SHORT PAPER: CAN ROBO-ADVISORS REPLACE TRADITIONAL ADVISORS?

Eugene L.X. Wong
Master of Engineering Management
Pratt School of Engineering
Duke University
Durham, NC 27708
eugene.wong@duke.edu

ABSTRACT

Investment management was once an exclusivity that was only offered to the wealthy by human advisors. However, robo advisors are now offering low cost, readily accessible, fully automated services to a wider spectrum of users to manage their portfolios. The objective of this paper is to provide an insight on the differences between human and robo advisors, the advantages and trade offs in each advisor type, and the issues faced that are both common and yet unique to each. The author's analysis of robo advisors versus human advisors was conducted with reference to the following paper: "The Economics of Complex Decision Making: The Emergence of the Robo Adviser", published in August 2017.

1 Introduction

Investment management and financial advisory services were once exclusive to the high income or high net worth clients. It used to be only human advisors able to provide financial advice and to manage their customers' investment portfolio. However, given the rise of robo advisers in the last decade, the outreach of these services have empowered a larger spectrum of users to gain financial literacy, investment guidance and convenience that were not available before. While there is a constant debate on which type of advisors (Human advisor vs. Robo advisor) is best for an individual, the fact of matter remains that there are inherent advantages and trade-offs in both categories. In this analysis, the author seeks to identify and explain the differences between the traditional (human) and robo advisors, as well as the challenges faced when using either services.

2 Differences between traditional and robo advisors

2.1 Fees and costs

One major difference that distinguishes the robo advisor and the human advisor is the fees charged for the service. The conclusion is that robo advisors always offer rates that are far substantially lower than the human advisor. For example, a human advisor charges between 1% to 2% of assets under management, with lower rates for larger portfolios. Comparatively, the robo advisor charges a range of zero to 50 basis points or more in the United States. The relatively lower fees charged by the robo advisor can be explained by three factors, namely, the economics of scale, less labor driven (higher productivity) and the use of passive investment strategies. First, as robo advisors are able to acquire and serve more clients, through the economics of scale, the fees would fall. Second, a human advisor can only serve a number of customers given the human limitation of time and space. It is therefore inevitable to increase the number of human advisors in order to increase the acquisition and service to clients. Consequently, a labor intensive service results in higher operating cost. Third, most robo advisors uses passive investment strategies, in view of reaping profits in a longer time horizon. In contrast, human advisors are more likely to promote active investment strategies, which requires more trades resulting in higher fees charged. Besides the higher fees, the minimum assets imposed in order to get access to human advisors tends to be relatively high. For example, some human advisors requires a minimum asset of $500,000 or more. In comparsion, some robo advisors offers a minimum account balance between zero (Betterment)

to $500 (Wealthfront). As a result, robo advisors tends to attract the younger generation of people who have just started to save or have very little money to begin with.

2.2 Convenience of Access

Due to limitations to control space and time, human advisors are not able to provide 24/7 monitoring or financial advice to their clients. Besides the basic requirement of having an internet connection, the robo advisor can be accessed at any time and at any location. This gives freedom to the users (especially the younger generation) to pursue their daily activities and to handle their finances whenever it is convenient. In addition, the usage of online forms or providing information through the platform effectively eliminates the need of filling out paper documents, the duties of postage, and the need to find time and space to meet the human advisor. Consequently, the major difference in access to the respective advisors is also associated to the difference in age groups where the younger generation of people tend to be users of robo advisors.

2.3 Warm body effect

While the tangible benefits of service fees and convenience provided by robo and human advisors can be measured and compared to by quantifiable ways, the provision of intangible benefits by human advisors versus robo advisors are not easy to evaluate. For example, where financial guidance is tailored to the individual and/or emotional support is needed, a human advisor have an edge over robo advisors. Particularly, when the market is volatile, human advisors can persuade the client from trading at a disadvantage position (buy high and sell low). While the robo advisor can also provide guidance in such situation, it does not provide the same level of emotional support and persuasion that will prevent the client from acting rashly in the market. Moreover, survey data has shown that 64% of pension participants are more likely to engage a human advisor compared to 28% who would solely obtain financial advice from an online provider. In that sense, the 'warm body effect' provided by human advisors is still highly valued among certain segments of users.

