International Journal of Early Childhood Special Education (INT-JECSE)
DOI:10.9756/INTJECSE/V14I5.304 ISSN: 1308-5581 Vol 14, Issue 05 2022

PERCEPTION ANALYSIS OF ROBO-ADVISORY IN WEALTH MANAGEMENT

Ms Mridula M Menon
Research Scholar, Department of Management Studies; Hindustan Institute of Technology and Science, Chennai, Tamil Nadu 603103, India; Menon.mridula@gmail.com; rp.17772013@student.hindustanuniv.ac.in; +91-9841625983, Orcid Id: 0000-0002-3371-534X

Dr Harihara Sudhan R
Assistant Professor (SG), Department of Management Studies; Hindustan Institute of Technology and Science, Chennai, Tamil Nadu 603103, India; rhsudan@hindustanuniv.ac.in, +91- 9941476098, Orcid Id: 0000-0001-9180-9953

Mr Padmanava Das
Research Scholar, Department of Management Studies; Hindustan Institute of Technology and Science, Chennai, Tamil Nadu 603103, India; ritamz.d2@gmail.com; +91-9894929876; 0000-0002-2828-6077

Abstract:

In recent years, Artificial Intelligence (AI) has made significant improvements in almost every aspect of human life, and it is destined to influence a wide range of job positions and tasks around the globe. The tourism and travel industry, healthcare and pharmaceutical businesses, manufacturing and production companies, telecommunications companies, and educational institutions are adopting artificial intelligence with enthusiasm.

Aiming to describe investors' perceptions of Artificial Intelligence in the form of Robo Advisory in the financial services sector, especially Wealth Management, the paper focuses on Artificial Intelligence and its application to Robo Advisory. The purpose of the study is to determine how investors of different ages, who have different risk appetites, view artificial intelligence in wealth management. Surveys are the primary method that was employed in the study. Questionnaires were specifically designed to address the objectives of the study. As well as evaluating Robo Advisory's advantages and disadvantages in wealth management, the survey will assess the advantages and disadvantages of the technology.

1. Introduction

Breakthroughs in artificial intelligence (AI) have had an impact on nearly every aspect of human existence and are expected to significantly affect various jobs around the globe. The tourism and travel industry, healthcare and pharmaceuticals, manufacturing and production industries, telecommunications, education, and other industries are embracing artificial intelligence.

The financial sector has been transformed by technology to an unprecedented degree. Customers' faith in the traditional paradigm of wealth management services has been steadily eroding. Clients, on the other hand, prefer to engage through goal-based planning, which is complemented by the use of digital technologies to enhance investment management. Through the use of digital technology, as well as a shift in client preferences and spending patterns, the concept of digital advice-based wealth management has emerged. To help their clients

deal with this issue, wealth management firms have been developing AI-based services for delivering timely financial advice at their convenience (Singh & Kaur, 2017).

Investing organizations have recently started to offer financial advisory services utilizing technology like robots. Robo-advisors, as defined by Wikipedia (Ayn, 2019), are digital platforms that provide algorithm-based financial planning services with minimal human oversight. As online financial advice platforms, robo-advisors offer services such as automated portfolio design, asset allocation, online risk assessment, account rebalancing, and risk assessments as well as other digital tools (E&Y Report, 2018). A major benefit of robot financial advisors is the reduction in the need for a human advisor. Software-based apps provide direct access to 100% of the portfolios of consumers. A Robo advisory service is available quickly, at a lower cost, transparently, and fairly compared to human-based financial advice. Robo-advisors have enjoyed great success in the area of asset management in the past couple of years. During the first half of 2017, the top four Robo-advisors successfully handled $128 billion in assets, versus $88 billion in 2015. (E&Y Report, 2018).

2. Review of Literature

Kearney (2015) conducted research with 400 bank-account-holding US consumers aged 18 and up. The author looked at how customers make investment decisions, as well as their awareness of Robo Advisory services, as well as their interest and willingness to use them. According to the findings, Robo Advisory will grow in popularity, and more consumers will easily adapt to digital platforms rather than a physical financial advisor. According to the study, traditional players are expected to reduce their fee structures, resulting in a drop in overall asset management revenue.

Lam (2016) talked about how Robo-Advisors use a mean-variance analysis approach to allocate assets. He showed how exchange-traded funds (ETFs) represent each asset class, emphasising how ETFs contribute to net-of-fee, after-tax, and risk-adjusted portfolio returns, as well as how they use threshold-based rebalancing to preserve investment discipline. The performance of several Robo-Advisors was compared in this study, as well as how they differ from regular advisors.

Rasiwala and Kohli (2019) investigated the amount of awareness and perception of Robo Advisors' use in Portfolio Management services. The interview method was used to conduct the research with 50 investors in Pune, Maharashtra. The study's participants ranged in age from 25 to 45 years old. The study discovered that Indian investors had a higher level of awareness, utilisation, application, and understanding of Robo Advisory services.

