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An Empirical Study of Investment Pattern of Government Employees of Mumbai and Integrating Green Stocks in Investment

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ABSTRACT

Mumbai, the capital of Maharashtra and India's financial epicenter, ranks among the world's top ten global commerce centers (Sita K, 2012). This dynamic metropolis is the heart of India's financial services and capital markets. As a major transportation hub, Mumbai's port handles a substantial portion of the nation's foreign trade. Its strategic location has cemented Mumbai's role as a vital center for regional trade and commerce. Bombay Stock Exchange (BSE), the National Stock Exchange of India (NSE), and numerous other significant financial institutions, together constitute a key hub for banking and finance in the financial capital, Mumbai, India. Additionally, the paper examined the potential for investing in green stocks, which are shares of companies committed to environmental sustainability. This aligns with the principles of socially responsible investing, a key aspect of the ESG (environmental, social, and governance) movement in Mumbai.

According to a recent SEBI survey, as of December 2021, about 27 % of Indians were financially literate. An empirical study is undertaken, focused on the Central, State and PSU Employees, in the lower cadre, who are staying in Mumbai for over a decade .The study, further examined the Investment pattern of these employees. Investments and Financial Markets are becoming very risk prone and hence the study also focused on the choices made of different financial products, which these employees invested in, and this would give us further insights regarding their financial behaviors and risk appetite.

The study identifies the preferred investment avenues among Central, State, and PSU employees. The analysis and interpretation of the empirical data suggest that government employees prioritize the safety of the principal amount and the potential for good returns when considering investments. They are financially prudent and well-informed about various investment options.

Keywords: Central, State and PSU Employees, Investments, Financial Literacy, Green Investment, ESG.

BACKGROUND OF THE STUDY

The Reserve Bank of India has been actively working to improve the financial literacy of the population. According to the OECD, "to help consumers develop the skills and confidence to become more aware of financial risks and opportunities, make informed choices, know where to seek help, and take effective actions to enhance their financial well-being" (OECD, 2005).

Further as quoted, in the National Center for Financial Education, Report, 2019, "Financial education is the process by which individuals improve their understanding of financial products and concepts. This would be done through information; instruction and/or objective advice develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being and protection." as mentioned in OECD, 2005, and cited in the above report.

Additionally, the NCFE Report (2019) highlights findings from an S&P survey, revealing that India's financial literacy rate stood at 24% in 2015, lower than the BRICS nations' average of 28% and significantly below the European nations' average of 52%.

According to the OECD report (2021), digital identifications (IDs) have empowered economies like India to extend financial support to vulnerable groups and enhance consumers' ability to utilize non-cash payments (IMF, 2020). However, two-thirds of Indian adults lack a sufficient understanding of basic financial concepts, and about more than two thirds of women are financially illiterate. As a result, millions of Indians make poor financial decisions, leading to significant losses and creating an environment that discourages potential users

from entering the capital markets. This not only adversely affects those directly impacted but also deters others from utilizing financial products and services. Therefore, emphasizing financial education is essential to make financial inclusion more meaningful and empowering, ultimately fostering financial well-being for all individuals. It would then be easier to understand all the activities under the gamut of an effective personal finance plan. Personal finance involves obtaining and using funds to achieve personal goals. In the Indian context, managing personal finances entails fulfilling various family duties and obligations through careful planning, addressing both short-term and long-term financial objectives of the family.

LITERATURE REVIEW

The ultimate aim of personal finance is to empower households to lead a financially empowered life, devoid of worries and anxieties, while attaining financial freedom for both oneself and the family, (Creviston, Hashmi, Hoban, & Hoban, 1985). Personal finance encompasses various facets, such as income, expenses—including fixed and variable expenses—and other financial commitments or goal-oriented savings, such as contributions to the National Pension Funds, Housing Loan EMIs, and investments in instruments like PPF and SIP in mutual funds. It also involves making decisions regarding funding sources for real estate purchases and other investments. Personal finance covers all aspects of managing and auditing family finances. This includes planning, budgeting, maintaining financial records, managing income and expenses, personal savings and investments, personal and property insurance, handling personal liabilities and credit, tax planning, retirement planning, and estate planning.

