International Journal of Educational Review, Law & Social Sciences (IJERLAS)

International Journal of Educational Review, Law And Social Sciences (IJERLAS Journal) | ISSN(e): 2808-487X
Volumes 5 No. 5 (2025)

OPTIMIZING THE FINANCIAL DECISIONS OF FEMALE WORKERS IN LABOR-INTENSIVE INDUSTRIES: AN INTERVENTION BASED ON FRAMING EFFECTS AND MENTAL ACCOUNTING IN PENSION FUND PROGRAMS

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Received	: 25 Mei 2025	Published	: 01 August 2025
Revised	: 8 Juni 2025	DOI	: https://doi.org/10.54443/ijerlas.v5i5.3739
Accepted	: 28 Juni 2025	Publish Link	: https://radjapublika.com/index.php/IJERLAS

Abstract

Female workers in the manufacturing sector in Batam City often face challenges in financial planning, particularly regarding pension funds. Lack of knowledge and information about the importance of pension funds, coupled with limited awareness campaigns, result in many workers not participating in pension programs. Additionally, a work culture focused on short-term targets often leads female workers in this sector to view long-term financial planning, such as retirement, as less important. This study aims to investigate and analyze the partial and simultaneous effects of framing effect, mental accounting, and financial decisions on the effectiveness of pension funds among female workers in manufacturing companies in Batam City. This study employs causal associative research, and the research method used is quantitative. The population in this study consists of all female workers in manufacturing companies in Batam City, whose exact number is unknown. Four manufacturing companies were randomly selected, and 50 respondents were selected from each company. The sampling method used non-probability sampling with purposive sampling techniques, with several criteria including women aged 40-50 years with a minimum of 1 year of work experience and companies employing more than 250 workers. The sample size for this study was 200 respondents. The data were analyzed using SPSS version 25. The results of the study indicate that the framing effect partially influences the effectiveness of pension funds, mental accounting partially influences the effectiveness of pension funds, financial decisions partially influence the effectiveness of pension funds, and the framing effect, mental accounting, and financial decisions simultaneously influence the effectiveness of pension funds. The adjusted R-squared value of 0.728 can be referred to as the coefficient of determination, This means that 0.741 (74.1%) of the effectiveness of pension funds can be obtained and explained by the framing effect, mental accounting, and financial decisions, while the remaining 25.3% (100% - 74.1% = 25.3%) is explained by variables outside the model that were not studied.

Keywords: ***Framing effect, mental accounting, financial decisions, pension fund effectiveness***

INTRODUCTION

Women workers in Indonesia play an increasingly important role in the country's economy, particularly in the industrial sector. Nevertheless, there are still challenges faced by women workers in managing financial decisions, especially regarding long-term financial planning such as pension funds. This phenomenon is highly relevant for discussion in the context of women workers in manufacturing companies in Batam City. Through psychological approaches such as framing effects and mental accounting, this research aims to analyze how these factors influence women workers' financial decisions and the effectiveness of pension fund programs they participate in. Workers in Indonesia have experienced significant transformation in recent decades. According to data from the Central Statistics Agency (BPS), the number of women workers in Indonesia has been increasing, along with the development of sectors that provide opportunities for women to work outside the home. Although women's labor force participation has increased, gender gap-related challenges, such as lower wages and limited promotion opportunities, remain significant problems. Furthermore, limited access to financial education and financial planning often hinders women workers from making appropriate financial decisions, especially those related to their future. Batam City, as one of Indonesia's largest industrial areas, has a workforce population consisting of various layers, dominated by manufacturing and labor-intensive industries. Batam is also known as a rapidly developing economic center that offers many opportunities for women workers, particularly in the manufacturing sector. Women workers in Batam

are extensively involved in jobs requiring both technical and administrative skills. However, despite many women working in this sector, their roles are often limited to certain jobs that are still frequently considered supplementary work for them, with little attention to long-term financial planning such as pension funds. Manufacturing companies in Indonesia, including in Batam City, generally have dense work structures oriented toward production. Many workers, including women, work in this sector because it offers relatively stable income opportunities. However, workers in this sector often face long working hours, heavy workloads, and potentially lack knowledge about the importance of financial planning, especially regarding pension funds. This becomes a challenge for women workers to effectively plan their financial future, although most manufacturing companies have begun providing pension fund programs as one of the benefits for their employees.

