respondents between the confirmation bias and risk avoidance has significant relationship based on the observed level of effectiveness. A correlation coefficient of -0.1430 indicates very weak association across the responses of Generation Z retail investors. The investment behavior confirmation bias posted a p-value of 0.0050 which is less than the assumed level of significance, thus, the null hypothesis is rejected. On the other hand, overconfidence (p= 0.3900), loss aversion (p=0.0750) and recency bias (p=0.3030) got greater values than the assumed level of significance of 0.05 with correlation coefficient of -0.0440, 0.0910 and -0.0530 respectively. This means that there is no significant relationship between the mentioned investment behaviors and risk avoidance strategy among the respondents, thus, the researchers failed to reject the null hypothesis. Cheng (2018) stated that people are prone to adopt information or ideas that corresponds with one's values and avoids inconsistent information. It shows that the selected GenZ retail investors' behavior of holding onto their existing beliefs and unwilling to receive new information can be significantly affected by how they avoid possible threats to their investments, which can be achieved by eliminating the possible sources of risks or avoiding some alternatives that may expose them to the same risks. Moreover, risk avoidance can be associated with the behavioral intentions of investors' personal finance decisions (Arshad & Ibrahim, 2019) and there is a correlation between an investor's decision and receiving information that supports their existing and previous investments (Cheng, 2018).

Table 17

Relationship between Risk Reduction Strategies and Different Investment Behaviors

Risk Management Strategy	Investor Behavior	Correlation Coefficient (r)	P-value*	Interpretation
Risk Reduction	Overconfidence	0.1760	0.0010	**Significant Relationship**
	Loss Aversion	0.2120	0.0000	**Significant Relationship**
	Recency Bias	0.3230	0.0000	**Significant Relationship**
	Confirmation Bias	0.4160	0.0000	**Significant Relationship**

H_o: There is no significant relationship between the assessment of Generation Z retail investors in terms of the risk management strategies and investment behavior

**If P-value is less than or equal to 0.05 level of significance, we reject H_o, otherwise fail to reject H_o.*

All of the four (4) investment behaviors based on the assessment of respondents have significant relationship with risk reduction strategies level of effectiveness. Firstly, a correlation coefficient of 0.1760 for "overconfidence" indicates a very weak association across the responses of Generation Z retail investors. Secondly, "loss aversion" and "recency bias" have a correlation coefficient of 0.2120 and 0.3230, respectively indicating a weak association across the responses of Generation Z retail investors. Lastly, a correlation coefficient of 0.4160 for "confirmation bias" indicates a moderate association across the responses of Generation Z retail investors. The P-value of every investment behavior in relation to the risk reduction strategy poses less than 0.05 level of significance thus rejecting the null hypothesis. Young investors are prone to overconfidence bias because of their high - emotional level and fickle mind. Overconfident investors tend to ignore risks imposed in their investments (Suhono, 2022). This affirms the substantial connection of risk reduction strategy and overconfidence. It testifies that overconfident people have poor risk reduction ability because of their tendency to ignore risks. Investors that exhibit confirmation bias reject information that contradicts their opinions and go out of their way to promote them. According to research by Cheng (2018) people are more likely to accept new information that is compatible with their principles than information that contradicts their ideas. If information confirms their preexisting ideas, they regard it to be more credible and real. Risk reduction was difficult for investors with confirmation bias since certain risk mitigation measures may not support their initial beliefs. Recency bias refers to the tendency of investors to place a greater emphasis on information that occurred lately, hence the order in which information is acquired is crucial. A person who is susceptible to recency bias was exposed to negative bias if the information is presented in the order of good news followed by bad news. In short, investors give the bad news more weight (Rudiawarni et al. 2020).

Table 18

Relationship between Risk Transfer Strategies and Different Investment Behaviors

Risk Management Strategy	Investor Behavior	Correlation Coefficient (r)	P-value*	Interpretation
Risk Transfer	Overconfidence	0.0780	0.1240	No significant relationship
	Loss Aversion	0.1270	0.0130	**Significant Relationship**
	Recency Bias	0.0380	0.4570	No significant relationship
	Confirmation Bias	0.1200	0.0180	**Significant Relationship**

H_o: There is no significant relationship between the assessment of Generation Z retail investors in terms of the risk management strategies and investment behavior
**If P-value is less than or equal to 0.05 level of significance, we reject H_o, otherwise fail to reject H_o*

Table 18 shows that out of the four investment behaviors, only loss - aversion and confirmation bias have significant relationship with risk transfer strategies level of effectiveness based on the assessment of the respondents. Loss - Aversion and Confirmation Bias both indicate a very weak association across the responses of Generation Z retail investors with a correlation coefficient of 0.1270 and 0.1200 respectively. The P - value of Loss - Aversion and Confirmation bias poses a value of 0.0130 and 0.0180 which are both less than .05 thus rejecting the null hypothesis. Another reference study has shown a contradictory result when defining the relationship between risk transfer and loss aversion. According to Strobl (2022), Although their results have shown that their risk-averse subjects do indeed prefer less risky, profitable investments when background risk is present, their results also revealed that neutralizing risk constraints by means of providing them insurance, which is a form of risk transfer, has no effect (free insurance) or even a negative impact (fair insurance) on risk taking. These findings are mostly concentrated among those subjects who lack understanding about the technicalities of insurance and those who haven't recently experienced real-life health expenses. This reference study therefore suggests that "imperfect consumer understanding and experience effects may limit the effectiveness of insurance in encouraging investments," as stated by Strobl (2022).

