

Personal finance blogs: Helpful tool for consumers with low financial literacy or preaching to the choir?

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Abstract

Recent transitions from defined benefit to defined contribution plans assign greater individual responsibility to consumers to prepare for retirement and make consequential financial choices. However, many consumers are ill-equipped to do so, considering overall low levels of financial literacy. At the same time, there is increasing controversy about the effectiveness of traditional financial education, such as high school financial education, counselling and seminars or workshops. Alternative sources of (just-in-time) financial training or advice may be needed to financially empower consumers and help them make important financial decisions. In the light of these developments, this study investigates if consumers perceive personal finance blogs as a helpful alternative in acquiring financial knowledge, and which factors influence perceived helpfulness of and intention to use personal finance blogs. Using Structural Equation Modelling to analyse data from a sample of U.S. consumers, the results of this study uncover that financial literacy and susceptibility to informational influence have a significant positive association with perceived helpfulness. Perceived financial uncertainty, which refers to uncertainty in terms of consumers' perceived ability to accurately predict their future financial needs, has a significant negative association with perceived helpfulness of and intention to use personal finance blogs. Finally, perceived helpfulness of a personal finance blog is a significant positive predictor of consumers' intention to use it. Overall, the findings suggest that personal finance blogs are preaching to the choir, since the consumers who are most likely to use personal finance blogs seem to need them the least given their higher levels of financial literacy and lower levels of perceived financial uncertainty. Taken together, the findings shed light on the potential users of personal finance blogs and underline the challenges of a 'one-size-fits-all' financial education. This study aids in assessing personal finance blogs as an online resource which is scarcely researched, but which has the potential to provide just-in-time financial education to consumers across the world.

KEYWORDS

Consumer Behaviour, Consumer Education, Consumer Financial Decision Making, Consumer Policy, Consumer Susceptibility to Informational Influence, Financial Education, Financial Literacy, Household Finance, Perceived Financial Uncertainty, Personal Finance Blogs

1 | INTRODUCTION

For many consumers, selecting a mortgage, planning for retirement or managing credit card debt are challenging tasks due to the ambiguity of future financial needs and low levels of financial literacy (e.g., Monti, Pelligra, Martignon, & Berg, 2014; Shefrin & Nicols, 2014; van Rooij, Lusardi, & Alessie, 2012). Grasping basic financial concepts is indispensable in understanding the different alternatives offered to manage

personal finances. A significant percentage of consumers, however, do not understand the very basics of finance, as measured through financial literacy tests. Klapper, Lusardi, and van Oudheusden (2015), for example, show that only 57% of U.S. consumers are knowledgeable about three out of four basic financial literacy concepts. Not understanding basic financial concepts adversely impacts both consumer health and welfare (e.g., Lusardi & Mitchell, 2011). An increasing self-responsibility for making consequential financial choices, such as

managing one's retirement savings, magnifies the importance of studying consumer financial education.

In spite of governments' intentions to increase financial literacy, there is disagreement whether financial education programs are effective (Asemgeest, 2015). On the one hand, there is research which finds positive effects of financial education on desirable consumer financial outcomes, such as increased financial literacy, positive financial behaviours and improved financial capability (e.g., Bernheim et al., 2001; Danes, Huddleston-Casas, & Boyce, 1999; Xiao and O'Neill, 2016). On the other hand, many such endeavours to economically empower people fail, with people attending financial education programs no better off than those who did not (Mandell & Klein, 2009). Additionally, there is a decaying effect of financial knowledge over time for individuals partaking in traditional financial education, such as high school financial education, counselling and seminars or workshops (Fernandes, Lynch, & Netemeyer, 2014). West (2012) discusses the common misconception that individuals who participated in financial education automatically translate their knowledge into financially sound practices. In reality, many need motivation and increased self-confidence to take action (Mandell & Klein, 2007; Lusardi & Mitchell, 2007). Baumann and Hall (2012) stress the importance of putting the needs of the individual consumer first when designing financial education programs. Overall, there is mixed empirical support that traditional financial education initiatives stimulate positive consumer financial behaviour. Recent literature calls for studying the potential of just-in-time financial education, where the discharge of financial education more closely matches the instances in which the knowledge would be actually needed (Fernandes et al., 2014).