In Batam City, women workers in the manufacturing sector often face challenges in managing their financial decisions. This phenomenon manifests in the lack of knowledge regarding the importance of long-term financial planning, particularly related to pension funds. Additionally, information limitations and understanding that often occur due to ignorance or even lack of socialization about pension funds cause many women workers to feel no need to participate in pension fund programs. Another problem is a work culture that emphasizes achieving short-term targets, while long-term financial planning, such as retirement, is often considered less important. Pension fund effectiveness is an aspect that describes the extent to which pension fund programs can meet workers' long-term financial goals after they enter retirement (Dibal et al., 2024; McDonell, 2024). This effectiveness heavily depends on workers' participation in pension fund programs, their understanding of long-term benefits, and how these programs are designed and managed by companies (Fadejeva & Tkacevs, 2022; Fund, 2024). For women workers in manufacturing companies, pension fund effectiveness can be influenced by various factors, including personal financial management, understanding of retirement importance, and accuracy in planning adequate pension fund contributions.

Although many manufacturing companies offer pension fund programs, the effectiveness of these programs is often limited. One of the main problems is the lack of understanding among workers, particularly women workers, regarding the importance of actively participating in such programs. Additionally, not all workers feel confident that the pension funds they contribute will be sufficient for their retirement. Uncertainty about pension fund management and inability to predict long-term financial needs further worsen the effectiveness of these programs. Framing effect is a psychological phenomenon that describes how the way information is presented can influence someone's decisions. In the context of financial decisions (Amsalem & Zoizner, 2022; Florence et al., 2022), framing effect can play an important role in influencing how women workers understand and make decisions related to their pension funds (Żuradzki, 2022; Beatty et al., 2023). Information presented in a positive form or emphasizing long-term benefits of pension programs can make workers more motivated to actively participate. Conversely, if information about pension funds is delivered in a way that emphasizes potential losses or uncertainties, workers tend to be more hesitant to participate.

In manufacturing companies in Batam City, framing effect can be a significant factor in influencing women workers' financial decisions. Many women workers do not yet fully understand the long-term benefits of pension funds, and the way this information is conveyed can influence their decisions to participate or not. If information about pension funds is delivered ineffectively or unattractively, women workers may not feel motivated to seriously plan their financial future. Mental accounting is a concept that explains how individuals group money into different mental categories, such as money saved for the future or money used for daily needs (Albaddawi, 2022; Cartwright, 2024). In the context of women workers' financial decisions, mental accounting can influence how they treat pension funds (Atmaningrum et al., 2021; Ozkan & Ozkan, 2020). If women workers consider pension funds as money that cannot be accessed until retirement arrives, they may be more inclined to delay or avoid pension fund contributions. This can reduce the effectiveness of pension programs in the long term.

Women workers in manufacturing companies in Batam City may experience obstacles in managing their mental accounting, especially in distinguishing between short-term expenses and long-term savings. When pension funds are considered as a separate category unrelated directly to their current financial needs, this can cause them to pay less attention to the importance of regular pension fund contributions. Additionally, women workers tend to focus more on daily needs and often ignore the importance of saving for the future. Financial decisions are processes that involve choosing financial options most suitable to individual goals and needs. In the context of women workers in manufacturing companies (Kumar et al., 2023; Adeniran et al., 2024), financial decisions include choosing to participate in pension fund programs, determining contribution amounts, and planning long-term financial management (Greenberg & Hershfield, 2019; Frydman & Camerer, 2016). Factors such as framing effect and mental accounting play important roles in this decision-making process, as they can influence how financial information is

received and processed by women workers. The main problem faced by women workers in financial decision-making is the lack of adequate financial knowledge. This worsens their ability to make appropriate decisions regarding pension funds. Additionally, women workers' financial decisions are often influenced by emotional and social factors, such as dependence on monthly income or inability to plan long-term. Overall, financial decisions of women workers in manufacturing companies in Batam City are significantly influenced by psychological factors such as framing effect and mental accounting. Both variables have significant roles in influencing pension fund program effectiveness. Therefore, to improve pension fund effectiveness, it is important for companies to implement more effective communication strategies and financial education that can help women workers understand the importance of long-term financial planning.

