

# Application of Robo advisors in Wealth Management

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## ABSTRACT

*Emerging technologies are revolutionizing the present day banking industry. The application of artificial intelligence in the area of wealth management is cost effective as well as an automated process of serving customers with well designed investment advisory services. Since these advisory services are given with the help of machines based on algorithms and with minimal human intervention that is why they are termed as Robo-advisors. This paper aims to study how robo-advisors can assist in the area of wealth management and deliver a seamless client experience also helps in reducing the risk by forecasting market volatilities and further provide a competitive advantage to the organisations.*

**Keywords:** *Banks, Artificial Intelligence, Wealth Management, Advisory Services, Robo-advisors*

## 1. INTRODUCTION

Artificial Intelligence is a technology that makes machine/computer/robot perform task and simulate human behavior. Presently artificial intelligence is widely accepted around the world and it has application in various areas like healthcare, business, education, finance, law, manufacturing etc. With the collaboration of technology in the field of finance we

are evolving from traditional and repetitive methods to those which are efficient, cost savings and help to mitigate risks in financial transactions. We have started using machines which with the help of a software program are smart enough to manage customers account and create portfolio according to their risk capabilities and suggest ideas for better returns. These machines with the help of algorithms utilize the data provided by the customer to generate a portfolio which matches their investment and risk - reward characteristics. The demand of such technology is growing in financial industry and it is considered as a replacement of human advisors, which is termed as Robo-Advisors.

In India Assets under management in the Robo-Advisors segment amounts to US\$42m in 2019. Assets under management are expected to show an annual growth rate (CAGR 2019-2023) of 36.2% resulting in the total amount of US\$145m by 2023. In the Robo-Advisors segment, the number of users is expected to amount to 216.3 thousand by 2023. The average assets under management per user in the Robo-Advisors segment amounts to US\$579 in 2019. From a global comparison perspective it is shown that the highest assets under management is reached in United States (US\$749,703m in 2019).

## 2. REVIEW OF LITERATURE

Jill E. Fisch, Marion Labouré, & John A. Turner (2018) in their study "***The Emergence of the Robo-advisor***" states that the real or perceived value of the human contact appears to be an important difference between robo-advisors and traditional financial advisors, and it likely explains the current trend toward hybrid advisors that involve a robo-advisor working in partnership with a traditional advisor.

Mikhail Beketov, Kevin Lehmann, Manuel Wittke (2018) "***Robo Advisors: quantitative methods inside the robots***" analyzed 219 existing RAs worldwide and showed that Modern Portfolio Theory remains the main framework used in RAs. The current trend is to improve this framework rather than applying and developing entirely new approaches. However, they also revealed that the AuM volumes tend to be higher for the systems applying newer and more sophisticated methods.

Line Bjercknes and Ana Vukovic (2017) in their article "***Automated Advice: A Portfolio Management Perspective on Robo-Advisors***" discusses the robo-advisor model on the Norwegian market, and found that a robo-advisor strategy is based on a multifactor approach, and it outperforms the benchmark for the investment horizons considered. They also cited that robo advisory model relies on modern portfolio theory. Their performance estimations showed that three out of the four robo-advisors produce higher risk-adjusted return than the benchmark.

Deloitte (2016) study named "***The expansion of Robo advisory in wealth management***" state that Deloitte

is at present working with numerous banks and robo advisory companies to assess the impact of traditional wealth management business and define client centric business strategies. The report contains a detailed look at robo advisory capabilities in German market. Their research was carried out on a total of 74 robo advisors world wide.

EY Report "***The evolution of Robo-advisors and Advisor 2.0 model studied***" emergence and maturing of Robo-advisors and along with the traditional human-advisor-based firms and their adoption of technology advances. According to their study robo advice provides an efficient platform for investing, the importance of the human element cannot be emphasized enough, as seen by the gradual convergence by both sides towards a hybrid (human + robot) approach

Oleksii Ivanov, Oleksandr Snihovyi & Vitaliy Kobets (2014) paper on "***Implementation of Robo-Advisors Tools for Different Risk Attitude Investment Decisions***" researched on how to use Machine Learning in the financial industry in the area of Robo-Advisors. They defined the basic functionality of RoboAdvisor and also explained implementation of Robo-Advisors based on analysis of the most popular financial services such as Betterment, FutureAdvisor, Motif Investing, Schwab Intelligent and Wealthfront.

## 3. Phenomenon of Wealth Management

Wealth management provides investment advisory services to its affluent clients as per their needs & risk appetite. It is a combination of both financial planning and specialized financial services which

includes personal retail banking services, estate planning, legal and tax advice. The goal of wealth management is to sustain and grow long-term wealth.

