

## ROBO-ADVISORY – AN ALTERNATIVE TO TRADITIONAL FINANCIAL CONSULTING

Arina MITREANU

Department of Software Engineering and Automation, group TI-233, Faculty of Computers, Informatics,  
and Microelectronics, Technical University of Moldova, Chișinău, Republic of Moldova

Corresponding author: Arina Mitreanu, email: [mitreanuarina@gmail.com](mailto:mitreanuarina@gmail.com)

Coordinator: Ala PUȘCAȘU, university assistant, Technical University of Moldova

**Abstract.** *Robo-advisory presents an innovative approach to traditional consultancy, that has risen in a noticeable manner during the past decade. This concept is driven by advances in technology, and works on the basis of algorithms to determine an efficient plan for putting to use personal assets. Its accessibility and convenience make it extremely appealing to the general public, because, unlike traditional consulting, it may fit any busy schedule and offer solutions for all needs. Looking ahead, the future of robo-advisors appears promising in more ways than one. It is expected of robo-advisory services to gather a broader user base, therefore leading to overall optimization and a significant increase in revenue. This paper explores the trend of robo-advisory services, providing an analysis on the reliability of their use in personal finance management and investment. More precisely, there will be provided insights into the strengths and limitations of these services, therefore helping individuals make a rational choice.*

**Keywords:** *algorithm, automation, finance management, investment strategy*

### Introduction

In this day and age, the need for automation is ever present. Almost each area of life, which previously required no technological advances, is facilitated by technology in the present. A key aspect of an adult's life relies on making thoughtful decisions. However, modern people are overwhelmed with busy schedules and several responsibilities, which may affect their efficiency, therefore leading to the option of robo-advisory services. One of the areas with potential of developing robo-advisory services is in personal finance management, where robots can assist individuals in organizing and implementing investment strategies.

### Background and origin

Traditional financial advisors were a good choice for a prolonged period of time, but they were also expensive and inconvenient. Not everyone could afford them, and the assigned hours didn't satisfy all customers. This gap led to the creation of digital advisors – a technological revolution that opened doors for many more people to invest in algorithm-driven portfolios, in return getting steady profits. The first robo-advisor that entered the market is Betterment (Figure 1). Jon Stein launched it during the financial crisis of 2008, which marks an increase in popularity for robo-advisory services [1]. Ever since they were made available to the general public, robo-advisors became a suitable alternative to regular consultants, due to their accessibility and their efficiency in asset management, ensuring that people from all economic backgrounds have equal access to and can benefit from wealth management services.

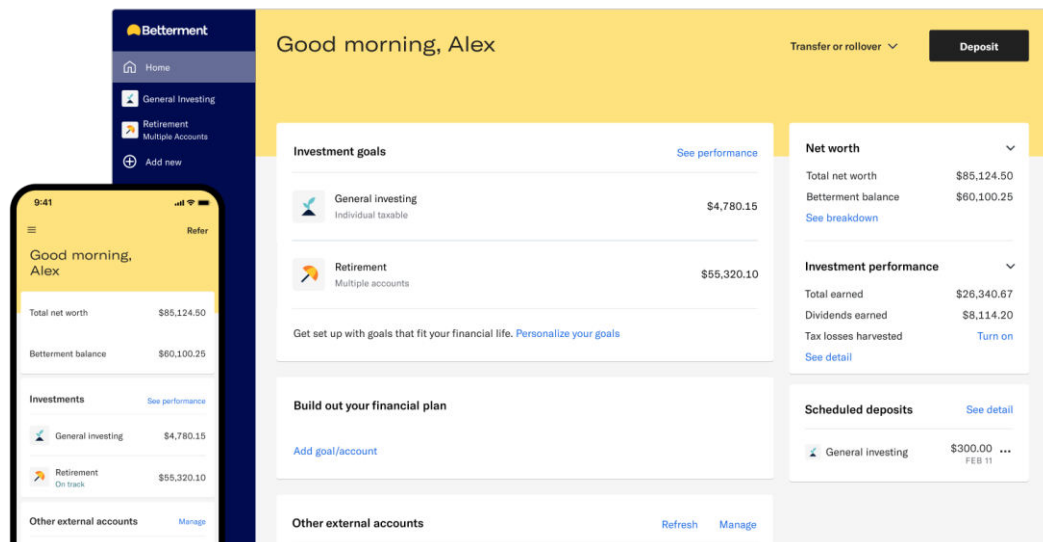


Figure 1. Betterment platform

### Definition and how it works

To define robo-advisory, it is safe to say that it implies a platform which provides automated, algorithm-driven financial planning and investment services with little to no human supervision [2]. There have been highlighted a handful of advantages that describe these services, but some which stand out are: accessibility, low fees, security regarding your personal finances, and a guaranteed investment portfolio that is continuously optimized and monitored by the said software, also providing with the possibility of tracking your progress towards the mentioned goals.