Table 19

Relationship between Risk Acceptance Strategies and Different Investment Behaviors

Risk Management Strategy	Investor Behavior	Correlation Coefficient (r)	P-value*	Interpretation
Risk Acceptance	Overconfidence	0.2240	0.0000	**Significant Relationship**
	Loss Aversion	0.2780	0.0000	**Significant Relationship**

Recency Bias	0.3340	0.0000	**Significant Relationship**
Confirmation Bias	0.3690	0.0000	**Significant Relationship**

H_o: There is no significant relationship between the assessment of Generation Z retail investors in terms of the risk management strategies and investment behavior
**If P-value is less than or equal to 0.05 level of significance, we reject H_o, otherwise failed to reject H_o.*

Based on the assessment of respondents, all of the four (4) investment behaviors have been observed to have a significant relationship with risk acceptance strategies level of effectiveness. All of the four (4) correlation coefficients indicate weak association across the responses of Generation Z retail investors, with a value of 0.2240 for "overconfidence", 0.2780 for "loss aversion", 0.3340 for "recency bias" and 0.3690 for "confirmation bias". With a P-value of 0.0000 for all of the four (4) investment behaviors in relation to risk acceptance strategy, which is less than 0.05 level of significance, the null hypothesis is rejected. Yesseleva-Pionka (2021) stated that research by Barclays Smart Investor has shown that some Generation Z investors focus on investments that are short-term but offer high returns. Also, out of the respondents surveyed, 16 percent were involved in speculative investments. Another factor to consider is there is a prevalent misconception that due to their young age, Generation Z may be inclined to assume greater risks, assuming they have more time to recover from any potential losses. This means Gen Z investors could be underestimating the risks involved in such high-risk investment strategies. Overconfidence in Gen Z investors' investment decisions lead to inefficient risk acceptance strategies as they accept more risks than they would otherwise consider appropriate.

CONCLUSION

Most of the respondents aged 21 to 22 years old, female, single, working students, with a monthly income of P0 to P10,000, have been investing for 1 to 2 years, and have been investing mostly in cryptocurrency and stocks. In terms of risk avoidance, most of the respondents also consult other professionals/traders. In terms of risk reduction, most of the respondents apply a specific amount when investing in stocks, bonds and/or mutual funds on a regular basis. In terms of Risk transfer, most of the respondents use contracts with indemnification clauses to purchase any stocks to get protection against price volatility risks when investing. In terms of risk acceptance, most of the respondents tolerate risk investment if the risk is too low which not likely result in huge loss. Risk management strategies are essential to successful investing because, if not properly managed, the inherent volatility and instability of the financial markets can produce unfavorable results (Malmberg, 2023). In terms of overconfidence bias, most of the respondents are focusing more on individual stocks or certain kinds of securities which they think earn high returns. In terms of loss aversion bias, most of the respondents tend to focus on gains and revenues they may possibly get in their low-cost investments. In terms of recency bias, most of the respondents understood that the revenues they gained might occur in the future again. In terms of confirmation bias, respondents have faith in the value of their assets due to their research. In contrast to an investor acting rationally, who chooses to operate in a way that delivers the most utility, an individual follows a behavior pattern that maximizes predicted utility (Madaan, 2019). In the respondents' assessment on risk avoidance and its relationship with confirmation bias, the null hypothesis was rejected therefore there is a correlation. There is a significant relationship between risk reduction and investment behaviors including overconfidence, loss - aversion, recency bias, and confirmation bias since the null hypothesis was rejected. There is a correlation between risk transfer and its relationship with loss - aversion and confirmation bias because the null hypothesis was rejected. In the respondents' assessment on risk acceptance and its relationship with investment behavior namely, overconfidence, loss - aversion, recency bias, and confirmation bias, the null hypothesis was rejected indicating a significant relationship. When it comes to investment, the investor's choice is subjective. Furthermore, overconfident investors are more likely to lose money because they take on too much risk. It demonstrates an inefficient technique of accepting risk since the loss they incur may be excessive (Dima, 2018).

