Who uses robo-advisory services, and who does not?

Martha Fulk[a,*], John E. Grable, Ph.D., CFP[a], Kimberly Watkins[a],
Michelle Kruger[a]

[a]*University of Georgia, 300 Dawson Hall, Athens, GA 30602, USA*

Abstract

The purpose of this study was to compare the demographic, attitudinal, and behavioral character-istics of U.S. consumers in their current and expected use of robo-advisory services, traditional financial planning services, or a combination of the two services. Findings showed a difference between those who used robo-advisory services and those who used traditional financial planning services. Overall, those who used a traditional financial planner were older and reported higher levels of net worth, while users of robo-advisors, on average, reported lower levels of net worth. In addition, those who used traditional financial planning services reported a larger percentage of their total net worth from an inheritance, whereas a lower percentage of net worth from an inheritance was reported by robo-advisor users. Results showed that users of robo-advisory services generally (1) had lower income, (2) had lower net worth, (3) had received no or less inheritance, and (4) were less impulsive financially. © 2018 Academy of Financial Services. All rights reserved.

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1. Introduction

The term "robo-advisor" encompasses any automated investment or financial planning service that is designed to appeal to the mass market by providing easy and inexpensive access to financial information, advice, products, and services (Berger, 2015). Those who promote the value and use of robo-advisors point to the following features:

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* Corresponding author. Tel.: +1-706-542-4758; fax: +1-706-542-4397.

E-mail address: mfulk@uga.edu (M. Fulk)

1. Costs tend to be lower than what a consumer would pay for services provided by a traditional financial planner (investment management services generally top out at 50 basis points for robo-advisors);
2. Investment recommendations are generally implemented using low-cost Exchange Traded Funds (ETFs), which helps keep annual management expenses low;
3. All aspects of the investing process, from risk assessment to ongoing rebalancing, are completed quickly;
4. Nearly all robo-advisors provide tax tracking features; and
5. Access to financial and other information is easily and quickly accessible.

Some of the primary arguments against the use of robo-advisors include:

1. Lack of flexibility;
2. Lack of personalization to a client's unique needs or desires; and
3. Lack of personal interaction and relationship with a financial planner.

The value provided by robo-advisors can be gauged, in part, by the growth in assets under management among robo-advisory firms. According to research disseminated by A. T. Kearney (2015), assets under management held at robo-advisory firms in 2016 exceeded $300 billion. This figure is expected to increase to more than $2 trillion by 2020. If the growth projection holds true, this will signal a significant shift from traditional human interfacing services to one that includes an increasingly significant role for automated advice.

Although little is known about the types of people drawn to robo-advisory services, nearly all indicators suggest that adopters of fully automated systems tend to be younger (under age 35) and relatively knowledgeable about personal and household financial issues, whereas non-users tend to be older consumers who are nearing or in retirement. Those who avoid robo-advisory services are thought to be more cautious (A. T. Kearney, 2015). If this general assessment is accurate, the future growth of robo-advisory services will depend on less experienced and cautious consumers' willingness to transfer assets and information to robo-advisors. If this occurs, there could be profound disruptions to the revenue of firms operating as traditional asset managers and firms providing direct person-to-person financial planning advice (Regan, 2015).

The purpose of this study was to compare the demographic and attitudinal characteristics of affluent U.S. consumers in their current and expected use of robo-advisory services, traditional financial planning services, or a combination of services. The results from this study add to the literature by providing an empirically robust description of current and potential users of robo-advisory services. The remainder of this paper is focused on providing a background review of robo-advisory services, a description of the research methodology, a report of the findings, and an applied discussion of results.

2. Literature review

When first conceptualized, robo-advisors were brought to market as an alternative for small investors to gain access to financial advice and portfolio management services in a cost-effective manner (Fein, 2015). A key feature associated with robo-advisors is the

delivery of services at low costs. Cost savings are generated by automating the process of collecting and analyzing client data, creating and implementing recommendations, and monitoring outcomes.

Today, robo-advisors have expanded to include noninvestment money management services, such as budgeting, planned saving, expense tracking, mortgage financing services, legal advice, tax services, and general financial planning advice. Although federal regulators have yet to determine whether robo-advisory services meet either, both, or neither the suitability or fiduciary standard, there is a general recognition among policymakers that automated services may be a mechanism to expand investment advice and services to more individuals and families (Idzelis, 2016).

