Robo-Advisory: The New Paradigm in Asset Management or a Millennial Fad?

Mathias Awuni

B N. Bahadur Institute of Management Sciences, University of Mysore Manasagangothri Mysore.

Abstract:

The extent to which technology has penetrated every aspect of our lives cannot be overemphasized. Finance and technology are inching closer to convergence by the day; while older investors may be reluctant to have robots doing their investing for them, many millennials are jumping unto the new asset management bandwagon. Thus, allowing algorithms to predict and recommend investment plans and automatically balance portfolios for them based on information such as age, risk tolerance level, investment goals, etc. Robo-advisory software programs periodically buy and sell securities to keep the mix matched to investors' risk tolerance. This study shows that the emerging issues around fintech only serve to signal that the asset management industry is set for a massive overhaul as more investors seek to substitute the human asset manager for robots and algorithms. Personal finance management especially for low net worth individuals is in a nascent stage of undergoing a complete revolution as these technologies continue to develop. Adventurous investors are encouraged to try robo-advisory services. Although robo-advisory is still at a very rudimentary level especially in developing countries, asset management companies need to recognize the impending disruption and use it to their advantage or risk being smothered by the technology.

Key words: Investment, Robotics, Advisory, Fintech, Financial, Technology

Introduction:

In recent times, the rapid growth of Internet-based services has had a profound impact on the traditional financial sector. Now, fintech companies are expanding their business scope beyond online payment systems into advanced financial services, from money market funds (MMFs) to lending services, online funds, and Internet-based private banking services. The rapid development of information and communications technology is transforming the entire financial services industry landscape, heralding a new era of convergence services. As one of the developing countries in the financial sector both developing and developed countries are experiencing an unprecedented level of convergence between finance and technology. Robo-advisors are also shaking up the investment world, extending financial advice to just everybody (Chishti and Barberis, 2016). According to a recent LendEDU(2017) survey of 502 Millennials in the USA who are actually saving for retirement on an ongoing basis, 53.59% said they aren't using a financial advisor to help them invest. That compares to 46.41% who are using the services of a financial advisor.
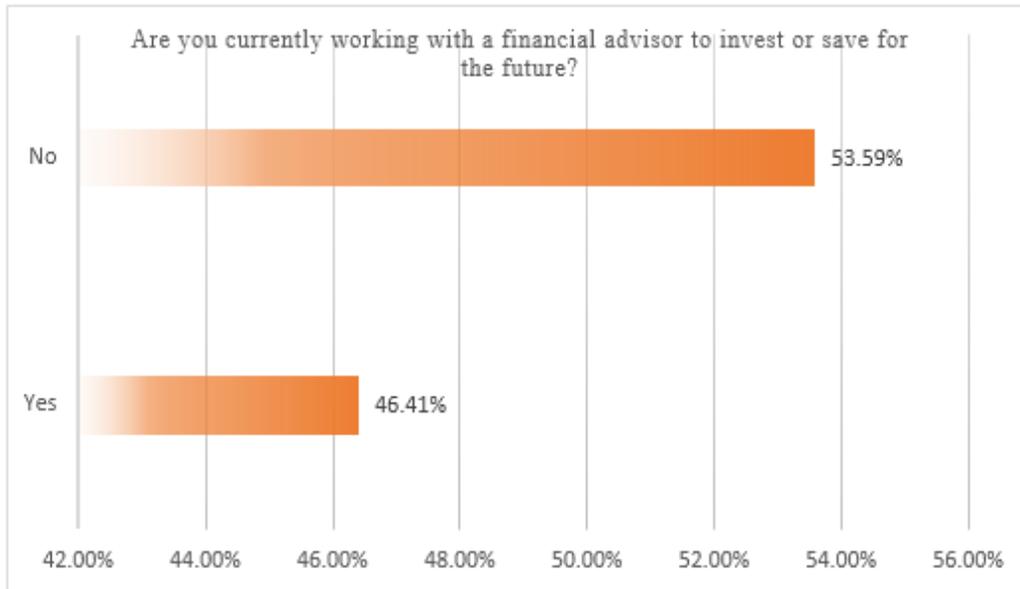
Figure 1: Millennials using financial advisory services
Source: *LendEDU (2017)*

According to a report by the consulting firm A.T. Kearney (2016), these automated investment services will manage about $2 trillion in the US by 2020, accounting for 5.6% of Americans' investment assets.