3. Research Methodology

This study employed a descriptive research design methodology. To gather data from stock traders and investors, the authors developed a quantitative survey tool (Churchill & Iacobucci, 2006).

4.1 Sample and Setting

This study looked into how investors felt about Robo advisors in wealth management. The responses came from a database of investors, picked at random. The survey includes investors in Tamilnadu, India's Chennai Region. 220 individuals with an adequate to advanced level of asset management knowledge made up the study's full sample. The demographic details of the study's investors are shown in Table 1.

Table 1: Demographics Profile

Demographic Variable	Category	Frequency	Per cent
Gender	Male	181	80.4
	Female	44	19.6
Age	Below 25 years	9	4.0
	25 to 35 years	80	35.6
	35 to 45 years	100	44.4
	45 to 55 years	22	9.8
	Above 55 years	14	6.2
Income	5 to 10 lakhs	45	20.0
	10 to 25 lakhs	139	61.8
	25 to 50 lakhs	28	12.4
	Above 50 lakhs	13	5.8
	Total	225	100.0

Table 1 reveals that male investors (80.4%) made up the majority of study participants, while female investors (only 19.6%) made up the remainder. The gender split is typical for India, where males make up the bulk of investors. The majority of investors (44.4%) were between the ages of 35 and 45, followed by those between the ages of 25 and 35 (35.6%) and 45 and 55 (45.4%). (35.6%). 9.8%). Surprisingly, respondents under the age of 25 (6.2%) and those over the age of 55 (6.2%) were included in the poll (4.0%). According to their yearly income levels (61.8%), the majority of the investor respondents to the study made between 10 and 25 lakhs per year. Following suit were investors with annual incomes of between 5 and 10 lakhs (20.0%), 25 and 50 lakhs (12.4%), and more than 50 lakhs (5.8%).

4.2 Results and Discussion

4.2.1 Duration of Investment

Table 2 provides an analysis of the duration for which the investment is sought. The findings indicate that the majority of investors (66.2 percent) planned to invest for more than 36 months, followed by those interested in investing for 18 to 36 months (21.3 percent). 7.6% of investors were interested in investments with a duration of 3 to 9 months, and another 4% were interested in assets with a duration of 9 to 18 months. Overall, just 0.9% of investors in the research had short-term investment goals (up to 3 months).

Table 2: Duration for which the investment is sought

Duration	Frequency	Per cent
Less than three months	2	0.9
3-9 months	17	7.6
9-18 months	9	4.0
18-36 months	48	21.3
Above 36 months	149	66.2
Total	225	100.0

4.2.2 Knowledge in Investment

Data about the investor's understanding of the investments were gathered for the study. It is evident from Table 3 that the majority of investors (58.2%) have Moderate Knowledge of investments. Only 5.8% of investors in the research reported having limited knowledge of investing, compared to about 36.0% of investors who claimed to have extensive knowledge.

Table 3: Knowledge in Investment

Knowledge Level	Frequency	Per cent
Limited Knowledge	13	5.8
Moderate Knowledge	131	58.2
Extensive Knowledge	81	36.0
Total	225	100.0

4.2.3 Investment objectives

Investment objectives are a measure of an investor's philosophy of making investments as shown in Table 4. Investments are usually motivated by growth-oriented factors (56.4%). Growth & Income was cited as a motivation by 26.2%. Interestingly, 4.4% of investors were investing for defensive, growth, and specialist purposes. However, only 2.2% and 1.8% of investors were solely focusing on income and safety..

Table 4: Investment Objectives

Investment objectives	Frequency	Per cent
Safety	5	2.2
Defensive	10	4.4
Income Oriented	4	1.8
Growth & Income	59	26.2
Growth Oriented	127	56.4
Growth	10	4.4
Specialist Investing	10	4.4
Total	225	100.0

4.2.4 Investment Portfolio

An analysis of the investors' investment portfolio (Table 5) shows exciting insights. There is a majority interest in Equity funds (56%) followed by Balanced funds (18.7%), Shares, commodity trading, etc. (12.4%), Fixed deposits only (9.8%) and Debt funds (3.1%).

Table 5: Investment Portfolio

Investment Portfolio	Frequency	Per cent
Fixed deposits only	22	9.8
Debt funds	7	3.1
Balanced funds	42	18.7
Equity funds	126	56.0
	28	12.4
Total	225	100.0

4.2.5 Robo Advisory as an Alternative to Personal Wealth Advisors

Robo Advisory is deemed the best alternative to Personal Wealth Advisors by 30.7% of the investors (Table 6). Robo Advisory may become a viable alternative to Personal Wealth Advisors in the future, according to 42.2% of investors. However, 27.1% of respondents disagreed with the idea that Robo Advisory will serve as an alternative to Personal Wealth Advisors in the future.