It is important to note, however, that some have expressed concerns about the role of robo-advisors in the financial marketplace. For example, Fein (2015) published a critique of robo-advisors and concluded that robo-advisors do not always provide advice that is in the best interest of consumers. Fein argued that there is a general lack of transparency in the way consumer information is used. This lack of transparency can lead to undisclosed conflicts of interests that can increase apparent and hidden costs paid by consumers. Regardless of the debate that continues over the fiduciary status of robo-advisory firms, it is clear that an increasing number of consumers have embraced the notion of allowing an automated system to manage some or most of their finances. The limited literature on the use of robo-advisors suggests that primary adopters of this technologically driven money management approach tend to be younger consumers who have a high level of trust in online platforms (Cutler, 2015; Pisani, 2016). What is less well known is how well the adoption of robo-advisory services matches with the help-seeking behavior of consumers for traditional financial planning services.

2.1. Help-seeking behavior

The financial help-seeking literature is relatively robust, meaning that researchers have been able to describe the general characteristics of those who seek out financial advice from professionals. A recent review by Gentile, Linciano, and Soccorso (2016) summarized much of this literature. Gentile et al. noted that basic demographic factors often help differentiate those who seek professional help from those who do not. For example, given the pricing models associated with financial planning and investment management services, household income and net worth tend to be important factors in describing help-seeking behaviors. Specifically, those with greater income and wealth tend to be more likely to pay for financial advice and, thus, seek out such advice (Finke, Huston, and Winchester, 2011; Miller and Montalto, 2001). Whether these factors are also important in shaping who may prefer to work with a robo-advisor is less well known; however, it is reasonable to expect that those with less income and lower levels of wealth may be the primary users of robo-advisory services.

Age, gender, education, and marital status are also known to be associated with help-seeking behavior (Auslander and Litwin, 1990; Elmerick, Montalto, and Fox, 2002; Fischer and Farina, 1995; Hackethal, Haliassos, and Jappelli, 2012; Gall, Kratzer, Jones, and DeCooke, 1990; Kaskutas, Weisner, and Caetano, 1997; Phillips and Murrell, 1994; Robb, Babiarz, and Woodyard, 2012; Salter, Harness, and Chatterjee, 2010). When asked where

financial services are obtained, older individuals are more likely, compared with younger individuals, to report seeking help from traditional financial planners. This is logical given that households managed by older individuals often have more complex financial questions and concerns, as well as the resources needed to pay for services. While there is little consensus on the gender effect, Gentile et al. (2016) did note that women seek the help of professional service providers more so than men. Generally speaking, those with high levels of attained education also seek out and use professional financial advice more so than those with less attained education (Elmerick et al., 2002). Similarly, help seekers tend to be married. This may be (1) because of increased complexities faced by married couples, (2) because of higher levels of net worth with combined income, or (3) the need to optimize the use of services to increase time together as a couple.

Previous research has shown that behavioral and attitudinal characteristics also help describe help-seeking behavior. In the Gentile et al. (2016) study, the researchers noted that factors such as saving behavior, impulsivity, financial satisfaction, self-assessed financial knowledge, positive perceptions of one's financial situation, level of engagement in a household's financial affairs, and feelings of regret can be used to describe who is likely to seek financial advice from a professional. In general, the profile of help-seekers includes those who (1) take proactive steps to plan and save for the future, (2) use and stick to a budget, (3) are more knowledgeable, (4) are confident, and (5) are less regretful or disappointed over past mistakes (Grable and Joo, 2001). This does not mean that these factors are causal characteristics. It is possible that the use of professional services enhances knowledge attainment, confidence, and other positive personal characteristics. Instead, what the previous literature does show is that those who seek and use help from professional service providers exhibit different characteristics from those who obtain help in other forms.

When viewed holistically, the profile of someone who is most likely to work with a traditional financial planner is that of an affluent, well educated, knowledgeable person who has a longer planning horizon (Chatterjee and Zahirovic-Herbert, 2010; Salter et al., 2010). Of interest, beyond acknowledging that younger, technologically savvy individuals are more likely to use robo-advisory services, little is known about the shared demographic, attitudinal, and behavioral characteristics of those who work with financial planners and/or robo-advisors. A primary outcome associated with this study was to address this gap in the literature.