The world's major retail banks still dominate the financial services landscape, providing the deposit, payment, and credit facilities that we all use and take for granted, but they are no longer the only players in the industry. Meinert (2017) opined in an article featured in the American Banking Association Journal (ABAJ) that, startups specializing in Robo-advisory have been increasing at a phenomenal pace since 2014, the author further indicated that a research by Black Rock, the world's largest asset management firm, showed that 60% of digital advisory companies existing in the US as of 2017 were founded in 2014, and there are no signs that the trend will decline any time soon as their largely millennial clients continue to adopt these products at a fast pace due to ease of access and low cost among other factors. Business Insider's research service, Business Intelligence, predicts that robo-advisors will manage 10 percent, or $8 trillion, of all global assets under management (AuM) by 2020.

Research Objective:

The objective of this paper is to examine the prospects and challenges of robo investing in the broader framework of fintech, where finance and technology converges. In specific detail, the paper explores the robo investing and human advisory nexus, establishing whether the trend is just a fad or the new paradigm in investment and asset management.

Literature Review:

The Robo-Advisors generally include private asset management providers who offer automated online portfolios in which private investors can choose investment volumes depending on their scope and private appetite for risk. Providers such as Wealthfront, Schwab Intelligent Portfolios and Betterment allow private and/or institutional investors to invest their money (starting at very small amounts) in pre-existing portfolios, which are automatically managed by individually configured algorithms. The advantage of these services lies in the passive role of the investor, who may not want or cannot afford ongoing personal monitoring of their portfolio development. Such automated investment services also allow for attractive returns with low starting capital and without specific investment know-how, which is in contrast to classic investments offered by traditional banks. Gitlen (2017) defines Robo-advisors as popular investment platforms that use algorithms rather than investment managers or financial planners to manage your money and allocate investment funds. These financial services companies offer a high-tech way to invest at a relatively low cost.

Robo-advice is a fast-growing application of financial technology (FinTech) solutions to asset and wealth management; owing to their user-friendly and automated processes, low-cost portfolio management and solid performance, robo-advisors are posing a challenge to traditional financial advisory services (Kaya, Schildbach & Schneider, 2017).

In an article examining the fiduciary relationship between robo advisers and their clients, Fein (2015) found that Robo-advisors are faced with a number of conflicts of interest that enable them to engage in self-dealing transactions.

Methodology:

This research uses only secondary data. The main data source is the CrunchBase database, which contains detailed information on fintech startup formations and their financing. The database is assembled by more than 200,000 company contributors, 2,000 venture partners, and millions of web data. A significant amount of data used for the research will be obtained by reviewing relevant literature for the study. These will be taken from mainly news articles, legislations, journals, internet sources and books. Data was also used from a poll that was commissioned by LendEDU and conducted online by online polling company Pollfish. In total, 502 millennial respondents participated in the poll that ran from August 10th, 2017 to August 11th, 2017. All respondents were between the ages of 18 and 34, which was validated through Pollfish's age quota filter. Data on assets under management and robo-advisory penetration rates is also pooled from statistica, an online repository for business intelligence.

Discussion of Findings:

Robo-advisors reduce entry barriers for tech savvy low net worth individuals, thus breaking the erstwhile vicious cycle where individuals need large sums of money to seek professional investment advisory services. Robo-advisors also simplify portfolio construction and asset allocation process, for tech savvy young persons with smaller amounts of wealth to control and manage their own investments without the limitation of distance and geography (Tertilt & Scholz, 2017). Algorithms are able to predict and recommend investment plans and automatically balance portfolios for users based on information such as age, risk tolerance level, investment goals, etc. The programs periodically buy and sell securities to keep the mix matched to investors' risk tolerance.

