

Machine-Learning in Wealth Management - A Study on Investor's Preference for Artificial Intelligence in the Field of Wealth Management

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Introduction

Increasing use of artificial intelligence in all spheres has changed the working styles of human beings, giving them the ease of carrying out the activities. From travel, health, education, communication and other related fields, now you can see it entering wealth management. A vast number of companies in the wealth management sector have adopted artificial intelligence based services for their clients in order to deliver timely advice on investment, as per their convenience. These services are quickly accessible, cheaper, transparent, unbiased and accurate in terms of their data. Since these advisory services are being provided by machines, as opposed to their traditional human counterparts, they have been dubbed "Robo – advisors". The present study gives a glimpse of the evolution of the Robo-advisory model, its features and its future potential in the wealth management sector. Primary data was collected from a random selection of 50 investors belonging to different stock holding companies in Bangalore. From the collected data, we have tried to analyse how artificial intelligence has impacted Wealth advisory management in India. Further, the study also reveals whether the investors prefer traditional advisory sources or machine-based advice in managing their portfolios, or if they prefer hybrid models. At present, though the use of machine-advisors is relatively small, it has immense potential to expand in the future. Though they require higher investment in the initial stages, they prove to be cost effective in the long run as they save the cost of human advisors. Decision making gets easier, since it is based on systematic and quantitative research. This paper tries to highlight the potential of Artificial intelligence in wealth management and also discusses its present status and future prospects.

Hybrid Wealth Advisory

Today, there are plenty of hybrid advisory models which are typically characterized by digital platforms used by the client alongside an advisor, brokerage, or robot-account that provides a periodic meeting with a Certified Financial Planner. Looking ahead, hybrid models would likely do more than simply combine these elements—technology and human advice under the same banner. Hybrid models, generally speaking, allows for semi-dedicated relationships to exist with human validation of digital advice. Emerging Wealthy and High Net Worth investors nowadays prefer the option for self-directed investing. This requires a robust digital platform to provide an environment for consolidating data to make informed decisions. When clients have higher expectation from digital tools, investment firms should match it with providing more control to their clients to make investment decisions, balancing it with human advisors as decision validators. This can help in laying the foundation for a “highly-differentiated experience”, enabling regular and continuous interactions rather than periodic discussions with investment advisors. It can enable firms to implement innovative business models. Advisors with a differentiated value propositions could still command high fees for their services. According to our research, Indians are slightly less cost conscious than investors in the United States. 44% Indian investors say they value a company that will save them time over a company that charges lower fees. (The same statistic is 55% in the United States). Fee structures that highlights “pay-by-the drink” options offering a choice of flat rate coupled with extra fees for service options or a true “a la carte” model which appears to be prominent with investors and could represent a fit for hybrid advice. These options enable the firms to alleviate investor’s concerns over cost while improving transparency. In India, more than half of survey participants (53%) said they would prefer a flat fee with additional costs for add-ons. Only 17 percent preferred a commission-based model, while 29 % preferred paying a percentage of assets under management.

How Investors Are Serviced Today

In India, investment advisory can be classified under three different categories.

- a) Traditional Advise
- b) Robot Advise &
- c) Hybrid Models.

Most elderly investors, who invested in a variety of different avenues and closely monitor their returns, prefer traditional advice. They are more insistent on in-person advice for their investments. However, in the recent past most popular investment advice companies have started using robo advisory to improve the quality of the advice and also ensure investor satisfaction.

Robo-Advisory Market Trends

A Growing and Changing Landscape

The main reasons for the increasing trend of using Robo-advisor’s Asset Under Management (AUM) is their user-friendly interface, efficiency of portfolio analytics, relatively low costs and consistent performance. Countries like the US have seen an 8-fold increase in the usage of automated Portfolio management in AUM, from USD 2.3bn in 2013 to USD 20bn in Q1 of 2017 and are reflected in the growing number of startup FinTech companies providing automated services. One of the reasons behind this could be the increasing investment of retirement savings in robo-advisory accounts. Once growth levels out in the future with increasing competition, we could see Robo-advisory firms evolve from providing Business to Consumer or B2C services to Business to Business or B2B services. These firms would either partner with established banks and asset management firms or be absorbed into them.

