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RETIREMENT PLANNING FOR THE WORKER: A Financial Behavior Management Model Moderated By Social Influence

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Abstract. *This study examines the complex dynamics of retirement planning among manufacturing workers in Batam, Indonesia, focusing on the interplay between financial behavior, social influence, and retirement planning outcomes. Utilizing a quantitative associative approach, the research surveyed 100 workers from diverse demographic backgrounds in Batam's manufacturing sector. The study employed Smart-PLS 3 software for structural equation modeling and path analysis. Key findings reveal that while financial behavior positively influences retirement planning (β=0.196, p=0.032), social influence exhibits a much stronger positive effect (β=0.858, p=0.000). Interestingly, social influence negatively moderates the relationship between financial behavior and retirement planning (β=-0.176, p=0.037), suggesting that social factors may sometimes counteract individual financial practices. These results underscore the complexity of retirement planning in industrial urban settings, highlighting the need for a nuanced approach that considers both individual financial literacy and broader social contexts. The study concludes by recommending holistic strategies that combine traditional financial education with community-based interventions to enhance retirement planning effectiveness among workers in rapidly developing industrial cities like Batam.*

Keywords: *Retirement planning, financial behavior, social influence, manufacturing workers, Batam Indonesia*

1. RESEARCH BACKGROUND

Retirement planning has become an increasingly critical issue in modern society as life expectancies increase and traditional pension systems face mounting pressures. Despite its importance, many workers struggle to adequately prepare for retirement due to various factors including limited financial literacy, short-term financial pressures, and behavioral biases. Recent research in behavioral economics and financial psychology has highlighted the significant role that individual financial behaviors play in retirement outcomes. However, these behaviors do not occur in isolation; they are heavily influenced by social factors such as peer effects, family dynamics, and cultural norms. This study aims to develop a comprehensive financial behavior management model for retirement planning that incorporates both individual factors and social influences. By examining how social elements moderate financial decision-making and savings behaviors, this research seeks to provide a more nuanced understanding of retirement planning processes. The findings could have significant implications for policymakers, financial advisors, and employers in designing more effective retirement planning interventions and support systems for workers.

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Retirement planning is a critical issue in rapidly developing industrial cities like Batam, Indonesia, where economic growth and urbanization have created unique challenges and opportunities for workers. Batam, as a key industrial hub and free trade zone, has attracted a diverse workforce from across Indonesia and neighboring countries. This influx of workers, combined with the city's industrial focus, creates a distinct environment for studying retirement planning behaviors. The transient nature of some of the workforce, the prevalence of contract-based employment in manufacturing sectors, and the mix of local and migrant workers all contribute to a complex social fabric that likely influences financial decision-making. Additionally, Batam's proximity to Singapore and Malaysia exposes workers to different economic realities and retirement systems, potentially shaping their perceptions and expectations of retirement planning. Despite the city's economic importance, many workers in Batam face challenges in long-term financial planning due to factors such as income volatility in industrial sectors, limited access to comprehensive financial services, and potentially lower financial literacy levels. This study aims to develop a financial behavior management model for retirement planning that is specifically tailored to the unique socio-economic context of industrial cities like Batam. By examining how social influences - including peer networks in industrial workplaces, family remittance responsibilities, and the impact of observing disparate retirement standards in neighboring countries - moderate individual financial behaviors, this research seeks to provide insights that could inform more effective retirement planning strategies for industrial workers. The findings could have significant implications for local policymakers, multinational employers in the region, and financial service providers in developing retirement planning solutions that address the specific needs and challenges of workers in rapidly growing industrial urban centers.