LendEDU (2017), an organization which gives education loans in its recent study asked people aged 18-34 whether a human financial advisor and a robot could cause financial loses to their clients.
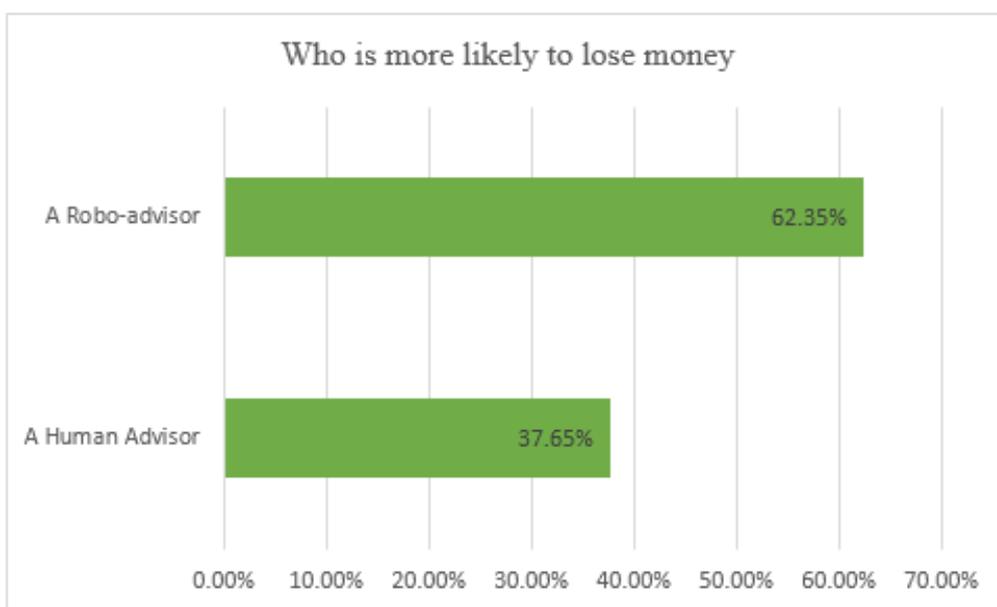

Figure 2: Likelihood of losing money
Source: Data from LendEDU (2017)

It can be seen from figure 2 above that 62.35% believe that robo-advisors were more likely to make mistakes and hence cause them to lose money as opposed to 37.65% who think that human advisors were more prone to error. It is difficult to tell the reasons for such thoughts but it makes sense to think that humans can sometimes make emptions and gut feelings override their professional judgment. In the case of robo-advisory, since a computer algorithm is choosing how to invest your money and monitoring your portfolio's performance, they're able to efficiently analyze your financial goals and your risk tolerance to create and routinely rebalance a portfolio of investments that will help clients to achieve financial goals.

Again, using data from by LendEDU's survey, one of the questions asked those who were not using robo-advisors. The responses are rather interesting, while only 24.30% of survey respondents said they aren't using robo-advisors, it's not for a lack of willingness. A majority of the respondents, 61.58%, said they haven't used one because they didn't know that type of investing advice existed. This certainly is a shimmering sign of hope for robo-advisory startups and big banks looking to leverage the technology to expand their assets under management. The remaining 38.42% cited trust (8.9%), difficulty in usage (5.53%), preference for humans (16.53%) and self-confidence (7.37%) as reasons for not using robo-advisors.
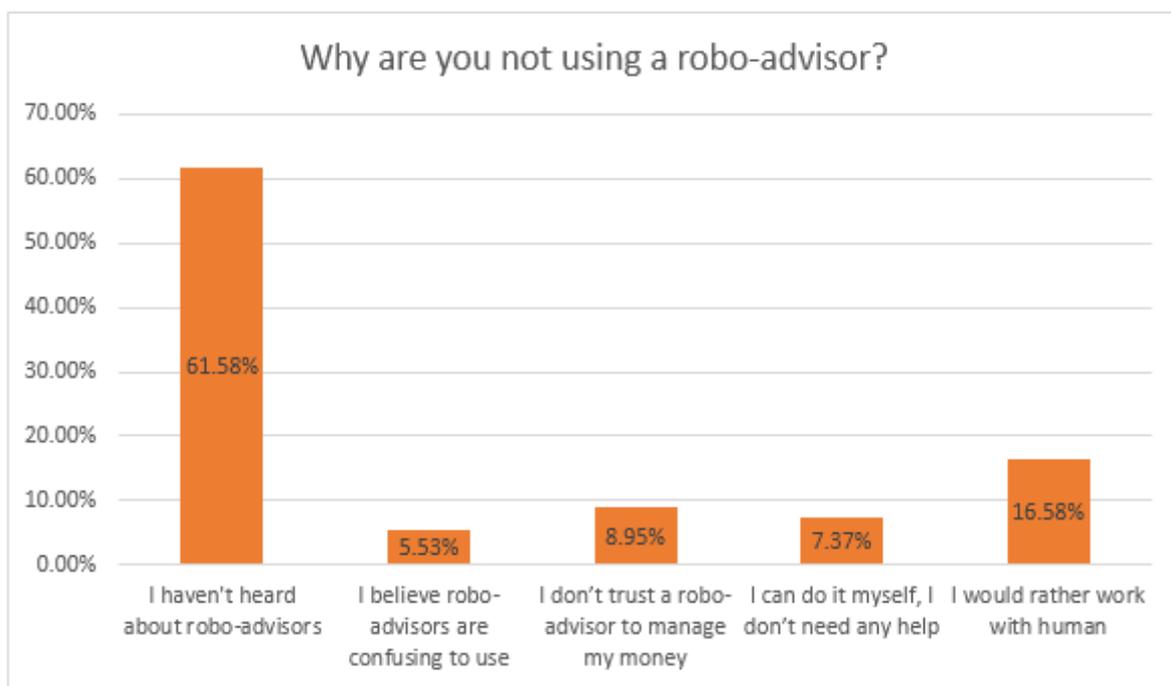