The automation begins as soon as you create a profile, and the process generally starts with an online survey about your financial situation and future goals, that's designed to help the software understand your current finances and your risk tolerance [3]. With the gathered data, it will use an algorithm to create an investment portfolio, offer the best advice and automatically invest for you. There will also be regular monitoring of the portfolio of investments in accordance with the current market and with the changes in the investor's objectives. Robo-advisory platforms are also praised for their easy-to-use and pleasurable user interfaces, including instant customer support.

### Investing strategy

At the base of robo-advisory sit passive indexing strategies, which mainly suggest the objective of maximizing investing returns by minimizing buying and selling. On the same note, robo-advisors' activity depends on the modern portfolio theory (MPT), which is a practical method for selecting investments in order to boost their overall returns within an acceptable level of risk [4]. Robo-advisors employ advanced algorithms and machine learning to monitor market conditions and optimize investment portfolios in real-time.

### The advantages of using robo-advisory services

1. Robo-advisors are low-cost alternatives to conventional advisors. By eliminating human influence, online platforms offer the same services for more convenient prices, presenting fruitful opportunities [1].
2. Robo-advisors make it easier to monitor investments. You can log in at any time, as long as there is an internet connection [1].
3. It is possible to start investing with any capital, depending on personal financial assets [1].
4. User-friendly interfaces, which typically feature intuitive dashboards and interactive tools making it easy to navigate and manage portfolios efficiently.

5. Robo-advisors are more efficient. Prior to these advancements, the execution of trades consisted of meeting with a financial advisor, explaining your needs, and waiting for them to execute the trades. Now, all of these steps are possible with the click of a few buttons, from any location [2].

### Potential risks of using robo-advisory services

1. Lack of empathy and human interaction may become a risk, as many potential clients require more specific investment portfolios, as well as emotional support which only a human could provide.
2. Robo-advisors are suitable for entry-level investors, but are not a good fit for more complex issues such as estate planning, therefore, there is a lack of personalization in certain cases [2].
3. By completing the initial survey about personal financial assets, the platform expects its users to have definite financial goals. Basically, it is required to have knowledge of planned achievements, nonetheless, those who are not sure of their financial plans should find an alternative to robo-advisory services.

### Assets Under Management (AUM) and revenue of Robo-advisors

According to the data shown in Figure 2, the worldwide robo-advisors market expects substantial expansion, with Assets Under Management having prospects of reaching an impressive US\$1,802.00 billion by 2024. This growth trajectory is said to continue, with an estimated annual growth rate of 8.06% from 2024 to 2027, resulting in total AUM of US\$2,274.00 billion by the end of 2027 [5].

Figure 3 reveals a statistic regarding the growth in revenue describing the robo-advisors industry. While the market size in 2023 was valued at around US\$10.77 billion, analysts predict a significant increase to over US\$18.30 billion by 2027 [5]. This surge reflects an annual growth rate which exceeds 15% - a trend which is likely fueled by the rising popularity of robo-advisors as a convenient and affordable wealth management tool. Some factors that thoroughly impact the potential growth in revenue are: fees charged on managed assets, subscription charges, as well as performance-based compensation and recommendation fees.