LITERATURE REVIEW

Pension Fund Effectiveness (Y)

Pension Fund Effectiveness refers to the extent to which a pension fund program is able to achieve participants' long-term financial goals, namely providing financial security after retirement (Bogdan et al., 2025; Chohan, 2025). This effectiveness is influenced by the level of participation, consistent contributions, and optimal fund management results to meet participants' future retirement financial needs (Demirtaş & Kececi, 2020; Fadejeva & Tkacevs, 2022). Pension Fund Effectiveness can be defined as the ability of pension programs to provide maximum benefits for participants after they enter retirement (Kolodiziev et al., 2021; Debets et al., 2022). This involves efficient fund management, participants' understanding of the importance of retirement, and the level of adoption and worker participation in pension programs to ensure future financial sustainability. Pension Fund Effectiveness refers to the success of a pension system in managing and distributing funds collected during working years, so that upon retirement, participants have sufficient resources to meet their living needs (Fatkhutdinov, 2020; Dymitrowska, 2023).

Framing Effect (X1)

Framing Effect is a psychological phenomenon that explains how the way information is presented can influence how someone makes decisions (Ruggeri et al., 2020; Garnier-Dykstra & Wilson, 2021). Although the information provided remains the same, the way it is delivered, whether emphasizing positive or negative aspects, can influence the choices made by individuals in the same situation (Gosling & Moutier, 2019; Bermúdez, 2022). Framing Effect refers to the influence of context or the way information is conveyed on decisions made by individuals. For example, when a decision is presented in terms of gains or losses, individuals tend to respond differently even though the basic information is identical, depending on how it is framed (Ventre et al., 2024; Levin et al., 2014).

Mental Accounting (X2)

Mental accounting is a psychological concept that refers to how individuals categorize money into specific mental categories, such as money used for savings, daily expenses, or investments (Cartwright, 2024; Knapp & Wong, 2020). In this way, people tend to treat money in separate categories, even though technically the money is the same. This affects someone's financial decisions and spending behavior (Rasool & Ullah, 2020; Swacha-Lech & Solarz, 2019). Mental accounting refers to how someone separates funds in their mind based on the purpose or source of the funds (Friedline et al., 2012; Nteso, 2021). For example, someone might view money received as a bonus as "free money" to spend, even though it is part of their total income. This approach often influences consumption behavior and money management in an irrational manner (Zainal-Alam et al., 2023; Kim & Jeong, 2016).

Financial Decisions (X3)

Financial Decisions refer to the process undertaken by individuals or organizations to choose alternatives related to managing their financial resources (Nuryasman & Elizabeth, 2023; Yunita et al., 2022). These decisions involve determining spending priorities, investments, savings, and future planning to achieve stable and secure financial goals, both for short-term and long-term periods (Ahern & Peress, 2023; Nedopil, 2023).

Financial Decisions are decisions that involve evaluating and selecting the best ways to manage funds to meet the financial needs of individuals or companies (Adeniran et al., 2024; Al-Okaily & Al-Okaily, 2024). These decisions encompass various aspects, ranging from debt management, asset management, to selecting investment instruments that can generate profits or mitigate risks (Kumar et al., 2023; Akour et al., 2024).

Conceptual Framework

The theoretical framework is explained as a conceptual foundation for answering research problems, and the construction of the framework cannot be separated from literature review efforts of previous research results (Situmorang, 2024). The conceptual framework in this research is illustrated as follows:

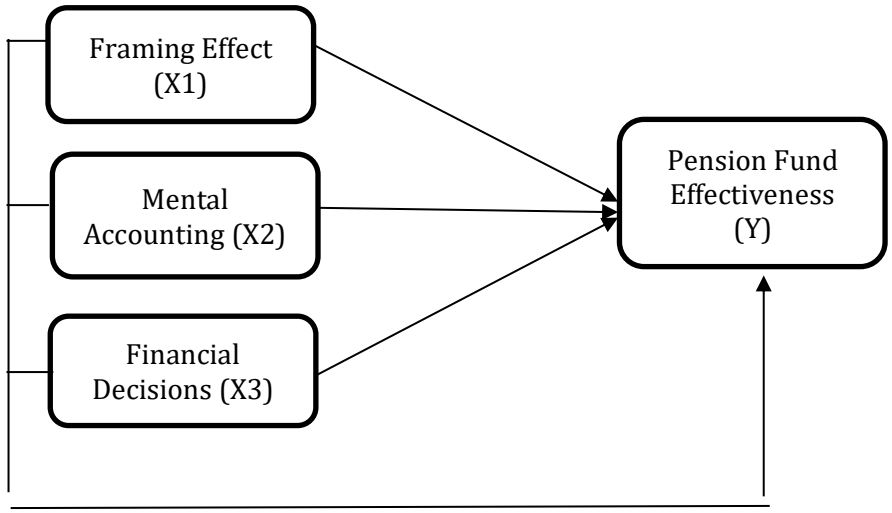

Figure 1. Conceptual Framework
Source: Researcher (2025)