As stated by Shaikh M A et al(2021), as a part of Personal Finance, you draw a Family Financial Plan, after considering your and your partner's current income, savings, expenses, future earnings, insurance, Then you create a few avenues for goal based savings – investments in housing loan (EMI), PPF, other postal schemes, SIPs in Mutual funds etc. Further, M A et al (2021) state, that with a personal family financial plan, one considers both short term, medium term and long-term financial goals; It also includes providing for emergency funds, children's education and their marriage, vacation plans and purchase of real estate. One aspect of Personal finance is also tax management to make use of various tax deductions and exemptions. Efficient tax planning enables us to reduce our tax liability to the minimum. One of the crucial area of personal financial planning is retirement planning and estate planning as mentioned by Shaikh M A(2021).

As stated by Browning and Lusardi 1996, Investment are possible only when at the household level, the savings, are encouraged. Whether there would be meager savings or substantial savings would be based on many factors like financial literacy, the socio-economic status (whether lower, lower and higher middle class); their tendency to save and invest and their financial goals and the availability of various avenues of investment. Chaudhary K and Kamboj S (2010), opine that, the total household income, size of land holdings, spouse participation and low dependency rate have a significantly direct relationship with household savings and increased educational expenditure on children, family size and liabilities reduce the propensity to save of Indians (George & Chandrashekara, 2022)

RESEARCH OBJECTIVES

1. To study the Investment Pattern of Government Employees in Mumbai

2. To study if there is any association between the employees and their investment patterns.

3. To study the factors which affect their Investment decisions

RESEARCH QUESTIONS

- Do employees from different Government (Central/ State/ PSU) have different Investment Purpose?
- Are the investment choices different for different Government Employees?
- Why do employees from different Government (Central/ State / PSU) have different security and preference choices?
- What are the factors that influence Investment for the above-mentioned employees?
- How do the employees view future investment?

Hypothesis

I. Ho: There is no association between Government employees and Investment purpose

Ha: There is an association between Government employees and Investment purpose

II. Ho :There is no association between Government employees and Investment choices

Ha: There is an association between Government employees and Investment choices

III. Ho: There is no an association between Government employees and investment plans

Ha: There is an association between Government employees and investment plans

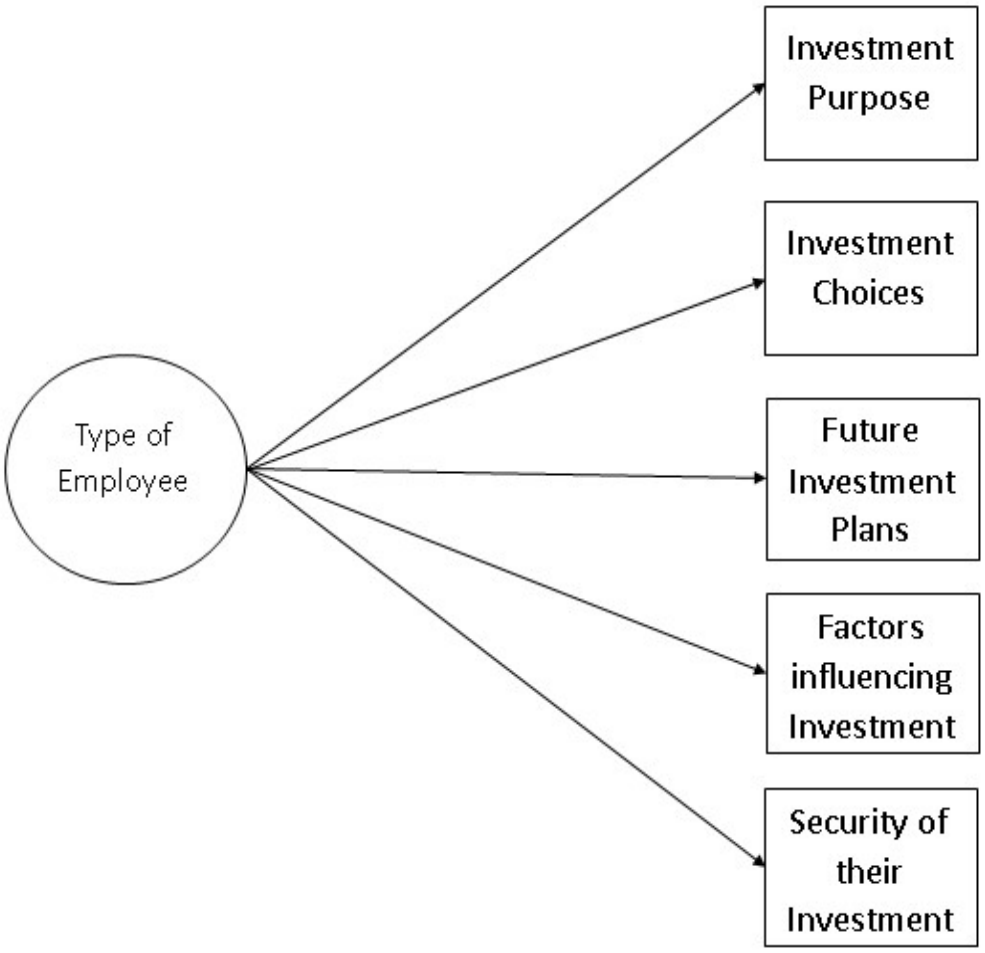
IV. Ho: There is no association between Government employees and the factors, influencing investments.