Table 6: Robo Advisory as an Alternative to Personal Wealth Advisors

Applicability	Frequency	Per cent
Yes	69	30.7
No	61	27.1
Maybe	95	42.2
Total	225	100.0

4.2.6 Tentative Time Taken to Replacement

Study participants were asked how far they thought Robo Advisors would have to go to replace human advisors in wealth management. Nevertheless, the majority of respondents, 36.9% of investors, believe Robo Advisors won't replace human counterparts until ten years from now (Table 7). 28.4% of investors believed Robo Advisors would reach the mainstream in 5 to 10 years, while another 18.7% thought they would reach the mainstream in 3 to 5 years. In a three-year period, only 16.0% of investors believed that robots would replace human advisors.

Table 7: Tentative Time Taken to Replacement

Time to Replacement	Frequency	Per cent
In 3 years from now	36	16.0
3 to 5 years	42	18.7
5 to 10 years	64	28.4
Beyond 10 years	83	36.9
Total	225	100.0

4.2.7 Robo Advisory as a game-changer

According to the sample of investors, 56.0% believe Robo Investment Advisory is only intended for a niche set of investors. As opposed to this, 27.1% of investors believe that most investors will move to Robo Advisory. Conversely, 16.9% of those polled believe Robo Advisory is unlikely to have an effect on investors..

Table 8: Robo Advisory as a game-changer

Robo Advisory as a game-changer	Frequency	Per cent
The majority of investors will move to Robo Advisory	61	27.1
Limited to a niche set of investors	126	56.0
Unlikely that Robo Advisory will influence investors	38	16.9
Total	225	100.0

4.3 Hypothesis Testing

Hypothesis 1: There is no significant difference between the gender of investors and the duration of their investment.
Hypothesis 2: There is no significant difference between the age group of investors and the investment duration.
Hypothesis 3: There is no significant difference between the income level of investors and the duration of the investment.
Hypothesis 4: There is no significant difference between the gender of investors and their investment knowledge.
Hypothesis 5: There is no significant difference between the age group of investors and their investment knowledge.
Hypothesis 6: There is no significant difference between investors' income and investment knowledge.
Hypothesis 7: There is no significant difference between the gender of the investors and the scope of Robo advisory.
Hypothesis 8: There is no significant difference between the age group of the investors and the scope of Robo advisory.
Hypothesis 9: There is no significant difference between the income of investors and the scope of Robo advisory.
Hypothesis 10: There is no significant difference between the gender of investors and their Preference toward he Robo advisor.
Hypothesis 11: There is no significant difference between the age group of investors and Their preference towards the Robo advisor.
Hypothesis 12: There is no significant difference between the income of investors and their Preference towards the Robo advisor.
Hypothesis 13: There is no significant difference between the gender of investors and factors Influencing the application of Robo advisory in investments.
Hypothesis 14: There is no significant difference between the age group of the investors and the factors Influencing the application of Robo advisory in investments.
Hypothesis 15: There is no significant difference between the income of the investors and the factors Influencing the application of Robo advisory in investments.

Hypothesis 1: There is no significant difference between the gender of investors and the duration of their investment.

Chi-Square Analysis was conducted to test the hypothesis (Table 9).

Table 9: Chi-square Analysis between Gender and Duration of Investment

Duration of Investment	Gender			Chi-Square	p-value
	Male	Female	Total		
Less than 3 months	2 (100.00%) [1.10%]	0 (0.00%) [0.00%]	2 (100.00%) [0.90%]	18.181	0.00**
3-9 months	7 (41.20%) [3.90%]	10 (58.80%) [22.70%]	17 (100.00%) [7.60%]		
9-18 months	9 (100.00%) [5.00%]	0 (0.00%) [0.00%]	9 (100.00%) [4.00%]		
18-36 months	36 (75.00%) [19.90%]	12 (25.00%) [27.30%]	48 (100.00%) [21.30%]		

Above 36 months	127 (85.20%) [70.20%]	22 (14.80%) [50.00%]	149 (100.00%) [66.20%]		
Total	181 (80.40%) [100.00%]	44 (19.60%) [100.00%]	225 (100.00%) [100.00%]		

Note 1. the value within () refers to Row Percentage
2. The value within [] refers to Column Percentage
3. ** Denotes significance at a 1% level

Table 9 shows that the p-value is less than 0.01; thus, the Null Hypothesis is rejected at the 1% level. Therefore, there is a significant difference (χ^2 (1) = 18.181; p<0.05) between male and female investors in the duration of the investment.

Hypothesis 2: There is no significant difference between the age group of investors and the investment duration.

Chi-Square Analysis was conducted to test this hypothesis (Table 10).