Research Hypotheses

The hypotheses in this research are explained as follows:

a. Framing effect partially has a significant influence on pension fund effectiveness.
b. Mental accounting partially has a significant influence on pension fund effectiveness.
c. Financial decisions partially have a significant influence on pension fund effectiveness.
d. Framing effect, mental accounting, and financial decisions simultaneously have a significant influence on pension fund effectiveness.

RESEARCH METHODOLOGY

Research Type and Method

This research uses causal associative research. Causal associative research is research that aims to determine the relationship between two or more variables (Sugiyono, 2021). The research method used in this study is the quantitative method.

Research Location and Time

This research is conducted on all women workers in Batam City. The research time is carried out in stages starting from January 2025 to completion.

Population and Sample

According to Sugiyono (2021), population is defined as a generalization area consisting of objects or subjects that have certain qualities and characteristics determined by the researcher to be studied and then conclusions drawn. The population in this research is all women workers in manufacturing companies in Batam City whose exact number is unknown, where 4 manufacturing companies are randomly selected with 50 respondents taken from each company. Malhotra et al. (2017) explain that a sample is a subgroup of population elements selected to participate in a study. The sampling method uses nonprobability sampling with purposive sampling technique, with several criteria including women aged 40-50 years with a minimum working period of 1 year and companies having more than 250 employees. The number of research samples taken in this study is 200 people. The questionnaire distribution focuses on all women workers in manufacturing companies in Batam City.

Data Collection Technique

Data completeness will affect the quality analyzed; therefore, data will impact the accuracy of decisions made (Situmorang, 2024). Data collection is conducted by distributing questionnaires. A questionnaire is a structured survey designed to obtain accurate data in the form of direct responses from respondents.

Data Analysis Technique

Validity and Reliability Test

Table 1. Validity Test Results for Framing Effect (X1), Mental Accounting (X2), Financial Decisions (X3), and Pension Fund Effectiveness (Y)

Item Statement	Corrected Item Total Correlation	Information
X1.1	**0,542**	Valid
X1.2	**0,533**	Valid
X1.3	**0,572**	Valid
X1.4	**0,564**	Valid
X1.5	**0,552**	Valid
X2.1	**0,581**	Valid
X2.2	**0,547**	Valid
X2.3	**0,543**	Valid
X2.4	**0,557**	Valid
X2.5	**0,564**	Valid
X3.1	**0,545**	Valid
X3.2	**0,558**	Valid
X3.3	**0,563**	Valid
X3.4	**0,577**	Valid
X3.5	**0,567**	Valid
Y.1	**0,548**	Valid
Y.2	**0,582**	Valid
Y.3	**0,532**	Valid
Y.4	**0,549**	Valid
Y.5	**0,569**	Valid

Source: SPSS Version 25 data output results (2025)

Based on Table 1 above, the validity statistical test results on the variables of framing effect, mental accounting, financial decisions, and pension fund effectiveness show that the corrected item total correlation values for all statement items have values > 0.361, therefore it can be concluded that the research data results for each available statement item are valid/legitimate.

Table 2. Reliability Test Results for Framing Effect (X1), Mental Accounting (X2), Financial Decisions (X3), and Pension Fund Effectiveness (Y)

Variabel	Cronbach's Alpha	Keterangan
Pension Fund Effectiveness	0.862	Reliable
Framing Effect	0.837	Reliable
Mental Accounting	0.872	Reliable
Financial Decisions	0.853	Reliable

Source: SPSS Version 25 data output results (2025)

Based on Table 2 above, it is known that the Cronbach's alpha values for all research variables are > 0.60, therefore it can be said that the reliability test results for all variables are reliable.

RESULTS AND DISCUSSION

1. Normality Test Results

Table 3. Kolmogorov-Smirnov Test Results

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		200
Normal Parameters[a,b]	Mean	0E-7
	Std. Deviation	2.85538432
Most Extreme Differences	Absolute	.081
	Psositive	.088
	Negative	-.077
Kolmogorov-Smirnov Z		.429
Asymp. Sig. (2-tailed)		**.177**

a. Test distribution is Normal.
b. Calculated from data.