2.4 Quality of advice

The quality of advice provided by robo and human advisors are often conflicted by biases that results in an overly indulgence in a particular asset class or a portfolio of an arbitrary 'good' ratio, and the lack of risk evaluation. Based on research data, robo advisors are likely to recommend a portfolio that is dominated by equities, ranging from 51% to 90% of the total portfolio. The reason for this bias is due to the historical data (equities have outperformed fixed income) that was used to train the underlying models of the robo advisor. Since the objective of the robo advisor is to maximize returns, it will therefore overload it's portfolio with equities with the assumption that the market trends in the future will be similar to the past. In case of a downturn, an over concentration in one asset class may result in the portfolio to lose significant value. Comparatively, human advisors tends to recommend a framework of balancing the asset classes in the portfolio. For example, a portfolio consisting of 60% equities and 40% fixed income. This is done to mitigate the risk of an over concentrated asset in the portfolio. Although advantageous, it is accompanied by a trade off, which is the inability to optimize returns when the market in favor of a particular asset. For example, in the first quarter of 2017, three robo advisors (Charles Schwab, Personal Capital and Betterment) outperformed the traditional advisor (60% equities, 40% fixed income) by more than 1% to 4%. Another issue faced by robo advisors that is managed better by humans is the inability to tailor the porfolio according to the individual's capability to bear risk and also his/her risk tolerance. The issue is attributed to the heavy influence of certain user features (for example, personal wealth) and the oversimplification of matching responses on a questionnaire to a user's character profile. As illustrated in the case study, some wealthy users are binned into a moderately risk portfolio despite expressing low risk tolerance. Also, instead of being served as a filter or constraint to limit risk, user features such as wealth is used to the optimize the portfolio matching. Consequently, this leads to an inappropriate portfolio allocation that is deafening to the user's risk tolerance.

2.5 Scope of advice

There are limits to the service made available by robo advisors. For example, some robo advisors may only manage equities and fixed income in the portfolio, but not other assets such as real estate and insurance. In contrast, human advisors are not rigid and are able to take into account a wider spectrum of assets to be managed. The limitation of the robo advisor can be attributed to the deterministic design (it can do only what it is designed to do) and the inability to gather information beyond the standardized format. While human advisors strive in such settings where tailoring to the client's complex and varied needs is essential, it may not translate to better risk management and may recommend unnecessary products. One case study has shown that human advisors did not discriminate their clients' risk preferences and recommended the same portfolio to all clients. Though there are weaknesses in robo advisors, there's a clear

advantage over human advisors, that is, it is not subjected to bias towards age, race or gender, and is less likely to recommend an actively traded fund, a product human advisors tends to promote.

2.6 Conflict of interest

Due to the nature of reaping commissions in traditional financial advisory services, products may be promoted to benefit the advisor instead of the client. In comparison, Robo advisors are less prone to potential conflict of interests because of the independence from the product, flat fees based on asset under management and the transparency in fees due to market competition. First, most robo advisors are not sponsored and therefore not inclined to sell a certain product. However, there are exceptions where a robo advisor may limit the user's options and only promote their own products. For example, users of Charles Schwab's robo advisor can only purchase their in-house ETFs that are higher in fees. Second, robo advisor offers flat rates based on assets under management regardless of the asset type. In contrast, the human advisor offers varied fees that are subjective to investment choices made by the client. Consequently, the human advisor may offer products in the interest to generate higher fees. Third, due the cut throat competition for market share, robo advisors tend to laid bare their fees charged to attract users. On the other hand, human advisors may change their fees depending on their relationship with their clients, possible future dealings and the advisor's status. In that sense, robo advisors offers better transparency and reliability compared to human advisors.

3 Conclusion

The debate on which type of advisor is better remains subjective because it's highly dependent on the user's age, use cases and risk tolerance. It without doubt that robo advisors are clear winners in the fees charged, convenience of access and the mitigation towards conflict of interest. While advantageous in many ways, the robo advisor cannot totally replicate the role of a human advisor in providing emotional support and the ability to persuade clients not to take positions that are detrimental (buy high, sell low). After careful examination of the robo and human advisors, the author believes the hybrid approach to reap the benefits from both type of advisors may constitute the future in financial advisory services.