Table 10: Chi-square Analysis between Age and Duration of Investment

Duration of investment	**Age**					**Total**	**Chi-Square**	**p-value**
	Below 25 years	**25 to 35 years**	**35 to 45 years**	**45 to 55 years**	**Above 55 years**			
Less than 3 months	0 (0.00%) [0.00%]	0 (0.00%) [0.00%]	2 (100.00%) [2.00%]	0 (0.00%) [0.00%]	0 (0.00%) [0.00%]	2 (100.00%) [0.90%]	129.698	0.00**
3-9 months	9 (52.90%) [100.00%]	5 (29.40%) [6.30%]	3 (17.60%) [3.00%]	0 (0.00%) [0.00%]	0 (0.00%) [0.00%]	17 (100.00%) [7.60%]		
9-18 months	0 (0.00%) [0.00%]	3 (33.30%) [3.80%]	2 (22.20%) [2.00%]	2 (22.20%) [9.10%]	2 (22.20%) [14.30%]	9 (100.00%) [4.00%]		
18-36 months	0 (0.00%) [0.00%]	20 (41.70%) [25.00%]	18 (37.50%) [18.00%]	8 (16.70%) [36.40%]	2 (4.20%) [14.30%]	48 (100.00%) [21.30%]		
Above 36 months	0 (0.00%) [0.00%]	52 (34.90%) [65.00%]	75 (50.30%) [75.00%]	12 (8.10%) [54.50%]	10 (6.70%) [71.40%]	149 (100.00%) [66.20%]		
Total	9 (4.00%) [100.00%] 4.00%	80 (35.60%) [100.00%] 35.60%	100 (44.40%) [100.00%] 44.40%	22 (9.80%) [100.00%] 9.80%	14 6.20%) [100.00%] 6.20%	225 100.00%) [100.00%] 100.00%		

Note 1. the value within () refers to Row Percentage
2. The value within [] refers to Column Percentage
3. ** Denotes significance at a 1% level

Table 10 shows that the p-value is less than 0.01; thus, the Null Hypothesis is rejected at the 1% level. Therefore, there is a significant difference (χ^2 (4) = 129.698; p<0.01) between investors of different ages in the duration of the investment.

Hypothesis 3: There is no significant difference between the income level of investors and the duration of the investment.

Chi-Square Analysis was conducted to test this hypothesis (Table 11).

Table 11: Chi-square Analysis between Income and Duration of Investment

Duration of Investment	Income				Total	Chi-Square	p-value
	5 to 10L	10 to 25L	25 to 50L	Above 50L			
Less than three months	0 (.0%) .0% .0%	2 (100.0%) 1.4% .9%	0 (.0%) .0% .0%	0 (.0%) .0% .0%	2 (100.0%) .9% .9%	38.797	0.000**
3-9 months	6 (35.3%) 13.3% 2.7%	11 (64.7%) 7.9% 4.9%	0 (.0%) .0% .0%	0 (.0%) .0% .0%	17 (100.0%) 7.6% 7.6%		
9-18 months	7 (77.8%) 15.6% 3.1%	0 (.0%) .0% .0%	0 (.0%) .0% .0%	2 (22.2%) 15.4% .9%	9 (100.0%) 4.0% 4.0%		
18-36 months	7 (14.6%) 15.6% 3.1%	35 (72.9%) 25.2% 15.6%	6 (12.5%) 21.4% 2.7%	0 (.0%) .0% .0%	48 (100.0%) 21.3% 21.3%		
Above 36 months	25 (16.8%) 55.6% 11.1%	91 (61.1%) 65.5% 40.4%	22 (14.8%) 78.6% 9.8%	11 (7.4%) 84.6% 4.9%	149 (100.0%) 66.2% 66.2%		
Total	45 (20.0%) 100.0% 20.0%	139 (61.8%) 100.0% 61.8%	28 (12.4%) 100.0% 12.4%	13 (5.8%) 100.0% 5.8%	225 (100.0%) 100.0% 100.0%		

Note 1. the value within () refers to Row Percentage
2. The value within [] refers to Column Percentage
3. ** Denotes significance at a 1% level

Table 11 shows that the p-value is less than 0.01; thus, the Null Hypothesis is rejected at the 1% level. Therefore, there is a significant difference (χ^2 (3) = 38.797; p<0.05) between investors with different income levels on the duration of the investment.

Hypothesis 4: There is no significant difference between the gender of investors and their investment knowledge.

Chi-Square Analysis was conducted to test this hypothesis (Table 12).

Table 12: Chi-square Analysis between Gender and Investment Knowledge

Investment knowledge	Gender		Total	Chi-Square	p-value
	Male	Female			
Limited Knowledge	8 (61.5%) [4.4%] 3.6%	5 (38.5%) [11.4%] 2.2%	13 (100.0%) [5.8%] 5.8%	4.355	0.113
Moderate Knowledge	110 (84.0%) [60.8%] 48.9%	21 (16.0%) [47.7%] 9.3%	131 (100.0%) [58.2%] 58.2%		
Extensive Knowledge	63 (77.8%) [34.8%] 28.0%	18 (22.2%) [40.9%] 8.0%	81 (100.0%) [36.0%] 36.0%		
Total	181 (80.4%) [100.0%] 80.4%	44 (19.6%) [100.0%] 19.6%	225 (100.0%) [100.0%] 100.0%		

Note 1. the value within () refers to Row Percentage
2. The value within [] refers to Column Percentage

Table 12 shows that the p-value is more significant than 0.05; thus, the Null Hypothesis is accepted. Therefore, there is no significant difference (χ^2 (1) = 4.355; p>0.05) between male and female investors in their level of investment knowledge.