2.2. Methodology

Data for this study were obtained from the online Mechanical Turk (MTurk) survey system. Survey participants were recruited during fall 2015. Criteria for inclusion in the study included a requirement that participants be primarily or jointly responsible for the management of household financial decisions. Additionally, participants needed to have at least $25,000 in household income and be able to identify the basic definition of net worth. Specifically, potential participants needed to answer the following question correctly: "How is net worth calculated?" In total, 608 individuals met each requirement and responded to the survey questions. It is important to note that the sample was not designed to be nationally representative, but rather, the sample was designed to capture the current and future

help-seeking characteristics of relatively affluent consumers (i.e., those who have the finan-
cial capacity to pay for financial planning services).

The outcome variable of interest in this study was developed based on participants'
answers to two questions. The first asked participants about their use of robo-advisory
services (automated investment technology). Specifically, each participant was asked to
indicate whether she or he "invests with a robo-advisor (automated investment technology)."
The second question asked about each participant's experience working with a traditional
financial planner. Participants were asked to indicate if they "currently work directly with a
financial advisor, wealth manager, or other professional advisor to help you manage your
finances and/or manage your investments." Three response categories were provided for each
question: (1) I currently use this service; (2) I do not use this service but plan to; and (3) I
do not use this service, and I do not plan to. Answers were recoded dichotomously so that
1 = currently use or plan to use the service and 0 = do not use and do not plan to use the
service. The final outcome variable was then coded as: 1 = only use a robo-advisor, 2 = only
use a financial planner, 3 = use both a robo-advisor and financial planner, and 4 = use
neither a robo-advisor nor financial planner. Approximately 9%, 29%, 11%, and 51% of
survey participants fell into each category, respectively.

Fifteen independent variables were used to identify the help-seeking characteristics of
participants. The choice of the variables was based on a review of the financial help-seeking
literature. Age was measured as a continuous variable. The mean, median, and standard
deviation of the age variable was 35.85, 33.00, and 10.76 years, respectively. Gender was
coded 1 = female and 0 = male. The sample was split almost evenly between women and
men. Education was measured on an ordinal scale with eight categories: (1) high school
graduate, (2) some college, no degree, (3) associate's degree, occupational, (4) associate's
degree, academic, (5) bachelor's degree, (6) master's degree, (7) doctoral degree, and (8)
professional degree. Over 60% of study participants held a bachelor's degree or higher level
of education. Over 95% of the respondents stated they were the primary financial decision
maker or that they jointly participated in making household financial decisions.

Household income and net worth were measured in U.S. dollars. Given skewness in the
data, income and net worth were normalized using Templeton's (2011) two-step approach
for transforming continuous variables. The mean and standard deviation for household
income was $79,017.74 and $63,406.31, respectively. The mean and standard deviation for
household net worth was $154,650.11 and $388,594.68, respectively. An inheritance variable
was included to account for the possibility that a large asset windfall in the past might have
prompted someone to seek professional financial advice. Each participant was asked to
indicate the percentage of her or his overall net worth that was a result of an inheritance.
Responses ranged from 2% to 58%, with a mean of 8.64% and a standard deviation of
12.20%. Marital status was coded into three mutually exclusive variables: (1) single, never
married (39%); (2) married, never divorced (47%); and (3) other, which included those who
were remarried, widowed, and divorced (14%).

Saving behavior was measured by asking participants to indicate what percentage of their
income was being saved each year. Responses ranged from none to 77%, with the mean
response being 12.80% (SD = 12.87%). Impulsivity was measured by asking: "How often
have you ignored budgets or plans when making large-scale purchases?" A five-point

Likert-type scale was used to record responses, which ranged from 1 = never to 5 = very often/always. The mean and median score was 2.22 and 2.00, respectively. Financial satisfaction was measured with the following item: "In general, how satisfied are you with your current financial situation?" A five-point Likert-type scale using 1 = very unsatisfied and 5 = very satisfied was used to code answers. The mean and median for the question was 2.95 and 3.00, respectively.

A participant's perceived ability as an investor was assessed by asking: "In the past, how often have you thought of yourself as a smart/savvy investor?" A five-point Likert-type scale was used to code responses, which ranged from 1 = never to 5 = very often/always. The mean and median for the item was 2.84 and 3.00, respectively. Whether a participant felt she or he currently earned enough money was measured by asking: "My family's current income is sufficient for most needs and wants." A five-point Likert-type agreement scale was used to code responses, with 1 = strongly disagree to 5 = strongly agree. The mean and median for the question was 3.62 and 4.00, respectively.