Figure 3: Reasons for not using Robo-advisors
Source: *Data from LendEDU (2017)*

Why the preference for human investment advisors?

It may appear at first thought that the reasons for not using robo-advisors may be the reasons for using human advisors but the evidence from the survey shows otherwise. As many as 53.6% of respondents who still prefer human advisors cite ease of starting as their key motivating factor. 15.88% of the respondents think human advisors provide the most cost-effective way of starting off, 17.6% prefer human advisors because they provide round the clock services, 9.01% human touch and 3.86% for tax efficiency purposes.

Millennials appear to vest a lot of trust in technology when navigating the city or getting by in a new town through google maps and other navigational services, they may as well rely on technology and algorithms to guide their other activities through the millions of mobile and desktop apps designed for various purposes. When it comes to trusting money management to these systems however, the story is completely different. Human advisors are preferred to robo-advisors when it comes to selecting avenues for managing hard earned money.

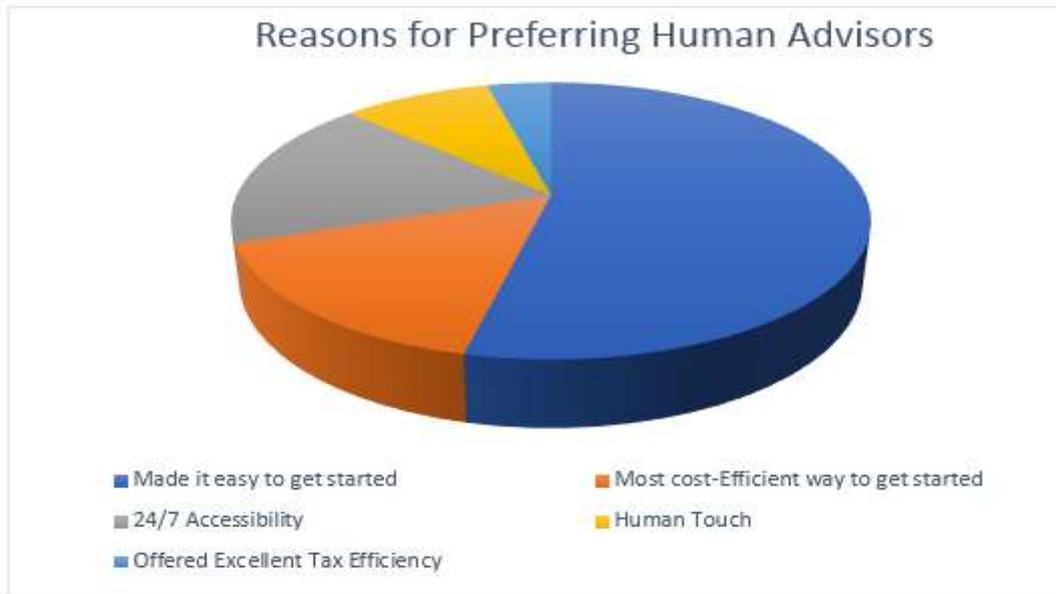The chart below shows different reasons for the preference for human advisors.