Hypothesis 5: There is no significant difference between the age group of investors and their investment knowledge.

Chi-Square Analysis was conducted to test this hypothesis (Table 13).

Table 13: Chi-square Analysis between Age and Investment knowledge

Investment knowledge	Age					Total	Chi-Square	p-value
	Less than 25 years	25 to 35 years	35 to 45 years	45 to 55 years	Above 55 years			
Limited Knowledge	0 (.0%) [.0%] .0%	11 (84.6%) [13.8%] 4.9%	0 (.0%) [.0%] .0%	2 (15.4%) [9.1%] .9%	0 (.0%) [.0%] .0%	13 (100.0%) [5.8%] 5.8%	28.447	0.000**
Moderate Knowledge	9 (6.9%) [100.0%] 4.0%	38 (29.0%) [47.5%] 16.9%	61 (46.6%) [61.0%] 27.1%	11 (8.4%) [50.0%] 4.9%	12 (9.2%) [85.7%] 5.3%	131 (100.0%) [58.2%] 58.2%		
Extensive Knowledge	0 (.0%) [.0%] .0%	31 (38.3%) [38.8%] 13.8%	39 (48.1%) [39.0%] 17.3%	9 (11.1%) [40.9%] 4.0%	2 (2.5%) [14.3%] .9%	81 (100.0%) [36.0%] 36.0%		
Total	9 (4.0%) [100.0%] 4.0%	80 (35.6%) [100.0%] 35.6%	100 (44.4%) [100.0%] 44.4%	22 (9.8%) [100.0%] 9.8%	14 (6.2%) [100.0%] 6.2%	225 (100.0%) [100.0%] 100.0%		

Note 1. the value within () refers to Row Percentage
2. The value within [] refers to Column Percentage
3. ** Denotes significance at a 1% level

Table 13 shows that the p-value is less than 0.01; thus, the Null Hypothesis is rejected at the 1% level. Therefore, there is a significant difference (χ^2 (4) = 28.447; p<0.01) between investors of different ages in their level of investment knowledge.

Hypothesis 6: There is no significant difference between investors' income and investment knowledge.

Chi-Square Analysis was conducted to test this hypothesis (Table 14).

Table 14: Chi-square Analysis between Income and Investment knowledge

Investment knowledge	Income				Total	Chi-Square	p-value
	5 to 10L	10 to 25L	25 to 50L	Above 50L			
Limited Knowledge	6 (46.2%) [13.3%] 2.7%	5 (38.5%) [3.6%] 2.2%	2 (15.4%) [7.1%] .9%	0 (.0%) [.0%] .0%	13 (100.0%) [5.8%] 5.8%	11.458	0.075
Moderate Knowledge	30 (22.9%) [66.7%] 13.3%	79 (60.3%) [56.8%] 35.1%	14 (10.7%) [50.0%] 6.2%	8 (6.1%) [61.5%] 3.6%	131 (100.0%) [58.2%] 58.2%		
	9	55	12	5	81		

Investment knowledge	Income				Total	Chi-Square	p-value
	5 to 10L	10 to 25L	25 to 50L	Above 50L			
Extensive Knowledge	(11.1%) [20.0%] 4.0%	(67.9%) [39.6%] 24.4%	(14.8%) [42.9%] 5.3%	(6.2%) [38.5%] 2.2%	(100.0%) [36.0%] 36.0%		
Total	45 (20.0%) [100.0%] 20.0%	139 (61.8%) [100.0%] 61.8%	28 (12.4%) [100.0%] 12.4%	13 (5.8%) [100.0%] 5.8%	225 (100.0%) [100.0%] 100.0%		

Note 1. the value within () refers to Row Percentage
2. The value within [] refers to Column Percentage

The Null Hypothesis is accepted since the p-value is greater than 0.05, as seen in Table 14. As a result, there is no significant variation in investment knowledge across investors with different income levels (2 (3) = 11.458; p>0.05).

Hypothesis 7: There is no significant difference between the gender of the investors and the scope of Robo advisory.

This hypothesis was tested using an Independent Sample t-test (Table 15), with gender as the independent variable and the Scope of Robo Advisory as of the dependent variable.

Table 15: Independent Sample t-test between Gender and Scope of Robo Advisory

	Gender	N	Mean	Std. Deviation	t-value	p-value
Scope of Robo Advisory	Male	181	3.13	0.72	4.681	0.00
	Female	44	3.72	0.78		

Table 15 reveals that the p-value is less than 0.01; consequently, at the 1% level, the Null Hypothesis is rejected. As a result, there is a significant difference (t=4.681, p0.01) in the breadth of Robo advice between male and female investors.

Hypothesis 8: There is no significant difference between the age group of the investors and the scope of Robo advisory.

To test this hypothesis (Table 16), a one-way ANOVA test was used using the investors' Age group as the independent variable and the Scope of Robo Advisory as of the dependent variable.