Financial and investment acumen was measured by asking the following question: "I often do not know how my investments are performing." A five-point Likert-type agreement scale was used to code responses, with 1 = strongly disagree to 5 = strongly agree. The mean and median for the question was 2.33 and 2.00, respectively. Regret and disappointment was assessed with the following item: "How often have you been disappointed by the financial decisions you have made?" A five-point Likert-type scale was used to record responses, which ranged from 1 = never to 5 = very often/always. The mean and median response was 2.75 and 3.00, respectively.

Three tests were used to identify the demographic, attitudinal, and behavioral characteristics of those who, at the time of the survey, worked with a traditional financial planner, a robo-advisor, both, or neither. Two tests were used to screen the 15 independent variables to identify which of the variables were statistically significantly associated with help-seeking behavior. These tests were based on bivariate relationships. First, given the categorical nature of gender and marital status, a series of χ^2 analyses were conducted. Second, analysis of variance (ANOVA) tests were run with the variables coded at the continuous or ordinal level. As the first step in the analytical procedure, results from the χ^2 and ANOVA analyses were used to identify participant characteristics that were highly associated with help-seeking behavior. These variables were then used in the third test, a multinomial regression with type of financial service used as the dependent variable in the model. This two-step procedure revealed the most important individual and household level characteristics associated with the use of financial planning services.

3. Results

As shown in Table 1, and based on the χ^2 results, the association between gender and help-seeking was not significant, χ^2 (3) = 0.904, p = 0.824. Also shown in Table 1 are the χ^2 results for the association between marital status categories and help-seeking. No significant association was noted for those who were married (χ^2 (3) = 2.598, p = 0.458), single never married (χ^2 (3) = 3.306, p = 0.347), or remarried, widowed, or

Table 1   Cross tabulations showing differences in help-seeking by gender and marital status

	Robo	Planner	Both	Neither
Female				
Count	27	82	33	152
Expected count	27.8	86.8	31.7	147.7
%	9.2%	27.9%	11.2%	51.7%
Standardized residual	−.1	−.5	.2	.4
Male				
Count	29	93	31	146
Expected count	28.2	88.2	32.3	150.3
%	9.7%	31.1%	10.4%	48.8%
Standardized residual	.1	.5	−.2	−.3
Married				
Count	21	87	29	139
Expected count	25.9	80.9	29.6	139.6
Percentage within married = 1	7.6%	31.5%	10.5%	50.4%
Standardized residual	−1.0	.7	−.1	−.1
Not married				
Count	35	88	35	163
Expected count	30.1	94.1	34.4	162.4
Percentage within married = 1	10.9%	27.4%	10.9%	50.8%
Standardized residual	.9	−.6	.1	.0
Single never married				
Count	25	62	30	122
Expected count	22.4	70.1	25.6	120.9
Percentage within single never married = 1	10.5%	25.9%	12.6%	51.0%
Standardized residual	.5	−1.0	.9	.1
Other than single marital status				
Count	31	113	34	180
Expected count	33.6	104.9	38.4	181.1
Percentage within single never married = 1	8.7%	31.6%	9.5%	50.3%
Standardized residual	−.4	.8	−.7	−.1
Remarried, widowed, divorced				
Count	10	26	5	41
Expected count	7.7	24.0	8.8	41.5
Percentage within remarried, widowed, divorced = 1	12.2%	31.7%	6.1%	50.0%
Standardized residual	.8	.4	−1.3	−.1
Other than remarried, widowed, divorced				
Count	46	149	59	261
Expected count	48.3	151.0	55.2	260.5
Percentage within remarried, widowed, divorced = 1	8.9%	28.9%	11.5%	50.7%
Standardized residual	−.3	−.2	.5	.0

divorced (χ^2 (3) = 2.890, p = 0.409). As a result, these variables were not included in the final multinomial regression analysis.

Table 2 shows the results from the ANOVA tests. The table shows the variation in means across the four groups. It is important to note that the differences in means should not be interpreted as predictors of help-seeking behavior. Instead, the results simply show what characteristics were associated with help-seeking behavior.