Figure 4: Reasons for preferring human advisors
Source: *Data from LendEDU (2017)*

Cost/Benefit trade-off: Human vs Robo-advisors:

According to Singh & Kaur (2017), robo-advisor investment fees range from free to one percent, whereas financial advisors charge anywhere from one to three percent. Traditional investment advisors usually only take on clients with a minimum portfolio balance of $200,000. In comparison, while many robo-advisors will have no minimum balance, some may require only $5,000, which are still a small amount compared to what financial advisors require.

Cost of using Robo-advisors:

In a study conducted by *Value Penguin* of fourteen (14) robo-advisors, the average amount charged for accounts with balance of $5,000 was 0.25%, for accounts with balances of $10,000 the average was 0.26%, for accounts with over $50,000 the average was 0.36%, and for accounts with over $100,000 the average fee was 0.36%. On top of these costs, clients have to pay fees for the ETFs or the index funds in which investments are made. These fees can range from as low as 0.04% to closer to 1%.

The figures below give a snapshot view of the user interface and the charges of a few robo-advisors in the US.
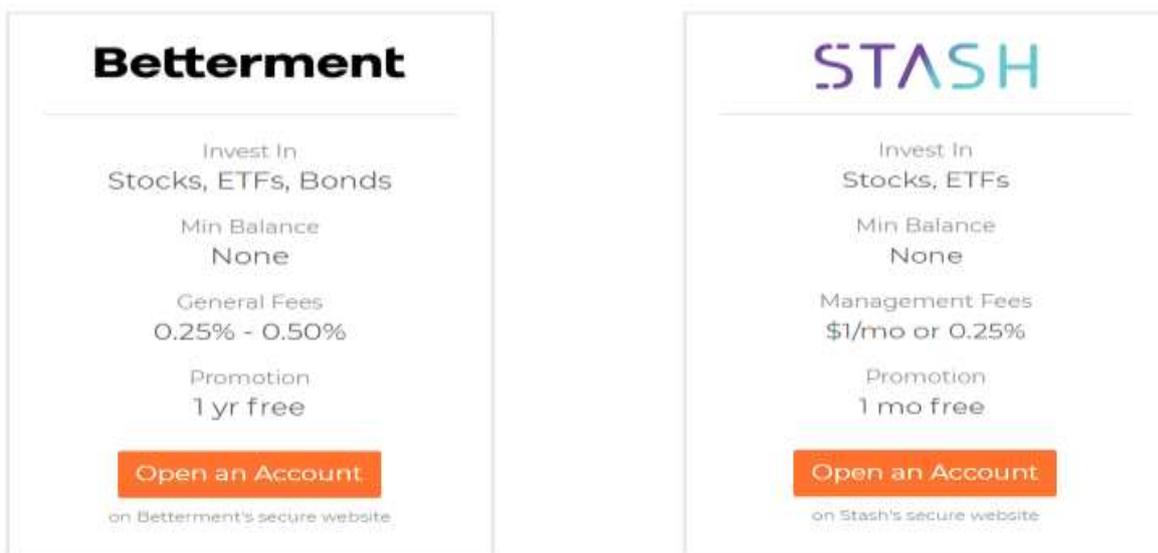
Figure 5: Sample user interfaces