Table 16: One way ANOVA between Age and Scope of Robo Advisory

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.817	4	2.204	3.935	0.004
Within Groups	123.246	220	.560		
Total	132.062	224			

Table 16 reveals that the p-value is less than 0.01; consequently, at the 1% level, the Null Hypothesis is rejected. As a result, there is a significant difference (F=3.935, p0.01) in the extent of Robo advice amongst investors of various ages.

Hypothesis 9: There is no significant difference between the income of investors and the scope of Robo advisory.

This hypothesis was tested using a one-way ANOVA test (Table 17), with the level of investment income as the independent variable and the scope of Robo Advisory as the dependent variable.

Table 17: One way ANOVA between Income and Scope of Robo Advisory

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.440	3	.147	0.246	0.864
Within Groups	131.623	221	.596		
Total	132.062	224			

The Null Hypothesis is accepted because the p-value is greater than 0.05, as seen in Table 17. As a result, there is no significant difference in the breadth of Robo advice for investors with different incomes (F=0.246, p>0.05).

Hypothesis 10: There is no significant difference between the gender of investors and their preference toward the Robo advisory

This hypothesis was tested using an Independent Sample t-test (Table 15), with gender as the independent variable and preference for Robo Advisory as of the dependent variable. Cost savings, the ability to examine and analyse a larger range of data, the elimination of human judgement and inaccuracy, and the ease of investing were all used to gauge interest in Robo Advisory.

Table 18: Independent Sample t-test between Gender and Preference towards Robo Advisory

Preference toward Robo Advisory	**Gender**	**N**	**Mean**	**Std. Deviation**	**t-value**	**p-value**
Cost reduction	Male	181	3.72	1.00	0.781	0.435
	Female	44	3.59	0.95		
Potential to evaluate and analyse a more extensive set of data	Male	181	4.08	0.84	0.871	0.385
	Female	44	3.95	0.83		
Avoid human judgment and error	Male	181	3.91	0.98	0.561	0.575
	Female	44	3.82	1.11		
Ease of investment	Male	181	3.76	0.97	1.308	0.192
	Female	44	3.55	1.07		

Table 18 reveals that all of the variables, such as cost reduction, potential to assess and analyse a larger set of data, avoiding human judgement and error, and ease of investment, have p-values greater than 0.05. For all four variables, the Null Hypothesis is thus accepted. As a result, there is no substantial variation in Preference for Robo Advisory between male and female investors.

Hypothesis 11: There is no significant difference between the age group of investors and their preference toward the Robo advisory

To test this hypothesis, a one-way ANOVA t-test was used with age as the independent variable and preference for Robo Advisory as of the dependent variable (Table 19). Cost savings, the ability to examine and analyse a larger range of data, the elimination of human judgement and inaccuracy, and the ease of investing were all used to gauge interest in Robo Advisory.

Table 19: One way ANOVA between Age and Preference towards Robo Advisory

Preference toward Robo Advisory		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Cost reduction	Between Groups	1.926	4	0.481	0.487	0.745
	Within Groups	217.470	220	0.988		
	Total	219.396	224			
Potential to evaluate and analyse a a more extensive set of data	Between Groups	.239	4	0.060	0.084	0.987
	Within Groups	157.121	220	0.714		
	Total	157.360	224			
Avoid human judgment and error	Between Groups	4.112	4	1.028	1.021	0.397
	Within Groups	221.444	220	1.007		
	Total	225.556	224			
Ease of investment	Between Groups	8.141	4	2.035	2.098	0.082
	Within Groups	213.421	220	0.970		
	Total	221.562	224			

Table 19 reveals that all of the variables, such as cost reduction, the potential to assess and analyse a larger set of data, avoiding human judgement and error, and ease of investment, have p-values greater than 0.05. For all four variables, the Null Hypothesis is thus accepted. As a result, there is no discernible variation in preference for Robo Advisory among investors of various ages.

Hypothesis 12: There is no significant difference between the income of investors and their preference toward the Robo advisory

This hypothesis was tested using a one-way ANOVA t-test (Table 20), with investment income as the independent variable and preference for Robo Advisory as of the dependent variable. Cost savings, the ability to examine and analyse a larger range of data, the elimination of human judgement and inaccuracy, and the ease of investing were all used to gauge interest in Robo Advisory.

Table 20: One way ANOVA between Income and Preference towards Robo Advisory

Preference toward Robo Advisory		Sum of Squares	df	Mean Square	F	Sig.
Cost reduction	Between Groups	4.135	3	1.378	1.415	0.239
	Within Groups	215.261	221	0.974		
	Total	219.396	224			
Potential to evaluate and analyse a more extensive set of data	Between Groups	6.592	3	2.197	3.221	0.024
	Within Groups	150.768	221	0.682		
	Total	157.360	224			
Avoid human judgment and error	Between Groups	8.750	3	2.917	2.973	0.033
	Within Groups	216.806	221	0.981		
	Total	225.556	224			
Ease of investment	Between Groups	3.446	3	1.149	1.164	0.324
	Within Groups	218.116	221	0.987		
	Total	221.562	224			

Table 20 demonstrates that for the variables Cost reduction and Ease of investing, the p-value is greater than 0.05. For all four variables, the Null Hypothesis is thus accepted. The p-value for factors like the Potential to review and analyse a larger set of data (F=3.221, p=0.024) and avoid human judgement and mistakes (F=2.973, p=.0.33), on the other hand, is less than 0.05. As a result, there is a considerable variation in Preference for Robo Advisory amongst investors with different incomes on characteristics including the Potential to review and analyse a larger range of data and prevent human judgement and error.