Consider, for example, the age result. Data in Table 2 provide a more nuanced insight into who was using or considering using a financial planning service. Those who used or planned to use a financial planner were found to be older than those who used or planned to use the

Table 2   ANOVA results related to help-seeking behavior

	N	Mean	*SD*	*F*	Post hoc test
Age					
Robo	56	34.3750	10.36351	3.328*	Planner > both
Planner	174	37.0230	11.05109		
Both	64	32.4531	8.74131		
Neither	300	36.2267	10.91447		
Education					
Robo	56	5.4643	1.61768	1.113	No differences
Planner	175	5.4743	1.69454		
Both	64	5.5156	1.67135		
Neither	301	5.2292	1.70995		
Normalized household income					
Robo	55	73915.7866	64190.15510	3.313*	Planner > neither
Planner	157	91060.7398	60051.27519		
Both	55	84177.0123	61229.55156		
Neither	258	71676.4239	65032.61515		
Normalized household net worth					
Robo	54	63105.0342	405920.06781	5.911***	Planner > Robo
Planner	160	258430.8394	400112.05336		Planner > Neither
Both	56	150437.9558	350868.55523		
Neither	265	113753.6146	376795.38976		
Normalized percent of net worth because of inheritance					
Robo	55	3.4282	6.94182	7.876***	Planner > Robo
Planner	175	12.0661	14.64660		Planner > Neither
Both	64	8.0936	12.10211		
Neither	300	7.8226	12.25119		
Percent of income saved					
Robo	56	14.4643	13.98826	2.460	No differences
Planner	175	13.5829	12.17604		
Both	64	15.4531	13.89979		
Neither	301	11.5017	12.79782		
Ignore budget when making large purchases					
Robo	56	1.9464	.74881	3.657*	Both > Robo
Planner	175	2.2857	.80841		
Both	63	2.4286	.92831		
Neither	300	2.1933	.87091		
Financial satisfaction					
Robo	56	2.6786	1.06356	1.762	No differences
Planner	175	3.0286	1.08505		
Both	63	3.0635	1.04531		
Neither	302	2.9238	1.09552		
Consider self to be savvy investor					
Robo	56	2.9464	.94233	1.510	No differences
Planner	174	2.8563	.89122		
Both	64	3.0000	.79682		
Neither	302	2.7616	1.02272		

Table 2   (Continued)

	N	Mean	SD	F	Post hoc test
Household income sufficient to meet needs					
Robo	56	3.5357	1.11133	1.337	No differences
Planner	174	3.7471	1.07755		
Both	64	3.6563	1.02692		
Neither	302	3.5464	1.13952		
Do not know how own investments are performing					
Robo	56	2.1607	.86921	0.783	No differences
Planner	174	2.3851	1.01776		
Both	64	2.2500	1.16837		
Neither	301	2.3289	1.03350		
Disappointed by financial decisions you have made					
Robo	55	2.8909	.71162	2.617*	Both > Planner
Planner	175	2.6743	.79667		
Both	64	2.9531	.86244		
Neither	301	2.7143	.81533		

ANOVA = analysis of variance.
*$p < .05$, **$p < .01$, ***$p < .001$.

services of both a robo-advisor *and* a financial planner. The age of those using a robo-advisor was less than the age of those who used a financial planner, but the difference was not significant.

Based on what has been reported in the literature, it was not surprising that household income was highest for those working with a traditional financial planner. A statistical difference in the test was noted between those who used a financial planner and those who had no intention of working with either a robo-advisor or financial planner.

The net worth finding provides more insight into the help-seeking issue. Those who used a traditional financial planner had the highest net worth, while users of robo-advisors had the lowest net worth (although not the lowest income). Also, the net worth of those who worked with a financial planner was higher than the net worth of those who had no plans to work with either a robo-advisor or traditional financial planner. An almost identical finding was noted for the inheritance variable. Overall, those who reported working with a traditional financial planner reported a larger percentage of their total net worth from an inheritance. The lowest percentage of net worth from an inheritance was reported by robo-advisor users. This may be related to the tendency among robo-advisor users to be younger, which means they may not have yet received an inheritance.

According to the ANOVA results, impulsivity was found to be associated with help-seeking behavior. Those who more frequently ignored their budget when making a large purchase reported using the services of both a robo-advisor *and* a financial planner. The least impulsive were users of robo-advisors. One attitudinal variable was found to be related to help-seeking behavior. Those least disappointed by their financial decisions tended to use the

services of a traditional financial planner. Those who reported the highest levels of disappointment were those who used the services of both robo-advisors *and* financial planners.