Compared to this, the AUM of Robo –advisory companies is much lower at about 5-6% of US levels. This is partly due to lack of available data as not many companies publish data on AUM and also because many investors do not yet participate in Capital market investment, preferring instead investing their savings in traditional bank deposits. Industry estimates indicate at-least 5 robo-advisory firms that manage in excess of 100 Million EUR each. The UK is the leading country which has adopted this technology to manage as much as 75% of AUM of the entire market. Germany stands second accounting for 17%. Hence, a majority of the firms offering automated services are concentrated in these two countries

Investors in the EU are highly-risk averse, and rely primarily on Pay-as-you-go benefit pension schemes. The EU has a very large Asset management industry, where traditional asset managers and banks have started offering robo-advisory services for its institutional and High Net Worth individual(HNWI) investors. With a shift from deposit savings towards capital market investments, the scope for robo-advisory services will gain momentum in the long run.

Wealth Management Through Robo – Advisor

This implies handling customer’s wealth thruon-line process using artificial intelligence through a ‘robo advisor’.

Robo-Advisor – Meaning

Robo Advisor is an algorithm driven software that provides automated financial planning services on digital platform. It is designed to perform so many functions like registration of clients, analysis of clients’ needs and goals, offer advice and alternate advice on their investment, asset allocations, rebalancing etc. It may or may not be assisted by a manual advisor system.

Available Robo Advisors in India

Many financial firms are now moving towards the online investment and savings. Some of the developed robo advisors in India are:

- Big decisions: It provides online services for all your investment needs.
- Fundsindia: It was initially developed for mutual funds only. It was started in 2009 at Chennai. Now it provides financial advice in all the fields of wealth management
- Scrip box: This is also an online platform where investments can be started with a very minimum amount and also guides about the wealth management.
- My Universe ZIPSIP: This is the latest robo advisory firm launched by Adityabirla group. This model focuses on financial management and investment techniques.

Limitations of Using Robo Advisors

Robo advisors are modern, easy to use and provide standardized investment solutions. But they are not fool proof. They have a number of limitations like the following: They fail to provide a personal guidance. They work on artificial intelligence to the level

- They are programmed. They are not designed to think beyond their programmed capacity and are not so flexible to accommodate a unique situation when investors need advice beyond money matters.
- An integration of financial, tax and estate plans. These demands can only be handled by a seasoned human advisor and not a robo advisor.
- Some investors require a “face to face” interaction with the advisor which is not possible in this case.
- And that may take time, money and efforts. Human advisors on the other hand start using the modifications with immediate effect.

Literature Survey

The concept of savings and investment is changing with time. People are slowly moving towards online investments in mutual funds, equities etc. which provides the automatic selection of assets which fulfils the requirement of an individual and also gives the maximum benefits.

F.Dapp (2016) talks about the working and advantages of using robo advisors. Artificial intelligence has taken place in all areas of our lives. A lot of progress has been made in the field of pattern recognition, modern data analysis and the use of self-learning algorithms. To handle an increase growth in data volumes, we need to progress in the field of technology. We need digital services to automate and manage financial data, provide intelligent advisory solutions to the investors. A Joint Committee Discussion Paper on automation in financial advice by Joint Committee of the European Supervisory Authorities (December 2015) has described continued increase in the digitalization of financial services across the banking, insurance and securities sectors. The main characteristics of automated financial advice tools have been discussed in terms of potential benefits and potential risks and limitations or errors in automated tools that may not be easily identifiable for consumers or financial institutions. The committee feels that in the securities sector, automation of financial advice is a more mature phenomenon.

Robo-Advisory Services Study (2015) by A.T. Kearney (a leading global management consulting firm) was conducted on a nationally representative sample of more than 4,000 U.S. consumers who were at least 18 years of age at the time of study and who had bank accounts. The examine focussed on “clients funding choice making”, focus of, interest in, and willingness to apply robo-advisory services The study exhibits that robo-advisory will develop at a quick rate as increasingly more human beings find working on virtual systems simpler than going to an investment advisory physically. They found that the growth of the robo-advisors will reduce the overall asset management revenue. The traditional players will have to lower their fees structure and this will result in loss in billions of dollars. They categorized the traders as pioneers, enthusiasts, capacity past due adopters and not likely adopters. The study showed that only a small percentage of people fall in the last two categories. They concluded that future of robo advisory is promising.