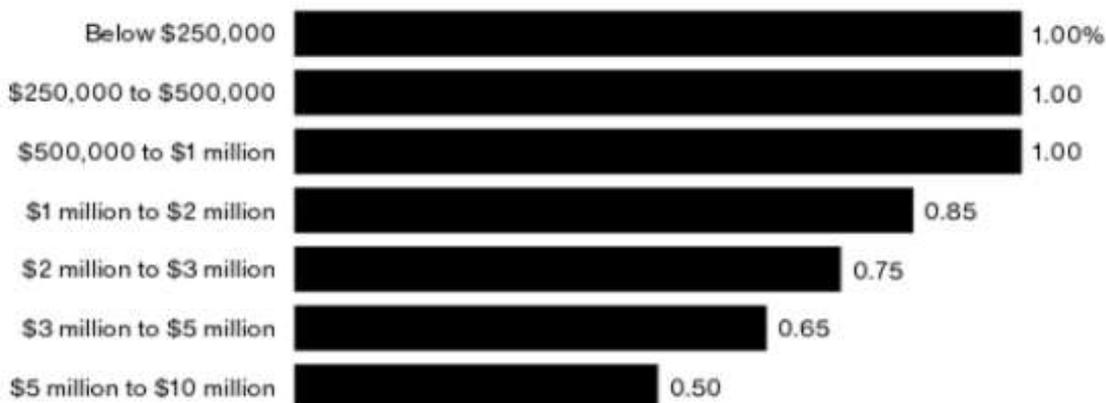**Source:** *Application user interface of various software*

Betterment, Stash, Futureadvisor, and Personal Capital are just four of many robo-advisory services in the US; the basic information provided about charges and packages however gives a strong signal of the fees structure of other players in the industry. Betterment for example, charges between 0.25% and .5% of assets under management, Stash charges $1 per month or 0.25% of assets under management; both requiring no minimum balance. Future Advisor and Personal Capital on the other hand require a minimum balance of US $10,000 and US $100, 000 respectively along with 0.5% and 0.49% to 0.89% of total balance as management fees. Clearly these costs are relatively lower compared to using a human advisor assuming the absence of any hidden charges.

Cost of using Human Advisors:

A survey conducted by *Inside Information (2017) shows that most human advisors do not* engage clients who have less than a threshold amount of money to invest since most of them are unprofitable. Financial advisors also charge lower management and general fees as the amount of investment increases. The chart below provides a summary of median annual fees charged by human advisors by portfolio size.
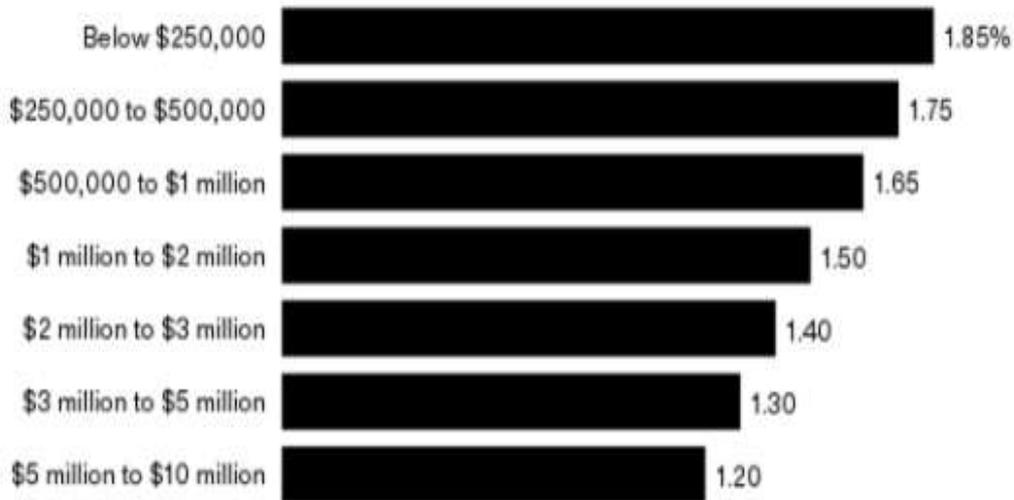

Figure 6: Cost of hiring a human advisor

Source: *Inside Information (2017)*

Financial advisors charge as much as 1% of total assets under management for assets below $1million excluding other hidden and transaction costs. For assets between $1million to $2milion the median cost is 0.85%, 0.75% for assets between $2million and $3million; 0.65% form amounts between $3million and $5milion; 0.5% from those investing %$5million to $10million.

The Total Bill to Investors

Median annual cost of financial advice and investment services, by portfolio size.