Several variables were not significant in the ANOVA tests. Specifically, percent of income saved, financial satisfaction, being a savvy investor, having enough income to meet needs, and knowing about investment performance were not associated with help-seeking behavior.

The results from the χ^2 and ANOVA tests provided insights into the differences among those who used only a robo-advisor, only a financial planner, both a robo-advisor *and* a financial planner, and those who used neither. Based only on bivariate relationships, the services of traditional financial planners appear to appeal to those with greater income and net worth. There was a statistically significant difference in the average income and net worth of those who used a financial planner compared with those who did not use either service. Additionally, the use of a traditional financial planner was related to receiving an inheritance. Those who had received an inheritance reported working with a traditional financial planner rather than a robo-advisor. It may be that a substantial increase in net worth because of an external event prompts an individual or family to seek the help of a traditional financial planner. Attitudinally, those who worked with a traditional financial planner reported being less disappointed with past financial decisions. It is worth noting, however, that when tested together in one model, some of these relationships described above may change.

Those who used robo-advisors tended to be younger, but the difference in mean age compared with those who used traditional financial planning services was not significant. Users of robo-advisory services also reported having lower income and lower net worth. Additionally, robo-advisor users reported less wealth from inheritances, but they also reported being less impulsive financially.

Participants who reported the combined use of robo-advisors *and* financial planners were, on average, the youngest and most impulsive. Those fitting this profile may be attempting to explore the most appropriate type of advice and guidance given their situation, or impulsive clients might be signing up for both services because they lack the patience to research alternatives. On the other hand, the propensity for younger clients to use both services might be best explained by a possible quest to determine which of the two services provides the best benefit—based on each participant's personality, lifestyle choices, and long-term goals—at the lowest cost. Those currently in this dual use category may eventually gravitate toward one service provider and drop the other.

Household income was found to be a driving factor in describing help-seeking behavior for those who were not currently using the services of a robo-advisor, a traditional financial planner, or did not plan to use services of either type of provider in the future. Among the four groups of help seekers, household income was the lowest for those in the "neither" category. Similarly, those in this group reported a lower net worth than those who reported working with traditional financial planners. These respondents also reported holding a smaller proportion of their net worth from an inheritance. However, it is interesting to note that in comparison to those who reported working with a robo-advisor, those in the neither category held more wealth.

Each of the statistically significant variables from the first two tests were combined into a multivariate model as a way to identify the most important help-seeking characteristics. Table 3 shows the results from the multinomial regression. The regression used

Table 3 Multinomial regression showing factors associated with help-seeking behavior (N = 503)

Reference category = neither	Robo		Planner		Both	
	B (SE)	Odds ratio	B (SE)	Odds ratio	B (SE)	Odds ratio
Intercept	−1.335 (.844)		−1.562 (.540)**		−1.306 (.857)	
Age	−0.024 (.017)	0.976	0.002 (.011)	1.002	−0.055 (.019)***	0.947
Normalized household income	0.000 (.000)	1.000	0.000 (.000)	1.000	0.000 (.000)	1.000
Normalized net worth	0.000 (.000)	1.000	0.000 (.000)*	1.000	0.000 (.000)	1.000
Normalized percent of net worth because of inheritance	0.000 (.000)*	1.000	0.000 (.000)*	1.000	0.000 (.000)	1.000
Ignore budget when making large purchases	−0.673 (.224)**	0.510	0.242 (.144)	1.274	0.096 (.210)	1.101
Disappointed by financial decisions you have made	0.753 (.233)***	2.123	−0.060 (.160)	0.941	0.415 (.233)	1.514

$R^2 = 0.14$ (Cox and Snell), $R^2 = 0.16$ (Nagelkerke). Model χ^2 (18) = 78.034, $p < .001$.
*$p < .05$, **$p < .01$, ***$p < .001$.

the help-seeking categories as the dependent variable, with the neither category as the reference group.

The advantage associated with using a multinomial regression, compared with a χ^2 or ANOVA test, in this type of study is that the model can be designed to more precisely identify the variables that are most highly associated with help-seeking behavior, controlling for the other variables in the model. The following summarizes the results of the multinomial logit.