“Blackrock’s - Digital Investment Advice” :research about digital advisory servicesand concludes that they have the potential to significantly mitigate behavioural finance biases and provide customized tools for investment to individual investors at a fairly low cost. They as policy makers, they should consider the rapidly changing digital advice landscape and the application of existing regulations to digital advisors. It is also important to allow for a variety of different digital advice business models that meet different client needs, including both start-up firms and existing market players such as established wealth managers with direct-to-consumer platforms or business-to-business platforms. Digital advisory space has five precise areas need consideration as : “(i) disclosure standards and cost transparency, (ii) recognize your purchaser and suitability requirements, (iii) set of rules design and oversight, (iv) trading practices, and (v) records safety and cyber safety”.

(Park1 et al.) research shows US asset management corporations that use robo-advisors to control assets and investigated the robo-consultant strategies of the pinnacle businesses, particularly “Schwab intelligent”, Wealthfront and betterment. They observed that their investment philosophies for robo-advisors are similar, but each robo-guide uses extraordinary methods in its procedure of selecting asset types and assets to invest in.

The Future of Advisory: Exploring the impact of Robo on Wealth management (September 2016) states that the impact of robo on conventional wealth advisory is not going to be too disruptive. The document tries to assess the progress of robo advisory, to explore the probably methods in which artificial intelligence will impact Wealth management enterprises going ahead,its future

potential in the wake of technological evolution and its adoption by way of new and established players. The robo advisors themselves would be cautious about the dangers because, to avoid tarnishing their credibility.

Market Research Centre (2017), PWC found that over the past few years, the popularity of Robo-advisors has steadily risen. Nutmeg in the UK and Wealth Front and Betterment in the US have been the market leaders. Globally, as of December 2014, robo-advisors have been managing investments directly to the tune of USD 19 billion as per the findings of Corporate Insight. With artificial intelligence providing services like personalized portfolio management, tax-based portfolio customization and smart rebalancing of risk along with 24/7 access, all services being provided at comparatively lower costs, the market share of robo-advisories is set to increase.

Delliotte (2017) found that cost-conscious investors prefer hybrid models compared to purely traditional advisors or purely artificial intelligence based advisories in the wealth-management field.

Research Design

Quantitative research method was adopted in this study. This study outlines the study of investor’s preference towards Artificial intelligence in wealth management framework. This study focuses on the how Artificial intelligence is superior in terms of quality advisory with low cost is analyzed with the data collected from the potential investors in Bangalore.

Research Objectives

- To analyze the impact of artificial intelligence in wealth management
- To analyze the investor’s perception towards artificial intelligence
- To find out whether artificial intelligence is superior to traditional advisory.

Data Collection Method

Primary data are used to analyze and provide a clearer and in depth understanding.

Primary Data

Primary data is the data that has been collected from first hand-experience. Therefore, it's far more dependable, real and objective in information collection. For current study, questionnaire is chosen because of its comfort, inexpensive, reduction of biases and greater anonymity. The purpose of the questionnaire is to generalize from a sample to a population to make inferences about the characteristics of the population. Therefore, 50 questionnaires were distributed to the investors who have been investing regularly in various investment avenues.

Sampling Technique

Sampling techniques used is convenient random sampling, 50 questionnaires were distributed to the investors who have been investing regularly in various investment avenues.

Result of Cronbach’s Alpha

Variable	Total Number of Question	Cronbach’s Alpha	Outcome
Wealth Development	5	0.689	Acceptable
Wealth Protection	7	0.782	Very Good

Tax Minimization	6	0.893	Very Good
Auto Pilot	5	0.852	Very Good
Goal Based Advisory	7	0.563	Acceptable
Full Service	9	0.548	Acceptable
Robo Advisory	9	0.987	Excellent
Traditional Advisory	7	0.921	Excellent

Data analysis

SPSS software was utilized for obtaining the tested result by completely analyzing the data.