Portfolio size	Cost
Below $250,000	1.85%
$250,000 to $500,000	1.75
$500,000 to $1 million	1.65
$1 million to $2 million	1.50
$2 million to $3 million	1.40
$3 million to $5 million	1.30
$5 million to $10 million	1.20

Inside Information 2017 Planning Profession Fee Survey

Figure 7: Cost of hiring a human advisor

Source: *Inside Information (2017)*

As indicated, the cost of hiring a human advisor excludes the cost of other services offered. The diagram above shows the incremental total cost of using a human advisor. It reveals the same trend; as the asset size increase, the total cost decreases but the total charges ae still significant as they can rise up to as high as 1.85% for investments below $250,000. The overriding conclusion is that in terms of total financial costs, human investors are very expensive for the average investor.

The conclusion is rather mixed; the whereas human advisors obviously charge higher compared to robo-advisors, there is a trade-off between cost and benefit as human advisors can provide deep and rich information to ease understanding of investment options as opposed scanty information provided by robo-advisors requiring complete trust algorithms.

Robo-Advisory Growth Trajectory:

There is a lot of interest in Fintech in general and robo-advisory specifically more than ever before. The charts below show the trends of growth and future projections for the sector. Assets under management are expected to show an annual growth rate (CAGR 2019-2023) of 27.0% resulting in the total amount of US$2,552,265m by 2023. In the Robo-Advisors segment, the number of users is expected to amount to 147,018.4 thousand by 2023.

The average assets under management per user in the Robo-Advisors segment amounts to US$21,421 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).

Figure 8: Global Assets under Management Growth Trajectory
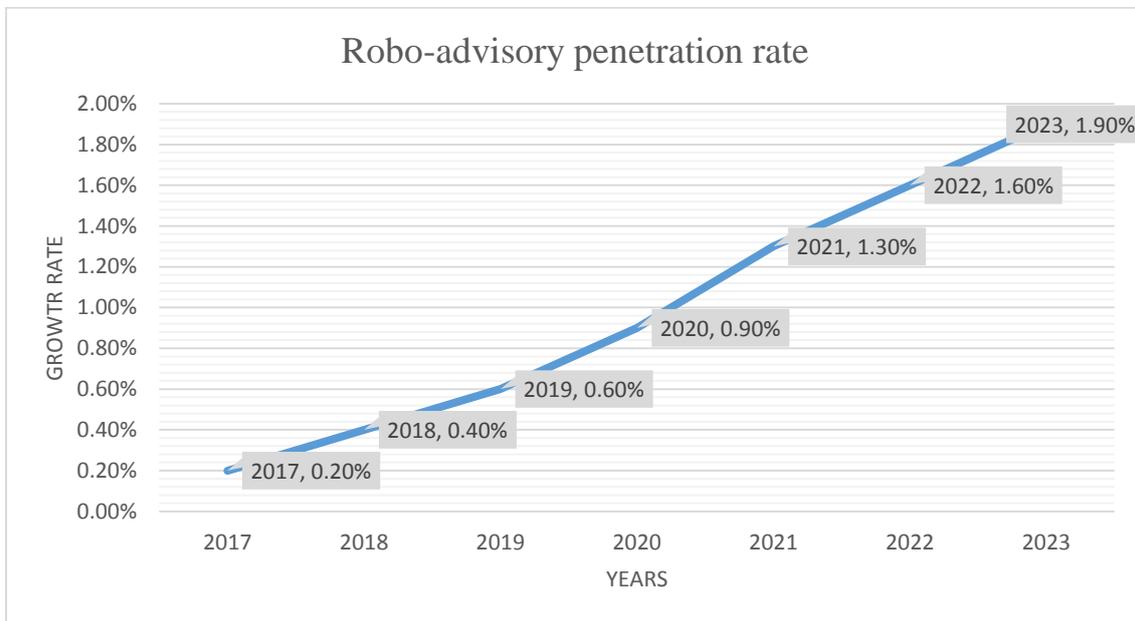**Source***: Data from Statistica, (February 2019)*

Figure 6: Robo-advisory penetration rate
Source: *Data from Statistica, (February 2019)*

Evidence from India:

A cursory look at financial advisory fees in India shows that if you wanted to have a private wealth advisor, you had to have at least Rs20 lakh to Rs1 crore (as investment corpus). The shift in thinking in the investment landscape has however resonated among young investors in India. Financial service companies have equally

responded by providing robo-advisory services to its tech-savvy clients. A few of the big names who have started include but not limited to; FundsIndia.com (has received $15.41 million), MyUniverse ($9.7 million) and Scripbox ($3.22 million) as of June 2016 (Livemint, 2016). Companies such as ICICI Securities, on the other hand, are building robo-advisory products in-house.