Batam, a strategic industrial city in Indonesia's Riau Islands, presents a unique economic landscape for studying retirement planning among workers. As a Special Economic Zone adjacent to Singapore, Batam has experienced rapid industrialization, attracting foreign investment in manufacturing, electronics, and shipbuilding. This has created a dual economy with some sectors offering higher wages and better benefits, while others struggle with lower pay and job insecurity. The city's workforce, comprising both local and migrant workers, faces distinct challenges in retirement planning. These include income volatility due to contract-based employment and economic fluctuations, limited access to comprehensive pension systems, gaps in financial literacy, remittance responsibilities to families elsewhere, and short-term financial pressures. The lack of widespread employer-sponsored retirement plans, significant informal sector employment, and the transient nature of the industrial workforce

further complicate long-term financial planning. Additionally, Batam's proximity to Singapore and Malaysia exposes workers to different economic realities, potentially influencing their retirement expectations and saving behaviors. The recent economic impact of the COVID-19 pandemic has further highlighted the vulnerability of many workers and the critical need for robust financial planning. These complex economic conditions and challenges create a distinctive environment for retirement planning in Batam, necessitating a tailored approach that addresses the specific needs and circumstances of workers in this industrial urban setting.

2. LITERATURE

2.1. Retirement Planning

Retirement planning is a comprehensive process that involves setting retirement income goals, estimating the necessary resources to achieve those goals, and implementing strategies to accumulate, manage, and eventually withdraw retirement funds. This process includes evaluating current financial status, projecting future income needs, and considering various investment options, savings plans, and insurance products to ensure financial security during retirement. Recent research emphasizes the importance of starting retirement planning early and regularly updating plans to account for changes in personal circumstances, market conditions, and life expectancy (Nguyen, *et al*., 2019).

The indicator of retirement planning are:

- Retirement Savings Rate: The percentage of an employee's income being saved for retirement, including contributions to 401(k)s, IRAs, and other retirement accounts.
- Total Retirement Savings: The total amount accumulated in retirement savings accounts, providing a snapshot of financial preparedness.
- Employer-Sponsored Retirement Plan Participation: The rate at which employees participate in employer-sponsored retirement plans, such as 401(k)s or pension plans, and the utilization of employer matching contributions.
- Projected Retirement Income: An estimate of the income an employee can expect to receive in retirement, including Social Security, pensions, and withdrawals from retirement accounts.
- Financial Literacy: The level of understanding employees have about financial concepts related to retirement planning, investment options, and managing retirement funds.
- Debt Levels: The amount of debt employees carry, which can affect their ability to save for retirement and their financial security in retirement.

- Healthcare and Long-term Care Planning: Provisions employees have made for healthcare expenses in retirement, including insurance coverage and savings for out-of-pocket costs.
- Retirement Goals and Planning: The extent to which employees have set clear retirement goals, including desired retirement age and lifestyle, and have a plan to achieve these goals.
- Regular Plan Review and Adjustment: How often employees review and adjust their retirement plans to reflect changes in personal circumstances, financial markets, and retirement goals.
- Emergency Savings: The availability of an emergency fund to cover unexpected expenses, preventing the need to tap into retirement savings prematurely.

2.2. Financial Behavior

Financial behavior refers to how individuals manage, plan, and use their financial resources to achieve their economic goals and improve their overall financial well-being. It encompasses a wide range of activities related to money management, including budgeting, saving, investing, borrowing, and spending (Arifin et al., 2023). Financial behavior refers to how individuals manage, plan, and use their financial resources to achieve their economic goals and improve their financial well-being. For workers specifically, it encompasses the actions and decisions they make regarding their income, savings, investments, and overall financial management in the context of their employment and personal life (Potrich et al., 2022). The indicators of financial behavior are:

- Budgeting: Creating and adhering to a personal or household budget
- Savings Behavior: Regularly setting aside a portion of income for future needs or emergencies.
- Debt Management: Responsible use of credit and timely repayment of debts
- Investment Decisions: Participation in investment activities such as stocks, bonds, or retirement accounts
- Financial Goal Setting: Establishing short-term and long-term financial objectives
- Risk Management: Obtaining appropriate insurance coverage and creating contingency plans
- Retirement Planning: Active preparation for post-employment financial needs
- Financial Information Seeking: Proactively seeking and using financial knowledge and advice

- Consumption Patterns: Making informed decisions about spending and avoiding impulsive purchases
- Use of Financial Technology: Adoption and utilization of digital financial tools and services.The indicators of financial behavior are:

2.3. Social Influence

Social influence in the context of workers refers to the ways in which an individual's thoughts, feelings, and behaviors are affected by other people, groups, or social structures within their work environment and broader social network. This includes influences from colleagues, supervisors, family members, friends, and societal norms that shape workers' attitudes, decisions, and actions, particularly in relation to their professional lives and financial behaviors (Bian et al., 2022). The indicator of this variable are:

- Peer Effect: The extent to which coworkers' behaviors and attitudes influence an individual's own choices and actions
- Leadership Impact: How supervisors or organizational leaders shape employees' perceptions and behaviors
- Family Influence: The role of family members in shaping workers' financial decisions and career choices
- Social Network Dynamics: The impact of broader social connections on workers' attitudes and behaviors
- Workplace Culture: How organizational norms and values affect individual worker behavior
- Social Media Influence: The effect of social media interactions on workers' perceptions and decisions
- Professional Association Impact: How membership in professional groups influences workers' practices and attitudes
- Mentorship Effects: The influence of mentors on workers' career development and decision-making
- Societal Norms: How broader societal expectations and cultural values shape workers' behaviors
- Reference Group Influence: The impact of aspirational or comparative groups on workers' goals and behaviors

3. RESEARCH METHOD

This research adopts a quantitative associative approach to examine the relationships between financial behavior, social influence, and retirement planning. The study employs a survey methodology, where participants respond to a series of statements presented in a questionnaire format. The target population comprises manufacturing workers in Batam, Indonesia, with a total of 100 individuals identified. For data analysis, the study utilizes Smart-PLS 3 software, a powerful tool for structural equation modeling and path analysis. This analytical approach enables the researchers to examine complex relationships among variables and assess both direct and indirect effects within the proposed model.

4. RESULT AND DISCUSSION

4.1. Respondent Characteristics

Table 1. Respondens Characteristic

Categories	Description	Frequency	Percen.
Gender	Male	68	68,0%
	Female	32	32,0%
Age	< 25 yo	15	15,0%
	25 – 35 yo	46	46,0%
	35 – 45 yo	25	25,0%
	> 45 yo	14	14,0%
Education	High School	74	74,0%
	Bachelor	26	26,0%
length of work	< 5 years	32	44,0%
	5 – 15 years	35	35,0%
	15 – 30 years	25	14,0%
	> 30 years	8	7,0%

The study sample comprised a diverse group of manufacturing workers in Batam, Indonesia, reflecting various demographic characteristics. In terms of gender, 68% of respondents were male and 32% were female, indicating a male-dominated workforce typical of many manufacturing sectors. The age distribution ranged from 18 to over 55 years, with the largest proportion (46%) falling in the 25-35 age group, suggesting a relatively young workforce. Educational backgrounds varied, with 74% having completed high school or equivalent and 26% holding bachelor's degrees. This educational spread reflects the mix of skilled and semi-skilled labor often found in manufacturing, with a significant portion having secondary education and a smaller group with higher qualifications. Regarding work experience in the manufacturing sector, the sample included both newcomers and veterans, with 32% having 1-5 years of experience, while 8% had been in the industry for over 30 years. This range suggests a blend of fresh talent and experienced workers, potentially indicating

some long-term stability in the workforce alongside regular influx of new employees. This demographic profile provides a comprehensive representation of Batam's manufacturing workforce, allowing for a nuanced analysis of how these varied characteristics might influence retirement planning behaviors and financial decision-making among workers in this industrial city.

4.2. Outer Model

Table 2. Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Financial Behavior	0.981	0.982	0.985	0.928
Retirement Planning	0.955	0.959	0.965	0.820
Social Influence	0.923	0.935	0.940	0.726

The measurement model (outer model) was evaluated using Smart PLS 3.0 to assess the reliability and validity of the constructs. Convergent validity was examined through factor loadings and Average Variance Extracted (AVE). All item loadings exceeded the recommended threshold of 0.7, ranging from 0.73 to 0.97, indicating satisfactory individual item reliability. The AVE values for all constructs were above the critical value of 0.5, ranging from 0.72 to 0.92, confirming adequate convergent validity. Construct reliability was assessed using Composite Reliability (CR) and Cronbach's Alpha. CR values ranged from 0.94 to 0.98, and Cronbach's Alpha values from 0.92 to 0.98, both exceeding the recommended 0.7 threshold, thus establishing internal consistency reliability. These results collectively demonstrate the reliability and validity of the measurement model, providing a solid foundation for the subsequent analysis of the structural model.