Compared with those who use neither a robo-advisor nor a traditional financial planner:

- Younger participants were more likely to report using services from both robo-advisors and traditional financial planners.
- Participants with a higher net worth were more likely to use the services of a traditional financial planner.
- Participants who reported a higher proportion of their net worth was from an inheritance were more likely to use the services of a robo-advisor.
- Participants who reported a higher proportion of their net worth was from an inheritance were more likely to use the services of a traditional financial planner.
- Participants who reported being impulsive with large purchase decisions or who tended to ignore their budget were less likely to use the services of a robo-advisor.
- Participants who reported feeling disappointed by past financial decisions were more likely to use the services of a robo-advisor.

4. Discussion

Findings from the logit analysis generally supported the results from the χ^2 and ANOVA tests. On the whole, users of robo-advisory and financial planning services were similar in reporting more of their net worth coming from an inheritance when compared with those who had no interest in seeking help. This suggests that the receipt of an inheritance or sudden windfall is a trigger that prompts help seeking. The finding showing that younger participants were more likely to use services from both robo-advisors and traditional financial planners, compared with those who reported working with neither a robo-advisor or financial planner, suggests that these "do-it-yourself" investors may be comprised of older individuals.

Those who used (or planned to use) a robo-advisor were less likely to exhibit impulsivity. Whether this was a result of following robo-advisory recommendations or a tendency for nonimpulsive types to seek out automated systems is a question that deserves additional study. For example, what may be occurring is a change in behavior prompted or mediated by robo-advisory services. Although a reasonable hypothesis, all that can be said from this study is that current users of robo-advisory services do exhibit less impulsivity.

Robo-advisor users were also found to be more regretful (disappointed) in their past financial behavior compared with those who did not use a financial planning service. This finding hints that the hypothesized effect of robo-advisory services on impulsivity, described above, may not hold when evaluated because one would expect to see a similar result in relation to disappointment. As a robustness check, a correlation analysis was conducted to

ensure that multicollinearity was not present in the logit model. The only relationship among the independent variables that was of medium or larger effect was the association between impulsivity and disappointment ($r = 0.45$). No other issues of high correlation or multicollinearity were observed.

Findings from this study partially validate what has been previously reported in the literature. Those who used or planned to use a robo-advisor exhibited certain characteristics; however, it is important to note that the list of characteristics is not fully inclusive. In many respects, the type of person who was at the time of the survey working with a robo-advisor was similar to the profile of those who were working with a traditional financial planner. There were, however, four distinguishing help-seeking characteristics that differentiated the two groups: (1) older clients generally reported working with traditional financial planners (a human interaction); (2) those with high incomes reported working with traditional financial planners; (3) those with more wealth reported working with traditional financial planners; and (4) those with more wealth attributable to an inheritance reported working with a traditional financial planner. It appears, at least among those who participated in this study, that robo-advisors fill a unique niche for consumers who (1) do not meet asset under management (AUM) minimums for traditional financial planning firms or (2) desire a financial planning service that provides fast and low-cost service.

The projected growth of robo-advisory services, and the firms operating in this segment of the market, is expected to develop at a rapid pace. This indicates that robo-advisory services are not transient. It is worth considering, however, that those who currently use robo-advisory services may find services to be inadequate or inappropriate in the future, particularly as the complexity of a help-seeker's financial situation changes over time. The lack of flexibility, personalization, and human interaction will continue to be a challenge for robo-advisors as the financial needs and net worth of existing clients increase.

If the demographic and attitudinal profile of help-seekers remains consistent across time, opportunities for traditional financial planners may emerge. Consumers may abandon robo-advisors for more traditional firms as the real or perceived need for a more personal service grows in tandem with household income, wealth, and financial planning complexity. It would be a mistake to assume consumers will always opt in to the least expensive and quickest product or service on the market. Clients generally consider many factors when pursuing financial help, often weighing the costs and benefits (both financial and emotional) associated with maintaining a financial planner and/or robo-advisor relationship. Thus, traditional financial planners can add value by developing meaningful client-financial planner relationships and creating personalized solutions based on each client's financial situation. Keep in mind, however, that this is only speculation at this point. More time and research will be needed to better understand consumers' preferences for robo-advisory services over traditional financial planning firm offerings.