Inferential Analysis

Inferential evaluation is a set of statistical techniques and methods utilized in confirmatory statistics to draw conclusions approximately a populace from quantitative facts amassed from a sample. SPSS version 17 was employed to conduct the following types of inferential analysis:

Pearson Correlation Coefficient Analysis

Multiple Regressions Analysis

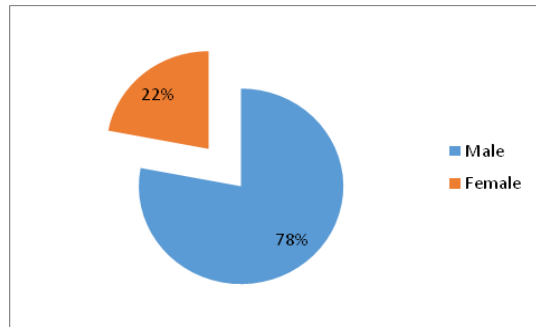
Descriptive Analysis

Respondent’s Demographic Profile

The Demographic profile of the respondents has been identified in Section A of the questionnaire. A total of seven questions were asked to collect data regarding to the respondents’ gender, age, race, marital status, occupation, monthly income and education level.

Gender of Respondents

Category	Frequency (N)	(%)
Male	78	78%
Female	22	22%



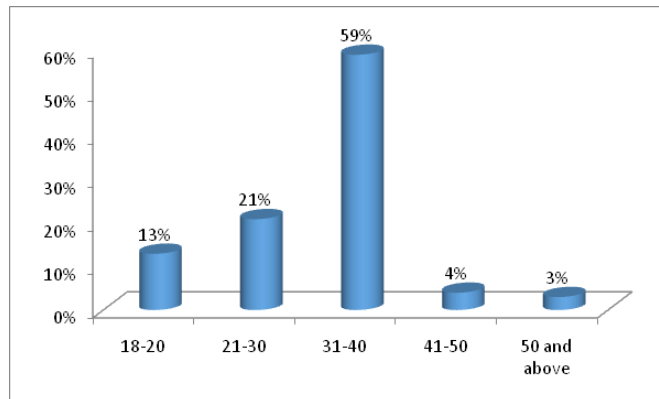
Source: Developed for the study

Interpretation

As shown in Figure and Table, the analysis of respondents’ gender have revealed that 78% of the respondents were male while female consisted of 22% of the total sample size.

Age of Respondents

Category (Age)	Frequency (N)	Percentage (%)
18-20	13	13%
21-30	21	21%
31-40	59	59%
41-50	4	4%
50 and above	3	3%

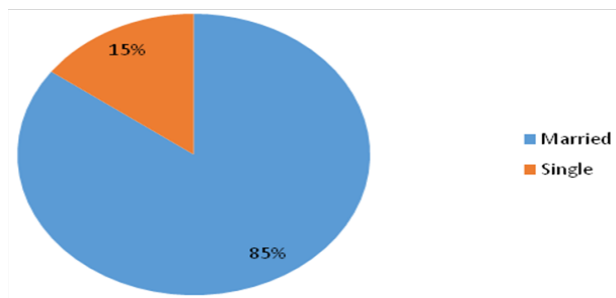


Interpretation

Based on the above table and chart it is very clear that the majority of the investors (59%) are in the age group of 31-40 and the least is 50 and above. Also it is noted that the investors from 31-40 are very much speculative and they are more into equity stocks and other risky portfolio. However the aged population is not ready to take any risky investments.