Source: SPSS Version 25 data output results (2025)

Based on Table 3 above, it is known that the Kolmogorov-Smirnov test results have a significance value of 0.177 > 0.05, so it can be concluded that the tested data is normally distributed.

2. Heteroscedasticity Test Results

Table 4. Glejser Heteroscedasticity Test Results

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	**T**	**Sig.**
1	(Constant)	.322	1.673		**.146**	**.562**
	Framing Effect	.051	.032	.066	**1.237**	**.211**
	Mental Accounting	.072	.051	.112	**1.251**	**.258**
	Financial Decisions	0.89	0.77	.134	**1.272**	**.287**

a. Dependent Variable: ABS_RES

Source: SPSS Version 25 data output results (2025)

Based on Table 4 above, the Glejser test results show that the significance values of the three independent variables are > 0.05, therefore it can be concluded that heteroscedasticity does not occur.

3. Multicollinearity Test Results

Table 5. Multicollinearity Test Results

Coefficients[a]						
Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	Correlations	Collinearity Statistics

		B	Std. Error	Beta			Zero-order	Partial	Part	**Tolerance**	**VIF**
1	(Constant)	1.561	2.572		.483	.478					
	Framing Effect	.207	.064	.127	2.377	.001	.524	.414	.328	**.337**	**1.175**
	Mental Accounting	.277	.098	.221	2.715	.005	.537	.453	.351	**.337**	**1.175**
	Financial Decisions	.389	.133	.288	3.129	.000	.567	.473	.384	**.337**	**1.175**

a. Dependent Variable: Pension Fund Effectiveness

Source: SPSS Version 25 data output results (2025)

Based on Table 5, it is known that the multicollinearity test results for the variables framing effect (X1), mental accounting (X2), and financial decisions (X3) have tolerance values > 0.10 and VIF < 10, therefore this research is declared free from multicollinearity problems.

4. Multiple Linear Regression Test Results

Table 6. Multiple Linear Regression Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	**1.561**	2.572		.483	.478					
	Framing Effect	**.207**	.064	.127	2.377	.001	.524	.414	.328	.337	1.175
	Mental Accounting	**.277**	.098	.221	2.715	.005	.537	.453	.351	.337	1.175
	Financial Decisions	**.389**	.133	.288	3.129	.000	.567	.473	.384	.337	1.175

a. Dependent Variable: Pension Fund Effectiveness

Source: SPSS Version 25 data output results (2025)

a. Constant α = 1.561
   From the constant α = 1.561, it can be known that if framing effect, mental accounting, and financial decisions do not increase or have a value of 0 (zero), then pension fund effectiveness is 1.561 units.
b. β1 = 0.207
   If there is a policy toward framing effect that increases by one unit, then pension fund effectiveness increases by 0.271 units.
c. β2 = 0.277
   If there is a policy toward mental accounting that increases by one unit, then pension fund effectiveness increases by 0.277 units.
d. β3 = 0.389
   If there is a policy toward financial decisions that increases by one unit, then pension fund effectiveness increases by 0.389 units.

5. Hasil Uji Parsial (Uji-t)

Tabel 7. Hasil Uji Parsial (Uji-t)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	**t**	**Sig.**	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	1.561	2.572		**.483**	**.478**					

	Framing Effect	.207	.064	.127	**2.377**	**.001**	.524	.414	.328	.337	1.175
	Mental Accounting	.277	.098	.221	**2.715**	**.005**	.537	.453	.351	.337	1.175
	Financial Decisions	.389	.133	.288	**3.129**	**.000**	.567	.473	.384	.337	1.175

a. Dependent Variable: Pension Fund Effectiveness

Source: SPSS Version 25 data output results (2025)

a. The influence of framing effect on pension fund effectiveness, with a calculated t-value for framing effect of 2.377 > 1.65 (n-k = 200-4 = 196 at 0.05/5%) and significance 0.000 < 0.05, therefore Ha is accepted and Ho is rejected, so framing effect partially has a significant influence on pension fund effectiveness. (Hypothesis 1 is accepted).
b. The influence of mental accounting on pension fund effectiveness, with a calculated t-value for mental accounting of 2.377 > 1.65 (n-k = 200-4 = 196 at 0.05/5%) and significance 0.000 < 0.05, therefore Ha is accepted and Ho is rejected, so mental accounting partially has a significant influence on pension fund effectiveness. (Hypothesis 2 is accepted).
c. The influence of financial decisions on pension fund effectiveness, with a calculated t-value for financial decisions of 2.377 > 1.65 (n-k = 200-4 = 196 at 0.05/5%) and significance 0.000 < 0.05, therefore Ha is accepted and Ho is rejected, so financial decisions partially have a significant influence on pension fund effectiveness. (Hypothesis 3 is accepted).
d.