Figure: Growth trajectory of Robo investing in India
Source: *Statistica (2016)*

The value of assets under management in India in the Robo-advisors segment amounted to just $7 million in 2017. Experts readily agree that the total value of assets under management with Robo-advisors in India will be worth approximately $100 million by 2021. Additionally, some 200,000 traders and investors are expected to be using Robo-advisors by that time. Robo-advisors category in India between 2017 and 2021, with a compound annual growth rate of 97.4% Statistica (2016). Assets under management in the Robo-Advisors segment amounts to US$980,541m in 2019.

Implications for asset management and personal financial management:

In tandem with in with fast paced environment of technology innovation and in congruence with massive breakthroughs in artificial intelligence, the findings of this study as well as the emerging issues around fintech only serve to signal that the asset management industry is set for disruption as more investors seek to substitute the human asset manager for robots and algorithms. Personal finance management especially for low net worth individuals is in a nascent stage of undergoing a complete revolution as these technologies continue to develop. Individuals looking to improve their personal investments should consider this emerging area as a boon and actively evaluate the risks and rewards inherent in them so as to make the best of the new technologies in the area.

Conclusion:

Among other things, as noted, in providing services to customers, robo-advisors use affiliated brokers, custodians, clearing firms or other firms from which they receive compensation. To effect securities transactions for users, robo-advisors typically use an affiliated broker-dealer or a broker of their choice, which may not always obtain a favorable price for the user. This is especially troubling as some of the proponents of Robo investing argue that one of the advantages to the new system is the removal of conflicts of interest. It's

not yet clear whether robo-advisers can outperform their human counterparts on anything other than price but they have clearly come to stay. Either way, the big players in the field have decided the idea has enough promise for them to try to beat the newbies at their own game. Robo-advisors may result in investment recommendations that are based on incorrect assumptions, incomplete information, or circumstances not relevant to an individual investor. A risky feature of robo-advisors which may not be immediately obvious is that the compensation robo-advisors receive ultimately is paid for by their customers in the form of higher fees embedded in investment products and services.

References:

1. Brown (2017) Robo-advisors vs. Financial Advisors – Millennials Still Prefer Real-Life https://lendedu.com/blog/robo-advisors-vs-financial-advisors/
2. Chishti, S., & Barberis, J. (2016). The FinTech book: the financial technology handbook for investors, entrepreneurs and visionaries. John Wiley & Sons.
3. Fein, M. L. (2015). Robo-advisors: A closer look.
4. Gitlen, J,.(2017)Best Robo-advisors in 2018 https://lendedu.com/blog/best-robo-advisors
5. http://www.newindianexpress.com/business/2017/nov/03/robo-advisors-and-the-indian-market-1690839.html
6. Kaya, O., Schildbach, J., AG, D. B., & Schneider, S. (2017). Robo-advice–a true innovation in asset management. Deutsche Bank Research, August, available at https://www. dbresearch. com/PROD/DBR_INTERNET_EN-PROD/PROD0000000000449010/Robo-advice_ _a_true_innovation_in_asset_managemen. Pdf.
7. Meinert, M. C. (2017). Adapting to Survive. *American Bankers Association. ABA Banking Journal*, *109*(6), 30-33.
8. Singh, I., & Kaur, N. (2017). Wealth management through robo-advisory. *International Journal of Research-Granthaalayah*, *5*(6), 33-43.
9. Sironi, P. (2016). *FinTech innovation: From robo-advisors to goal based investing and gamification*. Wiley.
10. Statisitca(2019) https://www.statista.com/outlook/337/100/robo-advisors/worldwide
11. Tertilt, M., & Scholz, P. (2017). To advice, or not to advice—how robo-advisors evaluate the risk preferences of private investors.

Corresponding Author: **Mathias Awuni**
Email ID: awunimath@gmail.com
Received: 2019-05-07
Accepted 2019-05-19
Publish Online 2019-05-21