Marital Status of Respondents

Marital Status	Frequency (N)	(%)
Married	85	85%
Single	15	15%

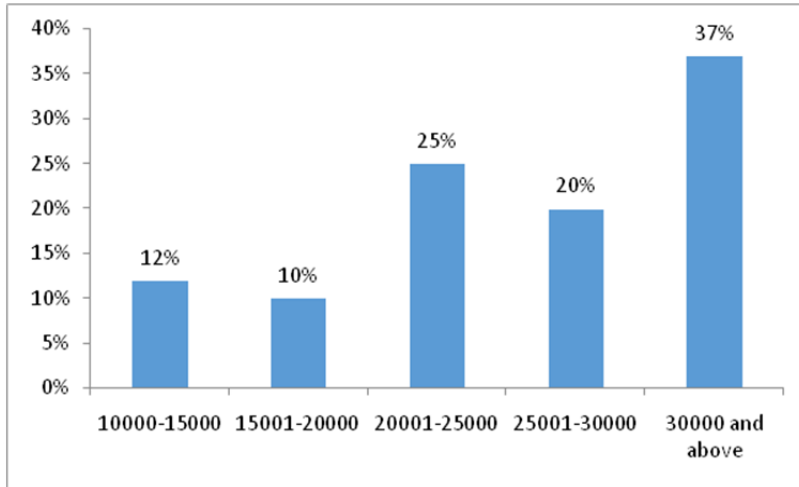


Interpretation

As shown in Table and Figure there are only 15% of the respondents were single and 85% of the respondents were married. Hence according to the data collected almost all the investors are in the middle age group and they are married.

Income of Respondents

Income	Frequency (N)	Percentage (%)
10000-15000	12	12%
15001-20000	10	10%
20001-25000	25	25%
25001-30000	20	20%
30000 and above	37	37%

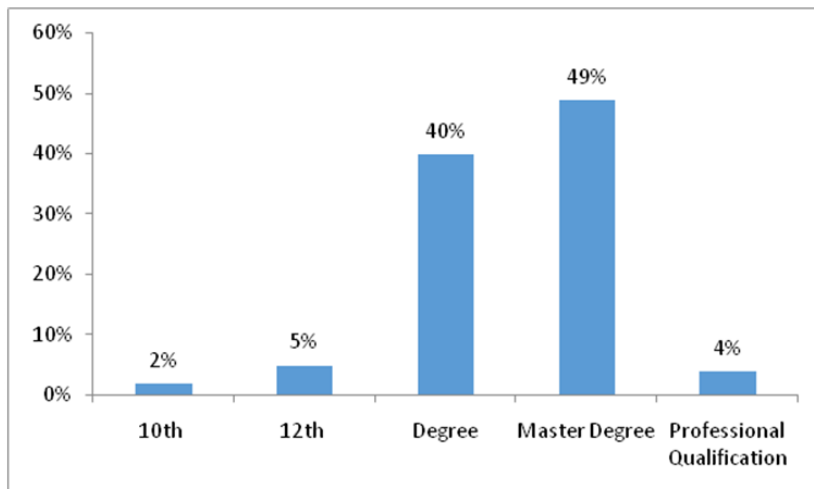


Interpretation

From the above table it is noted that the majority of the investor’s income is above 30000pm and the least would be 10% which is salary ranges from Rs.15000 to Rs.20000. most of the investors pertaining to the income category more than Rs.30000 are investing in advance and innovative financial instruments like mutual funds and other equity based stocks so that the return is pretty high.

Education of Respondents

Education	Frequency (N)	Percentage (%)
10th	2	2%
+2	5	5%
Degree	40	40%
Master Degree	49	49%
Professional Qualification	4	4%

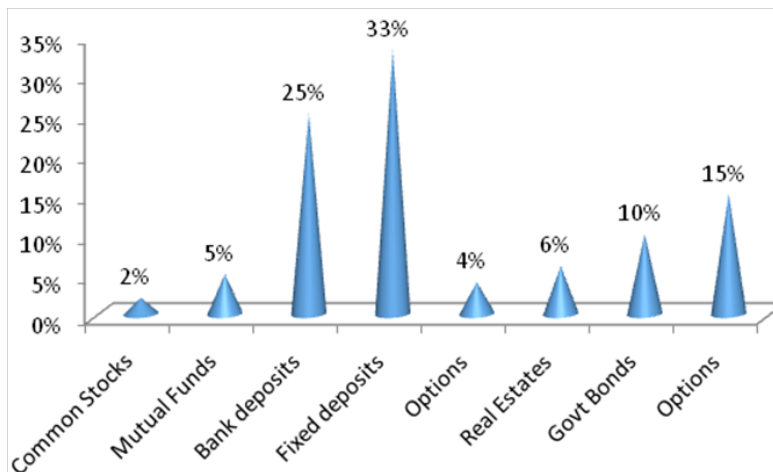


Interpretation

From the above table it is noted that only 2% of the entire population has studied till 10th standard and 5% of them have completed their +2 qualification and the second largest group belongs to degree qualification of 40% and also 49% the majority of the population belong to investors completed their master's degree in various fields.