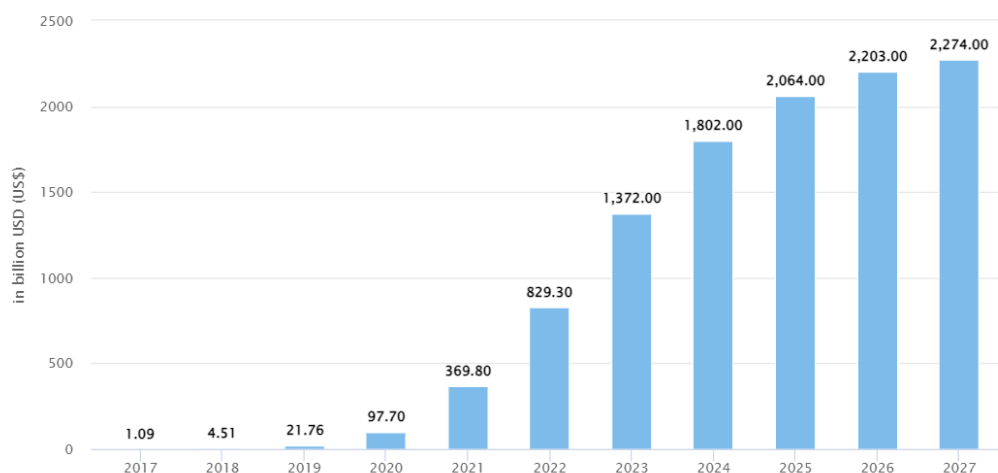
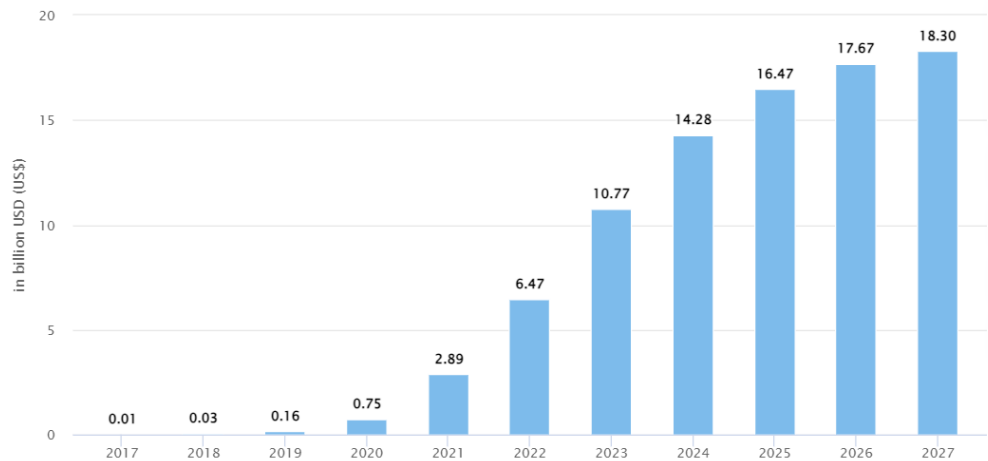


Figure 2. Assets under management (AUM) for robo-advisors market



**Figure 3. Revenue for robo-advisors market**

### **Future scope of Robo-Advisory**

Advancements in technology and changing investor priorities will lead to a bright and diverse future for robo-advisory. Algorithms that sustain these platforms are expected to become more advanced and personalized, offering tailored investment plans that please specific user requirements. Moreover, the incorporation of artificial intelligence and machine learning technologies may improve portfolio management and decision-making, allowing robo-advisors to respond adequately to market fluctuations.

### **Conclusion**

Robo-advisory presents a great step towards the digitalization of financial services, simplifying several processes such as investments and asset management. The most acknowledged benefits robo-advisory brings are: cost-effectiveness, accessibility, user-friendly interfaces, and security. It may be an attractive choice for beginner investors, also, particularly well-suited for people who have time constraints and those who have limited financial knowledge. However, it is essential to keep in mind that robo-advisory may not be suitable for investors who have more complex needs or who prioritize control over their decisions, consequence of the lack of human interaction and limited personalization.

Overall, the suitability of robo-advisors depends on an individual's preferences, financial objectives, and risk tolerance. Therefore, it is necessary to carefully evaluate both the benefits and the limitations before proceeding with robo-advisory.

### **References:**

- [1] Robo-Advisor: Definition, Benefits, Drawbacks, Cost, Examples [online]. [accessed 13.03.2024] <https://www.nasdaq.com/articles/robo-advisor-definition-benefits-drawbacks-cost-examples>
- [2] What Is a Robo-Advisor? [online]. [accessed 12.03.2024] <https://www.investopedia.com/terms/r/roboadvisor-roboadviser.asp>
- [3] What Is A Robo-Advisor? How Do They Work? [online]. [accessed 12.03.2024] <https://www.forbes.com/advisor/investing/what-is-robo-advisor/>
- [4] Modern Portfolio Theory: What MPT Is and How Investors Use It [online]. [accessed 10.03.2024] <https://www.investopedia.com/terms/m/modernportfoliotheory.asp>
- [5] Robo-Advisors – Worldwide [online]. [accessed 11.03.2024] <https://www.statista.com/outlook/fmo/wealth-management/digital-investment/robo-advisors/worldwide#assets-under-management-aum>