The findings from this study call out for additional research efforts to better understand the similarities and differences between those who use (or plan to use) robo-advisory and/or traditional financial planning services. An important question that remains unanswered is: "How fluid is the use of robo-advisory services?" Data from this study confirm previous findings in the literature; namely, those who use robo-advisors tend to be younger, have less household income, and lower household net worth. Hence, it is reasonable to ask if these

current users will migrate to traditional financial planners as they age and experience an increase in income and net worth. It is also reasonable to ask if those who currently use robo-advisors switch to traditional financial planning services upon the receipt of an inheritance or other financial windfalls that significantly increases household net worth.

One answer to this question is that the financial planning marketplace is undergoing a transformational change, and there is no reason to expect clients will shift services over time. The robo-advisory business may be counting on the inelasticity of consumer preferences to dominate future help-seeking decisions. Rather than shifting to a traditional financial planner as financial circumstances improve, robo-advisory firms may be counting on either offering new services in the future or hoping that the satisfaction level of current clients outweighs the advantages of migrating to a financial planner. Essentially, the argument is that millennial consumers are so technologically savvy that they will continue to prefer automated advice regardless of their household financial circumstances.

The counterargument is that some shift in help-seeking behavior is likely to occur over time. When individuals are starting out on their lifetime financial journey, they may feel that a fully automated system is the best option in terms of obtaining appropriate financial advice at a very low-cost entry point. The current marketplace for financial planning services appears to reinforce this perception. While robo-advisory minimums for assets under management range from a few thousand dollars to approximately $50,000, nearly all asset management platforms offered by traditional financial planners, and nearly all advisory-based financial service firms, have minimums that start at six figures. This requirement effectively shuts out most Americans and nearly all young professionals.

Financial planners who are interested in preempting younger prospective clients from beginning the financial process via robo-automation might consider using the findings from this study to create access to services for younger and less wealthy prospective clients. This might require a financial planner to provide services at a discount or even a potential loss (e.g., hiring younger financial planners as a loss-lead expense), with the hope that younger clients will maintain the relationship as their income and wealth grows over time.

5. Limitations and future directions

Limitations associated with the data and research methodology do exist in this study. As noted earlier, the sample was not designed to be nationally representative, hence findings from the study should not be applied nationally across the population. In many respects, the use of MTurk samples, even if precisely developed, does introduce a degree of sample selection bias. While steps were taken to limit participation to those who had investable assets, basic financial knowledge, and the financial capacity to pay for financial advice, it is possible that the final sample was biased in unknown ways. As such, it is important to note that the sample and results describe the help-seeking behaviors of relatively affluent consumers.

The issue of endogeneity and dual causality is something new help-seeking studies should explore. It is possible, although not likely, that the income and net worth results found in this study may have been influenced through the use of financial planning services. Specifically,

some may argue that income and net worth were higher among participants who used a traditional financial planner because the advice received from a financial planner lead to income and wealth gains. This is certainly a possibility but one that may not hold true when tested. For example, financial planning, as a profession, is plagued by a high asset minimums and relatively high planning costs, even among those who provide services by the hour. Sadly, it takes existing financial capacity to pay for financial planning services, which makes it likely that the profile of those who use traditional financial planning services, as described in this paper, must exist before a financial planning engagement. The issue of dual causality may be more likely in relation to attitudinal and behavioral characteristics. Knowledge, disappointment, regret, impulsivity, and other characteristics may be influenced by the type of service a help-seeker obtains. Results from the current study can only be used to say that those who currently use or plan to use a service share a particular profile.

It is also worth noting that the growth in robo-advisory services may just be the result of access issues. Given the demand for financial planning services and the limited supply of traditional financial planners, consumers with limited resources may, by default, be pushed toward the use of robo-advisory services, even if a personal relationship is desired. The tracking of consumers over time, either through longitudinal or panel study, would be very helpful in identifying help-seeking trends. It is possible that as a consumer's financial situation improves, access to person-to-person financial planning will become more feasible, primarily because the consumer will be in a position to pay for services. A personal relationship may also become a more valued attribute associated with good service for Millennials and others in the future. Of course, both arguments are conjecture at this point. What is needed is further research on the dynamics of help-seeking in the financial planning marketplace. One way to do this is through a longitudinal study of consumer preferences, attitudes, and behaviors in relation to help-seeking behavior. It behooves financial planning practitioners, policymakers, and regulators to better understand the attitudes and preferences of consumers in light of technological changes. Without additional data and empirical work, the financial planning profession may find the professional services (and potential consumers of such services) migrate to other platforms as new viable practice models begin to emerge in the future.

Acknowledgments

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