There are three basic functions performed by wealth management firms:-

- **Creating Wealth-** The role of financial advisor is to diversify the portfolio of the clients in various asset classes and to understand the goals of their clients in the long term.
- **Protecting Wealth:** It is a tactics undertaken by wealth management firms to safeguard the asset /wealth of their clients from market volatilities and other foreseen factors.
- **Tax savings:** These strategies are aimed towards intelligent tax planning and minimizing the losses incurred in additional tax payments.

### 3.1 Asset Allocation

It is the process of dividing the total capital into different securities or asset class which includes stocks, bonds, real estate, commodities, derivatives etc. Asset allocation plays an important role in the success of your client's portfolio. It will diversify the portfolio and in turn provide high return with least risk over your investment timeline. The amount of capital invested in each asset class is also dependent on factors like risk tolerance, time horizon and investment goals.

### 3.2 Models of Asset Allocation:

Most of the allocation models lie between four objectives which are described below:

1. ***Preservation of Capital:*** Asset allocation models which are designed for preservation of capital are for those categories of clients who are going to deploy cash/capital in the near future. Such investors mainly invest in money market securities like treasury bills, commercial papers etc.
2. ***Income Model:*** Portfolios designed to generate cash for those investors who want regular monthly income for a particular period of time mainly focusing on people who are on the verge of retirement. It includes securities like shares of blue chip companies which have consistent record of dividend payments, real estate, government bonds, treasury notes etc.
3. ***Balanced:*** These portfolios are a mix of income and growth allocation models. It includes investment in real estate, fixed income instruments and all types of stocks.
4. ***Growth:*** The growth allocation model is designed for individuals who are keen to build long term wealth. Includes investment in stock related instruments.

Once an investor decides which securities to invest in a particular asset class, they should keep on churning the portfolio depending on the market conditions.

### 3.3 Dynamic Asset Allocation:

It is a strategy undertaken in the area of portfolio management where the assets which are non-performers or poor performers in their categories are replaced by high performing asset class. It is a balancing or adjustment act by reducing positions in the worst performing asset classes while adding to positions in the best performing assets. The general idea behind dynamic asset allocation is to take advantage of market trends and achieve returns which exceed the targeted benchmark index.

### **3.4 Factors considered for Asset Allocation Model**

1. **Investment:** These are the purpose for which investment are being made by the investor. The investment horizon can be long term or short term in nature.
2. **Risk Tolerance:** It means risk taking capacity of the investors either they are risk takers or risk averse.
3. **Diversification of funds.**
4. **Cost Expenses/Fees**
5. **Rebalancing of Portfolio**
6. **Guidance**
7. **Investment Vehicles**

### **3.5 Wealth Management through Robo-advisors**

Robo advisors are automated and algorithm based digital platforms which provide services like portfolio management without human interference. With the

help of machine learning algorithms they are able to automate the process of investing.

### **3.6 Evolution of Robo-Advisors**

The first Robo-Advisors Betterment was founded in 2008, and was followed by Wealthfront which launched its venture-capital backed service 2009 under the name KaChing,. Betterment and Wealthfront are tboth pioneers in the field of robo-advisory space.

The first robo-advisors were used as online interface to manage and balance client's assets by financial managers. Robo-advisor technology was not new in the area of wealth management , as this kind of technology has been in use by financial advisers and managers since early 2000's. But they were made publicly available in 2008 to the investors who were in need to manage their assets personally. By the end of 2015, robo-advisors from almost 100 companies around the globe were managing \$60 billion assets of clients and it is estimated that it will hit \$2 trillion by the end of 2020.

Later In 2010, Bank of America and Merrill Lynch launched Merrill Edge further Australia and New Zealand Banking Group Limited (ANZ) introduced IBM Watson to understand and analyze client behavior. DSP Blackrock acquired a digital advisory platform in 2015 to give their investors a superior investment platform. Financial institutions have made significant advancements in robotic process automation (RPA) technology to automate traditional investment systems so as to improve the efficiency, lesser cost and improved customer satisfaction. In the wealth management sector, Charles Schwab and

Vanguard have launched services that combine the human and automation aspect other organizations like Morgan Stanley, Merrill Lynch and LPL Financial also have Robo advisory services integrated with their human advisor. The portfolios that robo-advisors offer are typically exchange traded funds. However, some of them offer pure equity portfolios.

### 3.7 Types of robo-advisory

It can be categorised into four automated investments, direct plans, goal-based advisory and full service advisory.

**Auto-pilot:** This service is for the first time investors and young earners. In this mode, investors are given several choices to select among the offered 'packages'. They select based on their risk and return characteristics. One such platform is Scripbox, an online MF investment service firm that offers three 'boxes'—equity, fixed income and tax-saving.