Ha: There is no association between Government employees and the factors, influencing investments.

V. Ho : There is no association between Government employees and security of their Investment

Ha: There is no association between Government employees and security of their Investment

Tentative Model



METHODOLOGY

A Questionnaire was designed which was focused on a specific demographic profile namely the Central, State and PSU employees in the lowest cadre of the Organization. The employees drawn resided in the city of Mumbai for over a decade. The total number of respondents were 109.

They belong to the following cadre

Central Government	:	Class IV Employees - Peon, Sweepers, Security Guards
State Government	:	Police Constable - Mumbai Police, University of Mumbai - Peons
Municipal Corporation of Mumbai	:	Ward Boys, Aaya in BMC Hospitals
PSU	:	Class IV Employees - Peon, Sweepers, Security Guards

Of BPCL and RCF

Data Analysis Methodology

- Descriptive Statistics
- Inferential Statistics
  - Factor Analysis
  - Cramer's V

Interpretation and Data Analysis

Descriptive Statistics

Data Analysis

Employment details data reveals that, 44 (40.7%) respondents are working in Central Government Banks, while 9 (8.3%) are working in PSU and 55 (50.9%) are working in State Government Bank.

Percentage of Salary set aside for savings purpose, 18 (16.7%) respondents set aside a salary below 10%, 52 (48.1%) set aside a salary between 10-30%, 21 (19.4%) respondents set aside a salary between 30-50%.

Further, 17 (15.7%) set aside salary above 50% for saving purpose.

Data reveals that is the purpose of your savings and investments, data reveal that, 23 (21.3%) save for children's marriage/education, 62 (57.4%) for security for old age, 20 (18.5%) for wealth creation/tax benefits, 3 (2.8%) for education

For the question, What is your preference of Investment? The respondents, 12 (11.1%) preference investment higher return with higher risk, 22 (20.4%) preferred lower risk with lower return, and 61 (56.5%) preferred medium returns with medium risk.

For the question, What are your Saving Avenues, the respondents data analysis revealed , 20 (18.5%) saving source is savings bank deposit f/d, 14 (13%) Public provident fund, 13 (12%) Life Insurance, 11 (10.2%) Mutual fund, 7 (6.5%) Saving bank deposit f/d and Public Provident fund, 9 (8.3%) saving bank deposit and life insurance, 4 (3.7%) saving bank deposit f/d and mutual fund, 1 (0.9%) Public provident fund and life insurance, 7 (6.5%) Public provident fund and mutual fund, 5 (4.6%) Life insurance and mutual fund, 2 (1.9%) savings bank deposit f/d, public provident fund and mutual fund, 1 (0.9%) saving bank deposit f/d, life insurance and mutual fund, and 14 (13%) saving bank deposit f/d, public provident fund, life insurance and mutual fund.

For the question, What factor influences your savings and Investment decision, respondent mentioned 41 (38%) said income/ safety, 33 (30.6%) said safety, 17 (15.7%) Ease of availability, 13 (12%) Tax savings, 4 (3.7%) Liquidity.

For the Question, What type of Investment plan do you prefer, the respondents mentioned, 26 (24.1%) regular return plan, 33 (30.6%) Pension plan, 12 (11.1%) medical plan, 37 (34.3%) multiple options plan.

For the Question, What is the objective of your Investment, respondents said that their objective of investment were, 35 (32.4%) as safety, 22 (20.4%) as liquidity, 41 (38%) Returns, 10 (9.3%) Low risk.

For the Question, What type of Investment you prefer, the respondents, mentioned, 47 (43.5%) preferred long-term investment, 53 (49.1%) preferred medium-term investment, 5 (4.6%) preferred short-term investment, and 3 (2.8%) preferred very short-term investment.