REFERENCES

Abu Bakar, N. and Rosbi, S. (2018) Efficient frontier analysis for portfolio investment in Malaysia stock market, Science International, Vol. 30 (5), pp. 723-729

Albright, D. (2021, May 12). *Study: What Are Gen Z and Millennial Investors Buying in 2021?* The Motley Fool. https://www.fool.com/research/what-are-gen-z-millennial-investors-buying/

Albright, D. (2022). Study: What Are Gen Z and Millennial Investors Buying in 2022? | The Motley Fool. The Motley Fool. https://www.fool.com/research/what-are-gen-z-millennial-investors-buying/

Benítez-Márquez MD, Sánchez-Teba EM, Bermúdez-González G and Núñez-Rydman ES (2022) Generation Z Within the Workforce and in the Workplace: A Bibliometric Analysis. Front. Psychol. 12:736820. doi: 10.3389/fpsyg.2021.736820

Cheng, C. X. (2018). Confirmation Bias in Investments. *International Journal of Economics and Finance*, *11*(2), 50. https://doi.org/10.5539/ijef.v11n2p50

COVID-19 deepens Filipino Millennials & Generation Z's financial and mental health concerns - Manulife study. (2021). Manulife. https://www.manulife.com.ph/about-us/newsroom/latest-news/Filipino-Millennials-Generation-Z-financial-and-mental-health-concerns-Manulife-study.html

Enskog, D. (2015, February 18). How culture impacts investment behavior. Credit Suisse. https://www.credit-suisse.com/about-us-news/en/articles/news-and-expertise/how-culture-impacts-investment-behavior-201502.html

Fortino, M. H., Da Silva, J. M., Lopes, M., & Leal, M. M. (2018). Theoretical framework for Risk management monitoring, review and improvement process of FLOSS applications. ResearchGate. https://www.researchgate.net/publication/343157575

Garcia. (2023). Millennials, Gen Zs struggling. The Manila Times. https://www.manilatimes.net/2023/06/13/business/top-business/millennials-gen-zs-struggling/1895762#:~:text=A%202023%20survey%20by%20the,top%20of%20their%20primary%20jobs.

Ibe, D. J. G. (2018). Effective project risk assessment and optimal risk mitigation strategies. Effective Project Risk Mitigation. https://www.academia.edu/38809316/Effective_Project_Risk_Assessment_and_Optimal_Risk_Mitigation_Strategies

Kenton, W. (2022, October 13). What is risk management in finance, and why is it important? Investopedia. https://www.investopedia.com/terms/r/riskmanagement.asp

Kureshi, F., Bhatt, V., & Bhatt, P. (2023). "Does any behavioural bias prevail while making investment decisions in mutual fund." International Journal of Behavioural Accounting and Finance, 7(1), 1–23. https://doi.org/10.1504/ijbaf.2023.131639

Lopez, J. (2023). Gen Z Invests in Cryptocurrency More Than Anybody; Here's Why Experts Say It's a Bad Thing. Tech Times. https://www.techtimes.com/articles/292356/20230607/gen-z-invests-cryptocurrency-more-anybody-heres-why-experts-bad.htm

Loyola, J. A. (2022, September 25). PSE allows e-wallets to attract retail investors. Manila Bulletin.https://mb.com.ph/2022/09/25/pse-allows-e-wallets-to-attract-retail-investors/

Mercurio. (2019). For Gen Z workforce: Salary takes back seat to career dev't. Philstar. Retrieved June 29, 2023, from https://www.philstar.com/business/business-as-usual/2019/10/07/1957891/gen-z-workforce-salary-takes-back-seat-career-devt

Mojarro, J. (2022). Call centers. The Manila Times. https://www.manilatimes.net/2022/05/10/opinion/columns/call-centers/1843084

Paisarn, W., Chancharat, N., & Chancharat, S. (2021). Factors influencing retail investors' trading behaviour in the Thai stock market. Australasian Business, Accounting & Finance Journal, 15(2), 26–37. https://doi.org/10.14453/aabfj.v15i2.3

Philippine Statistics Authority. (2020). *Census-based Population Projections in collaboration with the Inter-Agency Working Group on Population Projections*. https://psa.gov.ph/sites/default/files/attachments/hsd/pressrelease/Table4_9.pdf

Price, Paul. "Psychology Research Methods: Core Skills and Concepts - Table of Contents." *2012books.lardbucket.org*, 2012, 2012books.lardbucket.org/books/psychology-research-methods-core-skills-and-concepts/index.html. Accessed 15 Jan. 2023.

PSE. (2023). The Philippine Stock Exchange, Inc. — PSE. https://www.pse.com.ph/online-stock-market-accounts-reach-1-26m-in-2022/

Sivaramakrishnan, S. and Srivastava, M. (2019) 'Financial well-being, risk avoidance and stock market participation', Int. J. Financial Services Management, Vol. 9, No. 4, pp.326–344.

Vong, G., & Levinson, M. (2020). The ethics of risk displacement in research and public policy. Bioethics, 34(9), 918–922. https://doi.org/10.1111/bioe.12726

Yang, L. (2019). Loss aversion in financial markets. Journal of Mechanism and Institution Design, 4(1), 119–137. https://doi.org/10.22574/jmid.2019.11.005

Yesseleva-Pionka, Dr. M. (2021, October 26). Behavioural Finance and generation Z: ICSB: International Council for Small Business. ICSB. https://icsb.org/behavioural-finance-and-generation-z/