Hypothesis 13: There is no significant difference between the gender of investors and factors influencing the application of Robo advisory in investments.

To test this hypothesis (Table 21), an Independent Sample t-test was used with gender as the independent variable and Factors Influencing the Use of Robo Advisory in Investments as the dependent variable. Four categories were used to assess the factors impacting the use of Robo Advisory in investments: "Additional tool rather than a replacement for Wealth Advisors," "Applicability," "Lack of Emotional Support," and "Human Interactions in Decision Making."

Table 21: Independent Sample t-test between Gender and Factors influencing Application of Robo Advisory in Investments

Factors influencing the Application of Robo Advisory in Investments	Gender	N	Mean	Std. Deviation	t-value	p-value
Additional tool instead of replacement for Wealth Advisors	Male	181	3.50	.827	.298	0.766
	Female	44	3.45	.951		
Applicability	Male	181	2.83	.969	-2.921	0.004
	Female	44	3.32	1.052		
Lack of Emotional Support	Male	181	3.80	1.177	.933	0.352
	Female	44	3.61	1.083		
Human Interactions in Decision Making	Male	181	1.97	.885	-1.504	0.134
	Female	44	2.20	1.047		

For all variables except Applicability, the p-value is more than 0.05, as shown in Table 21. As a result, the Null Hypothesis is accepted for all variables, including "Lack of Emotional Support," "Human Interactions in Decision Making," and "Additional tool rather than a substitute for Wealth Advisors." However, the p-value for "Applicability" is less than 0.05 “. As a result, the null hypothesis is rejected, and there is a significant difference in "Applicability" between male and female employers.

Hypothesis 14: There is no significant difference between the age group of the investors and factors influencing the application of Robo advisory in investments.

To test this hypothesis (Table 22), a one-way ANOVA t-test was used with the age of investors as the independent variable and Factors Influencing the Use of Robo Advisory in Investments as the dependent variable. Four categories were used to assess the factors impacting the use of Robo Advisory in investments: "Additional tool rather than a replacement for Wealth Advisors," "Applicability," "Lack of Emotional Support," and "Human Interactions in Decision Making."

Table 22: One way ANOVA Analysis between Age and Factors influencing Application of Robo Advisory in Investments

Factors influencing the Application of Robo Advisory in Investments		Sum of Squares	df	Mean Square	F	Sig.
Additional tool instead of replacement for Wealth Advisors	Between Groups	.853	4	.213	0.291	0.884
	Within Groups	161.369	220	.733		
	Total	162.222	224			
Applicability	Between Groups	11.404	4	2.851	2.938	0.021
	Within Groups	213.458	220	.970		
	Total	224.862	224			
Lack of Emotional Support	Between Groups	2.408	4	.602	0.443	0.777
	Within Groups	298.632	220	1.357		
	Total	301.040	224			
Human Interactions in Decision Making	Between Groups	20.693	4	5.173	6.725	0.000
	Within Groups	169.236	220	.769		
	Total	189.929	224			

Table 20 reveals that the p-value for variables like "Additional tool instead of replacement for Wealth Advisors" and "Lack of Emotional Support" is greater than 0.05. As a result, the Null Hypothesis is accepted for both of these variables. The p-value for factors like "Applicability" (F=2.938, p=0.021) and "Human Interactions in Decision Making" (F=6.725, p=0.000) is less than 0.05. As a result, there is a considerable difference in the factors influencing the application of Robo Advisory in Investments across investors of various ages on variables such as "Applicability" and "Human Interactions in Decision Making."

Hypothesis 15: There is no significant difference between the investors' income and factors influencing the application of Robo advisory in investments.

As demonstrated in Table 23, all of the factors in Factors Influencing the Application of Robo Advisory in Investments have a p-value larger than 0.05. As a result, income is unaffected by the variables "Additional tool rather than a substitute for Wealth Advisors," "Applicability," "Lack of Emotional Support," and "Human Interactions in Decision Making." As a result, the Null Hypothesis is accepted for all of these variables.