For the Question, How many Insurance policies you have, the respondents, mentioned, 33 (30.6%) have only one investment, 44 (40.7%) have 1-3, 24 (22.2%) have 3-5, 7 (6.5%) have 5 and above.

How frequently do your invest in securities, to which the respondents answered, 20 (18.5%) invested in securities once in a month, 32 (29.6%) invested every month, 33 (30.6%) whenever good, 23 (21.3%) when opportunity comes.

When the respondents were given a choice of Investment vehicles and asked to choose, they preferred the following 24 (22.2%) preferred to do bank deposits, 57 (52.8%) government securities, 14 (13%) in insurance policies, 13 (12%) in others.

When the respondents were asked the factors, which determine their investment, they mentioned the following, 63

(58.3%) choose to invest based on rate of interest, 22 (20.4%) choose on basis of premium, 15 (13.9%) based on

time period, and 8 (7.4%) on none of the above.

Exploratory Factor Analysis

To explore the factorial structure influencing investment decisions, an instrument comprising 11 items underwent exploratory factor analysis with varimax rotation. The Kaiser-Meyer-Olkin measure confirmed sampling adequacy (KMO = .70), while Bartlett's test of sphericity ($\chi 2$ (55) = 144.439, $p < .001$) indicated that the correlation structure was suitable for factor analysis. Employing maximum likelihood factor analysis with a cut-off point of .40 and Kaiser's criterion (eigenvalues greater than one), a five-factor solution emerged as the most suitable, explaining 64.35% of the variance. The results, presented in Table 1, delineate the following factors:

(a) **Investment Purpose:** Encompassing Investment Types, Security Investment, and Investment Purpose, with an eigenvalue of 2.67, accounting for 16.70% of the variance.

(b) **Investment Choice:** Involving Objective, Investment Numbers, Preferred Investment, and Investment Choice, with an eigenvalue of 2.55, explaining 15.94% of the variance.

(c) **Security Investment and Preference:** Encompassing Investment Purpose, Investment Preference, Influence Factors, Security Investment, and Preference, with an eigenvalue of 2.40, explaining 15% of the variance.

(d) **Investment Influence Factor:** Incorporating Investment Percentage and Investment Influence Factor, with an eigenvalue of 2.28, explaining 14.29% of the variance.

(e) **Future Investment:** Involving Future Investment Plan, Investment Choice, and Future Investment, with an eigenvalue of 2.18, explaining 13.62% of the variance.

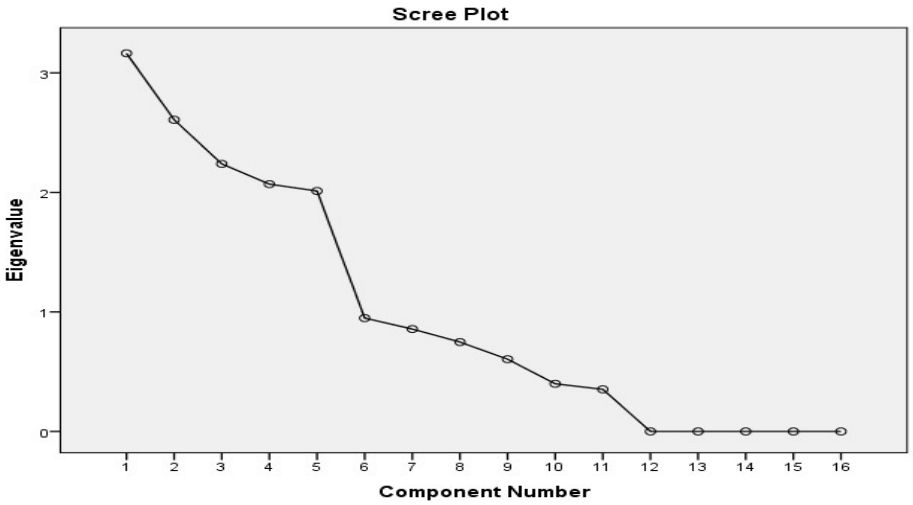


Figure 1 *Factor loading based on EigenValue*

Items	Factors					Dimensions
	1	2	3	4	5	
Investment Types	.723					Investment Purpose
Security Investment	.820					
Investment Purpose	1.00					

Objectives		.672				Investment Choice
No of Investments		.744				
Preferred Investment		.667				
Investment Choice		1.00				
Investment Purpose			.557			Security Investment and Preference
Investment Preference			-.551			
Influence Factors			.815			
Security Investment and Preference			1.00			
Investment Percentage				-.777		Investment Influence Factors
Investment Influence Factors				1.00		
Future Investment Plan					.814	Future Investment
Investment Choice					.609	
Future Investment					1.00	

Cramer's V

Cramér's V is an effect size measurement for the chi-square test of independence. It measures how strongly two categorical fields are associated.