6. Simultaneous Test Results (F-test)

Table 8. Simultaneous Test Results (F-test)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	**F**	**Sig.**
1	Regression	1174.438	4	423.311	**37.128**	**.000[b]**
	Residual	635.471	196	4.177		
	Total	2253.221	194			

a. Dependent Variable: Pension Fund Effectiveness
b. Predictors: (Constant), Financial Decisions, mental accounting, framing effect

Source: SPSS Version 25 data output results (2025)

Based on Table 8 above, it is known that the F-test value produces a calculated F-value of 31.077 > F-table 2.42 (n-k-1 where k = 200-4-1= 195 at 4) and significance 0.000 < 0.05, therefore Ha is accepted and Ho is rejected, meaning that framing effect, mental accounting, and financial decisions simultaneously influence pension fund effectiveness. Therefore, the previous hypothesis (H4) is accepted.

7. Determination Test Results

Table 9. Determination Test Results

Model Summary[b]

Model	R	R Square	**Adjusted R Square**	Std. Error of the Estimate
1	.574[a]	.558	**.741**	3.253

Source: SPSS Version 25 data output results (2025)

Based on Table 9 above, it is known that the adjusted R square value of 0.728 can be called the coefficient of determination, which means 0.741 (74.1%) of pension fund effectiveness can be obtained and explained by framing effect, mental accounting, and financial decisions, while the remaining 25.9% (100% - 74.1% = 25.9%) is explained by variables outside the model that were not studied.

CONCLUSION AND SUGGESTIONS

CONCLUSION

Based on the discussion results, several conclusions can be drawn as follows:

a. Framing effect partially has a significant influence on pension fund effectiveness for all women workers in manufacturing companies in Batam City.
b. Mental accounting partially has a significant influence on pension fund effectiveness for all women workers in manufacturing companies in Batam City.
c. Financial decisions partially have a significant influence on pension fund effectiveness for all women workers in manufacturing companies in Batam City.
d. Framing effect, mental accounting, and financial decisions simultaneously have a significant influence on pension fund effectiveness for all women workers in manufacturing companies in Batam City.

SUGGESTIONS

Based on the conclusions above, the suggestions that can be provided in this research are as follows:

a. Based on the statistical test results related to the framing effect variable, the researcher suggests that companies can utilize framing effects by presenting pension fund information in a more attractive and positive manner. By depicting pension fund benefits as an investment for a more secure future and emphasizing its impact on post-retirement quality of life, female workers will be more motivated to participate. Clear and psychologically compelling information presentation can enhance understanding and participation in effective pension programs.
b. Based on the statistical test results related to the mental accounting variable, the researcher suggests the importance for companies to educate female workers about how they mentally manage money. Pension fund programs should be designed considering mental separation in fund allocation, such as introducing the concept of pension savings as a separate category from daily expenses. In this way, female workers will more easily understand the importance of regularly and systematically setting aside funds for the future, thereby improving the effectiveness of offered pension fund programs.
c. Based on the statistical test results related to the financial decisions variable, the researcher suggests the importance for manufacturing companies in Batam to provide training or financial education that can improve female workers' financial decision-making. Through this involving approach, companies can help workers plan long-term finances, including pension funds. By providing understanding about how to wisely manage and allocate pension funds, their financial decisions will be more directed and effective.
d. Based on the statistical test results related to the pension fund effectiveness variable, the researcher suggests that companies need to strengthen communication and education about pension fund benefits in ways that are easily understood and relevant to workers' needs. Emphasis on ease of access, information transparency, and understanding of the long-term impact of pension funds can increase active participation. Additionally, providing financial training that suits the specific conditions of female workers will ensure the effectiveness of pension program implementation.

REFERENCES

Adeniran, I. A., Efunniyi, C. P., Osundare, O. S., Abhulimen, A. O., & OneAdvanced, U. K. (2024). Integrating business intelligence and predictive analytics in banking: A framework for optimizing financial decision-making. Finance & Accounting Research Journal, 6(8).