Investment Avenues

Investment Avenues	Frequency (N)	Percentage (%)
Common Stocks	2	2%
Mutual Funds	5	5%
Bank deposits	25	25%
Fixed deposits	33	33%
Options	4	4%
Real Estates	6	6%
Govt Bonds	10	10%
Options	15	15%



Inferential Analysis

	Returns	Risk	Alternate Advise	Timely advise	Accuracy	Fees
Returns	1					
Risk	0.43	1				
Alternate	0.338	0.444	1			
Advise						
Timely advise	0.339	0.485	0.548	1		
Accuracy	0.252	0.453	0.307	0.451	1	
Fees	0.348	0.372	0.358	0.489	0.378	1

Interpretation

Based on the above observation it is noted that the correlation matrix for the six examined constructs which were tangible features. According to the table all the constructs did not overlap with each other. Besides, there were positive correlations among all the constructs because none of the constructs had negative sign. In this study, the result has shown that there is a significant relationship between the robo advisory and the investor’s perception and the quality service of robo advisory.

Multiple Regressions Analysis

Model	R	R Square	Adjusted R Square	Standard Errors of Estimate
1	0554 (a)	.307	.282	.47086

The above table shown that the R square is 0.307 for the regression of the investor’s satisfaction is explained by the six independent variables which are mentioned above tables.

ANOVA Test

Model	Sum of Squares	Df	Mean Square	F	Sig
1 Regression	16.378	6	2.730	12.313	0.0009(a)
Residual	37.021	167	0.222		
Total	53.399	173			

There are two hypotheses that have been derived in this research study namely:

Tangible Features

H0: There is no positive relationship between tangible features and investor’s satisfaction in services quality of robo advisory

H1: There is positive relationship between tangible features and investor’s satisfaction in services quality of robo advisory. Reject H0 if $p < 0.05$

Schedule

H0: There is no positive relationship between timely advice and customer satisfaction in services quality of robo advisory.

H2: There is no positive relationship between timely advice and customer satisfaction in services quality of robo advisory. Reject H0 if $p < 0.05$

Conclusions

As a conclusion, this portion summarizes the entire chapter of this study. There are managerial implications that have helped the wealth management industry to make service improvement in order to maximize its business performance through the robo advisory. From the above results and the hypotheses testing, it is clear that investors prefer the robo advice more than the traditional advisory. This is because of fees, more accuracy, timely advice and also the clear valuation of the asset classes. Hence to conclude, these research portraits that robo advice is more accuracy and investor also prefer. Many researches can be continued in the same lines, further researchers can also think about pursuing research with many asset classes and portfolios.

References

- Accenture's report 'The Rise of Robo-Advice - Changing the concept of wealth management'
<https://www.scribd.com/document/329233363/Accenture-Wealth-Management-Rise-of-Robo-Advice> Automation of a business process using robotic process automation (rpa): A case study
- Blackrock's 'Digital Investment Advice' :Robo Advisors Come of Age' <https://medium.com/@blackrock/robo-advisors-come-of-age-part-two-d5fa66b91cad>
- Park1 et al. <https://link.springer.com/article/10.1007/s00167-011-1400-9>
- Robo-Advisory Services Study (2015) by A.T. Kearney https://www.thinking-ahead-magazine.com/fileadmin/user_upload/84._Thinking_Ahead_June_2016.pdf
- The Future of Advisory: Exploring the Impact of Robo on Wealth Management: A Fin extra White Paper produced in association with EPAM (September 2016) http://granthaalayah.com/Articles/Vol5Iss6/04_IJRG17_A06_330.pdf
- Wealth management through robo advisory http://granthaalayah.com/Articles/Vol5Iss6/04_IJRG17_A06_330.pdf