Table 23: One way ANOVA Analysis between Income and Factors influencing Application of Robo Advisory in Investments

Factors influencing the Application of Robo Advisory in Investments		Sum of Squares	df	Mean Square	F	Sig.
Additional tool instead of replacement for Wealth Advisors	Between Groups	3.304	3	1.101	1.532	0.207
	Within Groups	158.918	221	.719		
	Total	162.222	224			
Applicability	Between Groups	2.419	3	.806	0.801	0.494
	Within Groups	222.443	221	1.007		
	Total	224.862	224			
Lack of Emotional Support	Between Groups	3.683	3	1.228	0.912	0.436
	Within Groups	297.357	221	1.346		
	Total	301.040	224			
Human Interactions in Decision Making	Between Groups	2.865	3	.955	1.128	0.338
	Within Groups	187.064	221	.846		
	Total	189.929	224			

All of the factors in Factors Influencing the Application of Robo Advisory in Investments have a p-value greater than 0.05, as shown in Table 23. As a result, the variables "Additional tool rather than a substitute for Wealth Advisors," "Applicability," "Lack of Emotional Support," and "Human Interactions in Decision Making do not affect income. As a result, for all of these variables, the Null Hypothesis is accepted.

5. Major Findings

The study looked at how investors felt about the use of Robo Advisory in wealth management. The authors recruited 225 investors in the Chennai Region of Tamilnadu, India, to participate in this study. The respondents were found to have moderately higher financial and wealth management expertise, according to the researchers. Investors primarily invested in Growth-Oriented, Growth-and-Income-based portfolios, according to the overall results. The bulk of the investors in the research was interested in "Equity funds," followed by "Balanced funds" and "Shares, commodity trading, and other assets." "Robo Advisory will operate as an Alternative to Personal Wealth Advisors," the majority of investors believe. Investors in the study estimate that it will take at least five years to completely rebuild the system.

The Chi-square test reveals that male investors prefer to invest for a longer period than female investors (preferably above 18 months). Female investors, on the other hand, favour short-term investments (3–9 months). Investors between the ages of 25 and 35, as well as those between the ages of 35 and 45, prefer to make long-term investments of more than 36 months. Long-term investments of more than 36 months are more appealing to investors with income between 10 and 25 L and 25 to 50 L. Investors with income under 10L, on the other hand, favour short-term investments (9-18 months).

Male investors had a higher level of investment knowledge than female investors, according to the survey. Overall, investors between the ages of 35 and 45 have moderate to higher learning than those between the ages of 35 and 45. The majority of investors with a net worth of more than $10 million have more in-depth knowledge than those with a net worth of less than $10 million.

The biggest reason for choosing Robo Advisory was its "Potential to review and analyse a wider range of data," followed by "Avoid human judgement and error" and "Ease of Investment," according to the report.

Investors did not differ considerably on the key Preference criteria towards Robo Advisory based on demographic parameters such as gender and age. However, there is a considerable variation in Preference for Robo Advisory amongst investors with different income levels when it comes to the "Potential to review and analyse a wider range of data" and "Avoid human judgement and inaccuracy."

Except for "Applicability," the results demonstrate no substantial difference between male and female investors on most of the "Factors Influencing Application of Robo Advisory in Investments." Similarly, the parameters "Applicability" and "Human Interactions in Decision Making" differ significantly between investors of different ages. Investors of various income levels did not differ significantly in their views on all of the factors influencing the use of Robo Advisory in investments.

6. Implications

The findings of this study have several consequences for key stakeholders such as investors who aim to use Robo Advisory in wealth management and companies who build and develop Robo Advisory applications for wealth management and investment firms.

7. Limitation and Future Research

There are certain drawbacks to this study. For starters, the study only included a small number of investors from Tamilnadu's Chennai region. Although the respondents were chosen at random, the sample size was limited (225). In addition, the study only looked at a few key variables, such as the scope of Robo-advice, preference for Robo-advice, and factors impacting the use of Robo-advice in investments. Gender, age, and income were also evaluated as demographic variables. As a result, huge sample sizes are scattered across different locations and additional variables may be used in the future to examine investors' attitudes toward Robo Advisory in wealth management.

8. References

- Ayn, D. J. (2019). Robo-advisors and Artificial Intelligence – Comparing 5 Current Apps. Retrieved from https://emerj.com/ai-application-comparisons/robo-advisors-artificial-intelligence-comparing-5-current-apps/.
- Churchill, G. A., & Iacobucci, D. (2006). *Marketing research: methodological foundations*. New York: Dryden Press.
- E&Y Report (2018). The evolution of the Robo-advisors and Advisor 2.0 model. The future of investment management and financial advisory.
- Hussein, Z. (2019). *Rise of Markaz Robo-advisor: a digital portfolio planner tool.* Report of Kuwait Financial Centre KPSC.
- Kearney, A. T. (2015). Robo-Advisory Services Study. *AT Kearny Report*.
- Lam, J. W. (2016). Robo-advisors: A portfolio management perspective. *The distinction in the Major thesis, Yale College*.
- Rasiwala, F., & Kohli, B. (2019). A Study on the Awareness and Perception of Robo Advisory Services among Investors in Pune City. In *Proceedings of 10th International Conference on Digital Strategies for Organizational Success*.
- Renaux, M., C., Rudnicki, M., beniere, A., and Lorain, F. (2019). *How will Robo-advisors reshape asset management?* Initio Report.

Singh, I., & Kaur, N. (2017). Wealth management through Robo advisory. *International Journal of Research-Granthaalayah*, *5*(6), 33-43.