Ahern, K. R., & Peress, J. (2023). The role of media in financial decision-making (pp. 192-212). Edward Elgar Publishing.

Akour, I., Alzyoud, M., Alquqa, E. K., Tariq, E., Alzboun, N., Al-Hawary, S. I. S., & Alshurideh, M. T. (2024). Artificial intelligence and financial decisions: Empirical evidence from developing economies. International Journal of Data and Network Science, 8(1), 101-108.

Albaddawi, E. A. I. (2022). The Negative Effects Of Mental Accounting On The Decision-Making Process. World Bulletin of Management and Law, 10, 87-94.

Al-Okaily, M., & Al-Okaily, A. (2024). Financial data modeling: an analysis of factors influencing big data analytics-driven financial decision quality. Journal of Modelling in Management, 20(2), 301-321.

Amsalem, E., & Zoizner, A. (2022). Real, but limited: A meta-analytic assessment of framing effects in the political domain. British Journal of Political Science, 52(1), 221-237.

Atmaningrum, S., Kanto, D. S., & Kisman, Z. (2021). Investment decisions: The results of knowledge, income, and self-control. Journal of Economics and Business, 4(1).

Beatty, A., Moffitt, R., Buttenheim, A., & National Academies of Sciences, Engineering, and Medicine. (2023). Development of Behavioral Economics. In Behavioral Economics: Policy Impact and Future Directions. National Academies Press (US).

Bermúdez, J. L. (2022). Rational framing effects: A multidisciplinary case. Behavioral and Brain Sciences, 45, e220.

Bogdan, S., Brmalj, N., & Olgić Draženović, B. (2025). Unlocking the pension fund performance: A systematic literature review approach. Zbornik radova Ekonomskog fakulteta u Rijeci: časopis za ekonomsku teoriju i praksu, 43(1), 33-62.

Cartwright, E. (2024). Behavioral economics. Routledge.

Chohan, U. W. (2023). Pension fund regulation and governance. In Global Encyclopedia of Public Administration, Public Policy, and Governance (pp. 9218-9223). Cham: Springer International Publishing.

Debets, S., Prast, H., Rossi, M., & van Soest, A. (2022). Pension communication, knowledge, and behaviour. Journal of Pension Economics & Finance, 21(1), 99-118.

Demirtaş, Y. E., & Keçeci, N. F. (2020). The efficiency of private pension companies using dynamic data envelopment analysis. Quantitative Finance and Economics, 4(2), 204-219.

Dibal, H. S., Haruna, H. A., Onyejiaku, C. C., Ogbole, O. F., & Onwumere, J. U. J. (2024). Pension fund investments and capital market development in Nigeria: The moderating role of inflation. Global Journal of Emerging Market Economies, 16(2), 248-269.

Dymitrowska, Y. (2023). Savings natural resource funds: effectiveness of the Norwegian Government Pension Fund Global. Ekonomia i Prawo. Economics and Law, 22(3), 471-495.

Fadejeva, L., & Tkacevs, O. (2022). The effectiveness of tax incentives to encourage private savings. Baltic Journal of Economics, 22(2), 110-125.

Fadejeva, L., & Tkacevs, O. (2022). The effectiveness of tax incentives to encourage private savings. Baltic Journal of Economics, 22(2), 110-125.

Fatkhutdinov, V. (2020). The Pension Fund of Ukraine: Rethinking risk management during the creation. Ukrainian Policymaker, 6(6), 15-23.

Florence, E. S., Fleischman, D., Mulcahy, R., & Wynder, M. (2022). Message framing effects on sustainable consumer behaviour: a systematic review and future research directions for social marketing. Journal of Social Marketing, 12(4), 623-652.

Friedline, T., Elliott, W., & Nam, I. (2012). Predicting savings and mental accounting among adolescents: The case of college. Children and Youth Services Review, 34(9), 1884-1895.

Frydman, C., & Camerer, C. F. (2016). The psychology and neuroscience of financial decision making. Trends in cognitive sciences, 20(9), 661-675.

Fund, D. C. P. (2024). Annual report and accounts. Nigeria Social Insurance Trust Fund.

Garnier-Dykstra, L. M., & Wilson, T. (2021). Behavioral economics and framing effects in guilty pleas: A defendant decision making experiment. Justice Quarterly, 38(2), 224-248.

Gosling, C. J., & Moutier, S. (2019). Is the framing effect a framing affect?. Quarterly journal of experimental psychology, 72(6), 1412-1421.