Employee Details	**Measured Variable**	**Degree of Freedom**	**Pearson's Chi Square**	**Significance (*p*)**	**Cramer's V (φc)**
	Investment Percentage	**6**	**25.924**	**0.000**	**0.346**
	Investment Purpose	6	7.038	0.317	0.185
	Investment Preference	6	9.616	0.142	0.211
	Influence Factors	**8**	**21.506**	**0.006**	**0.315**
	Future Investment Plan	**6**	**17.882**	**0.007**	**0.287**
	Objectives	**6**	**22.258**	**0.001**	**0.321**
	Investment Types	6	11.047	0.087	0.226
	Number of Investment	6	10.342	0.111	0.218
	Security Investment	6	10.638	0.1	0.221
	Preferred Investment	**6**	**14.620**	**0.023**	**0.260**

	Investment Choice	6	9.448	0.15	0.209

Analysis and Interpretation of the Data

Employee Details and Investment percentage were found to be significant p (0.01) < 0.05 and moderately associated φc (0.34).

Employee Details and Influence factors were found to be significant p (0.006) < 0.05 and moderately associated φc (0.31)

Employee Details and Future Investment Plan were significant p (0.07) < 0.05 and moderately associated φc (0.28)

Employee Details and Objective were found to be significant p (0.001) < 0.05 and moderately associated φc (0.32)

Employee Details and Preferred Investment was found to be significant p (0.02) < 0.05 and moderately associated φc (0.26)

Employee Details and Investment purpose was found to be insignificant p(0.317) > 0.05 and weakly associated φc (0.18)

Employee Details and Investment preference was found to be insignificant p (0.142) > 0.05 and moderately associated φc (0.21)

Employee Details and Investment types were found to be insignificant p (0.087) < 0.05 and moderately associated φc (0.22)

Employee Details and Number of Investment was found to be insignificant p (0.111) < 0.05 and moderately associated φc (0.21)

Employee Details and Security Investment was found to be insignificant p (0.1) < 0.05 and moderately associated φc (0.22)

Employee Details and Investment Choice was found to be insignificant p (0.15) < 0.05 and moderately associated φc (0.20)

Based on the statistical analysis, the relationship between Employee Details and various investment-related factors can be summarized as follows:

1. ****Employee Details and Investment Percentage**:** There is a statistically significant relationship (p = 0.01) with a moderate association (φc = 0.34). This suggests that specific employee details are moderately linked to how employees allocate their investment percentages.
2. ****Employee Details and Influence Factors**:** The relationship here is also statistically significant (p = 0.006) with a moderate association (φc = 0.31). This indicates that employee details have a moderate impact on the factors that influence their investment decisions.
3. ****Employee Details and Future Investment Plan**:** Although the relationship is statistically significant (p = 0.07), the p-value is very close to the threshold, and the association is moderate (φc = 0.28). This suggests that while there is a connection between employee details and future investment plans, it is less strong compared to the other factors.
4. ****Employee Details and Objectives**:** The relationship is highly significant (p = 0.001) and moderately associated (φc = 0.32). This indicates a moderate but clear link between employee details and their investment objectives.
5. ****Employee Details and Preferred Investment**:** The relationship is statistically significant (p = 0.02) with a moderate association (φc = 0.26). This suggests that employee details moderately influence their preferred types of investments.

CONCLUSION

We find a significant association between employee details, specifically Investment Percentage, Influence, Investment Plan, Investment Objective, and Preferred Investment. Conversely, factors such as Investment Purpose, Investment Preference, Investment Types, Number of Investment types, and Investment choice were deemed insignificant in influencing investment decisions. Furthermore, the study explored the potential of investing in green stocks, which prioritize environmental sustainability. This strategy aligns with the principles of socially responsible investing, a crucial aspect of the Environmental, Social, and Governance (ESG)

movement, particularly pertinent in Mumbai's context. However, the study revealed a lack of awareness regarding investing in green stocks, suggesting a need for educating the investor regarding advantages of investing in green stocks.

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