4.3. Inner Model

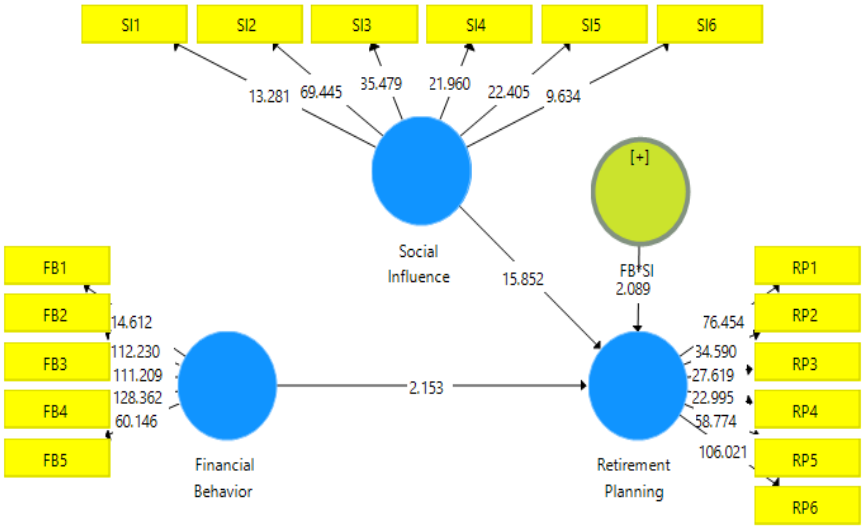

Figure 1. Inner Model Effect

Table 3. Path Analyze

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
FB*SI -> Retirement Planning	-0.176	-0.191	0.084	2.089	0.037
Financial Behavior -> Retirement Planning	0.196	0.208	0.091	2.153	0.032
Social Influence -> Retirement Planning	0.858	0.851	0.054	15.852	0.000

The results of the inner model analysis show interesting dynamics between Financial Behavior, Social Influence, and Retirement Planning.

- Financial Behavior has a significant positive influence on Retirement Planning (0.196, p=0.032), indicating that good financial behavior tends to improve retirement planning.
- The influence of Social Influence on Retirement Planning is much stronger and positive (0.858, p=0.000), indicating that social factors play a very dominant role in retirement planning decisions.
- Social Influence acts as a moderator of the relationship between Financial Behavior and Retirement Planning, the effect is negative (-0.176, p=0.037). This suggests that social influence tends to weaken the positive relationship between financial behavior and retirement planning.

This finding underscores the complexity in the financial decision-making process, where social norms and community influences may sometimes conflict with good personal financial practices. The implication is that strategies to improve retirement planning need to consider not only individual financial education, but also the broader social context. A holistic approach that combines improved financial literacy with community-based interventions may be more effective in promoting better retirement planning.

5. CONCLUSION

These results underscore the complexity of retirement planning in this context. While personal financial behavior is important, the overwhelming influence of social factors suggests that retirement planning is not solely an individual decision but is deeply embedded in social and cultural contexts.

The study's implications are significant for policymakers, employers, and financial educators. Efforts to improve retirement planning among manufacturing workers in Batam, and potentially in similar contexts, should adopt a holistic approach. This approach should combine:

- Traditional financial education to improve individual financial behavior.

- Community-based interventions that leverage positive social influences.
- Strategies to align social norms with sound financial practices for retirement planning.

Future initiatives could focus on creating supportive social environments that encourage good financial behavior and retirement planning. This might include workplace programs that foster positive peer influences, community-wide retirement awareness campaigns, and financial education that addresses both individual skills and social dynamics.

In conclusion, this study highlights the need for nuanced, culturally sensitive approaches to retirement planning that recognize the powerful role of social influence alongside individual financial behavior. Such approaches could significantly enhance the effectiveness of retirement planning initiatives in Batam's manufacturing sector and potentially in similar industrial contexts elsewhere.

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