**Direct plan-based:** It offers a low-cost direct plan option. For every transaction, they have to pay a nominal advisory or convenience fee. This plan also provides both the solution i.e. do it yourself option and the choice to invest based on goals. Companies such as Bharosaclub.com, Orowealth.com and Invezta.com are examples of direct plan based advisory.

**Goal-based advisory:** It provides basic advisory services to the investors on how to approach their long-term investments. For e.g. FundsIndia.com, helps in investing based on individual investor goals. It is the first firm to get started with an online distribution model, it also allows transactions in

shares, company deposits and corporate bonds, and now has an advisory service as well.

**Full-service:** It provides in depth advice to the investors by asking them to answer a questionnaire so as to judge/assess the risk appetite, financial goals, saving and spending pattern and current asset liability position. The information provided by the investor is thoroughly analyzed to assess how well they are managing their money and whether expenditure is more than earning. For example, Aditya Birla MyUniverse which provides full service Robo advisory.

### 3.8 Advantages of Robo Advisors

#### 1. Automated Investing

Investment Advisers in wealth management firms charge high fees and have large sum of money as minimum investment amount. Their fees can exceed between 1% to 2% of investors portfolio and minimum investments may go beyond \$250,000. Robo-advisors can provide an alternative solution to investors who cannot spend more than few thousand dollars and at the same time cost efficient than a human investment advisor. These automated advisors have the capability to construct a diversified portfolio even for the small investors.

#### 2. Lesser Fees

Human investment advisors typically charge at least 1% to 2% of the value of your portfolio as a management fee. The percentage may be even higher on a smaller portfolio. Robo advisors charge just a fraction of 1% as a management fee compared to human advisors. For example, Wealthfront charges just 0.25% as a management fee and Betterment charges fee ranging from 0.35% to 0.15%. If an



investors have deployed more funds under management in such cases robo advisors charges lesser fee from the client.

### 3. Rebalancing of Portfolio

Management of portfolio from time to time is an important step involved in the process of wealth management. In other words rebalancing needs to be done at least once a year. More frequent is the rebalancing better is the quality of the portfolio. If investment is automated with the help of a robo advisor in such case they rebalance the portfolio on a regular basis.

### 4. Tax-Efficient Investing

Tax can impact heavily on the rate of return given on an investment. Robo advisors are designed in such a way that they minimize capital gains taxes. This is done by investing through index based ETFs. Few robo advisors provide tax loss harvesting, or TLH. It is a process in which capital gains are minimized through the sale of those investments that have encountered losses.

### 5. Low Minimum Initial Investment Requirements

Investment managers normally ask investment amount of hundred thousand dollars while opening their portfolio account. Whereas most of the robo advisors do not have minimum investment requirements. For example Betterment which has no minimum initial investment requirements.

## 3.9 Robo-Advisors in India

**Some of the robo advisors developed in India are:**

**1. Fundsindia:** It was started in the year 2009 at Chennai and provides advisory services in the area of wealth management.

**2.Scripbox:** This is also an online investment platform started in the year 2012 where Investments can be started with a minimum amount and also educate investors about Wealth management.

**3. Goalwise:** Goalwise robo-advisory service in India provides solutions in the area of risk Profiling, asset allocation and selects the best performing funds and rebalances the portfolio.

**4. Advisesure:** The Company Advisesure was founded in the year 2015 and provides 360 degree

Robo-advisory on an individual's finances with low transaction cost.

**5. Bodhik:** It provides personalized advice and creates smarter portfolios which are convenient

and time saving. They provide services in the area of financial planning, retirement planning, tax planning and child plan.

**6. Arthayantra:** It uses decision algorithms to build the interconnections based on the provided financial information and arrive at the right advice for the clients.

## 3.10 Limitations of robo advisors

1. Since robo advisors are programmed on machine learning platforms they are not able to provide solution for a unique situation which is not being fed to the system

2. Sometimes investors want an integrated advice which consist of tax plans, financial as well real estate plans. Such detailed advisory can be given by an experienced human advisor and not robo advisors.

3. Robo-advisors lack human understanding of emotions i.e. empathy. In the words human behavioral aspects

4. If there is any change in policies related to investment, in such cases robo advisors requires reprogramming which might take time, money and human efforts. Whereas human advisors respond to policy changes immediately.

#### **4. Conclusion**

Robo-advisors are bringing a fundamental shift in the way we do our businesses. Especially in the area of wealth management they are gaining a lot of acceptance among millennials because they are cost effective and provides other added advantages to the investors. They are given preference over traditional methods and would continue to innovate in near future. Robo-advisory has already evolved from 1.0 version to 4.0 and further technologies such as cognitive computing in combination with robo-advisory will further bring paradigm shift in the wealth management domain.

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