Greenberg, A. E., & Hershfield, H. E. (2019). Financial decision making. Consumer Psychology Review, 2(1), 17-29.

Kim, J., & Jeong, J. (2016, July). How to Present Price Premiums and Monetary Savings of Eco-Friendly Products: A Mental Accounting Theory Perspective. In Global Marketing Conference (pp. 1462-1465).

Knapp, M., & Wong, G. (2020). Economics and mental health: the current scenario. World Psychiatry, 19(1), 3-14.

Kolodiziev, O., Telnova, H., Krupka, I., Kulchytskyy, M., & Sybirtseva, I. S. (2021). Pension assets as an investment in economic growth: The case of post-socialist countries and Ukraine.

Kumar, P., Islam, M. A., Pillai, R., & Sharif, T. (2023). Analysing the behavioural, psychological, and demographic determinants of financial decision making of household investors. Heliyon, 9(2).

Levin, I. P., McElroy, T., Gaeth, G. J., Hedgcock, W., & Denburg, N. L. (2014). Behavioral and neuroscience methods for studying neuroeconomic processes: What we can learn from framing effects.

McDonnell, C. (2024). Pension funds and fossil fuel phase-out: historical developments and limitations of pension climate strategies. International Environmental Agreements: Politics, Law and Economics, 24(1), 169-191.

Nedopil, C. (2023). Integrating biodiversity into financial decision-making: Challenges and four principles. Business Strategy and the Environment, 32(4), 1619-1633.

Nteso, D. C. (2021). Mental accounting of saving and debt in South Africa. University of Johannesburg (South Africa).

Nuryasman, M. N., & Elizabeth, E. (2023). Generasi sandwich: Penyebab stres dan pengaruhnya terhadap keputusan keuangan. Jurnal Ekonomi, 28(1), 20-41.

Ozkan, M., & Ozkan, O. (2020). Financial evaluation of mental accounting.

Prabowo, A., Wahyuni, E. S., Bakti, S., Sari, P. B., & Rossanty, Y. (2022). Does Raising Environmental Awareness and Creating Pro-Environmental Attitudes Drive the Intention to Revisit Among Visitors?. Budapest International Research and Critics Institute-Journal (BIRCI-Journal), 5 (3).

Prabowo, A., Wahyuni, E. S., Tanjung, Y., Wijaya, M. R., & Adam, A. A. (2025). Manajemen Pemasaran (Strategi Pemasaran Era Digital: Menguasai Tren dan Teknologi Sebagai Konsep Baru Meningkatkan Penjualan). Serasi Media Teknologi.

Rasool, N., & Ullah, S. (2020). Financial literacy and behavioural biases of individual investors: empirical evidence of Pakistan stock exchange. Journal of Economics, Finance and Administrative Science, 25(50), 261-278.

Ruggeri, K., Alí, S., Berge, M. L., Bertoldo, G., Bjørndal, L. D., Cortijos-Bernabeu, A., & Folke, T. (2020). Replicating patterns of prospect theory for decision under risk. Nature human behaviour, 4(6), 622-633.

Situmorang, S. H. (2024). Analisis Data Untuk Riset Manajemen Dan Bisnis Edisi Kelima. Medan: USU Press.

Sugiyono. (2021). Metode Penelitian Bisnis Pendekatan Kuantitatif, Kualitatif, Kombinasi dan R&D. Bandung: ALFABETA.

Swacha-Lech, M., & Solarz, M. (2019). Mental accounting in the context of savings and credit decisions. Evidence from Poland. Argumenta Oeconomica, (2 (43).

Ventre, V., Martino, R., Castellano, R., & Sarnacchiaro, P. (2024). The analysis of the impact of the framing effect on the choice of financial products: an analytical hierarchical process approach. Annals of Operations Research, 342(3), 1563-1579.

Yunita, R. A., Hani, S., Astuty, W., & Sari, E. N. (2022). Pengaruh Keputusan Keuangan Terhadap Nilai Perusahaan Dimediasi Oleh Return on Asset. Jurnal Akuntansi, 11(2), 142-156.

Zainal Alam, M. A., Chen, Y. C., & Mansor, N. (2023). Mental Accounting and Savings Behavior: Evidence From Machine Learning Method. Journal of Financial Counseling & Planning, 34(2).

Żuradzki, T. (2022). Rational framing effects and morally valid reasons.