This study responds to this call for research and extends the existing literature by examining consumer interest in such an alternative source of just-in-time financial education, namely personal finance blogs. Blogs (web-logs) have become a familiar tool for Americans, with 85% of U.S. adults using the Internet (Anderson & Perrin, 2016) and an estimated 107 million Americans being active users of blogs (Bump, 2015) as of 2015. Studies on blog effectiveness suggest blogs can enhance learning through creating a sense of community and facilitating the sharing of knowledge among peers (Halic, Lee, Paulus, & Spence, 2010). A personal finance blog is a website published by a group of writers or a single writer who produce content about personal finance topics. There are several types of personal finance blogs. One personal finance blog might feature tips for managing personal finance, another might deliver educational articles on the topic, and yet another might be a more personal blog written about one person's experiences. The topics are diverse, ranging from banking and family finance to investing and insurance (Wise Bread, 2016). Recent years have seen an explosion of personal finance blogs, where personal finance enthusiasts share information and knowledge based off their personal experience. To get an idea of the popularity of personal finance blogs, consider the following numbers for the U.S. blog *Get Rich Slowly*. As of January 2016, 48,559 other websites link to this blog (Wise Bread, 2016). Moreover, as of July 2017, this blog has 107,979 Facebook Likes (Facebook, 2017) and 54,200 Twitter followers (Twitter, 2017). Finally, *Get Rich Slowly* was declared a 'Best Blog' by Time Magazine (McCracken, 2011).

Personal finance blogs have some unique characteristics that set them apart from traditional channels of financial education and make them a particularly promising alternative. First, personal finance blogs are independent and practical sources of information, which do not suffer from (perceived) conflicts of interest, in contrast to any finance blogs maintained by the financial industry or on companies' own websites (Saxton & Anker, 2013). Second, the on-demand availability of personal finance blogs coupled with the low monetary cost of gathering financial information online could help in the quest towards financial literacy and encourage financial inclusion. Indeed, Kim (2008) argues that blogs can overcome the limitations of traditional computer-mediated communication applications in educational contexts through their unique characteristics, such as being available to anyone for free and giving users more control. Blogs convey an attractive channel to communicate just-in-time financial information through their instant accessibility, leaving the timing of knowledge intake up to the recipient. Also, the opportunity cost of time when using personal finance blogs is low compared to traditional sources of financial education, evoking the possibility of reaching a broader demographic (Lusardi et al., 2017). For example, personal finance blogs may be a particularly attractive source of financial education for Millennials, which refers to the generation of individuals born between 1982 and 2004. This group of consumers combines high levels of financial fragility (Friedline & West, 2016) with a generally high participation in and identification with social media (Kilian, Hennigs, & Langner, 2012). Third, Murray (1991) finds that, for services, personal sources of information are preferred over impersonal sources of information. Personal sources of information include, for example, friends, family, coworkers or relatives, while impersonal sources of information include, for example, magazine advertisements, television advertisements, store displays or a company's own salespersons (Kinley, Conrad, & Brown, 2000). As platforms to share one's personal experiences, personal finance blogs represent a personal source of information.

This study has three main objectives through which it contributes to the literature. First, this study aims to investigate if consumers perceive personal finance blogs as helpful in acquiring financial knowledge and what influences the perceived helpfulness of and intention to use them. In so doing, this study assesses if personal finance blogs have the potential to fill a void in the current financial education curriculum. Second, this study aims to examine how individual differences between consumers regarding financial literacy, perceived financial uncertainty and susceptibility to informational influence affect perceived helpfulness of and intention to use personal finance blogs. In so doing, this study helps public policy makers in identifying the most relevant target groups. Third, through a mediation analysis, this study aims to explore whether there is both a direct effect of these individual difference variables on the intention to use personal finance blogs and an indirect effect through perceived helpfulness. In so doing, we aim to uncover the mechanism underlying the formation of consumers' intentions to use personal finance blogs, which is helpful for public policy makers contemplating whether and how to invest resources in personal finance blogs.

The remainder of this study is organized as follows. Section 2 reviews the relevant literature and develops hypotheses. Section 3

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FIGURE 1 Illustrative screenshot of the personal finance blog *Get Rich Slowly* as of April 19, 2016

discusses the data and methods, including the data collection procedure, sample characteristics and descriptive statistics, and measurement development. Section 4 presents the results. Section 5 discusses the results. Section 6 provides practical implications for public policy makers. Section 7 reviews the limitations of this study and provides some avenues for future research based on these limitations.

2 | LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 | Perceived helpfulness of and intention to use personal finance blogs

Current financial education is facing many critiques. The curriculum is considered not practical enough and too complex for people without any prior interest or financial education, leading to the knowledge being difficult to translate into practice (Lown, 2004; Sillence & Briggs, 2007; Way, Wong, & Gibbons, 2011). Indeed, the perceived difficulty of the topic at hand can discourage individuals to seek the knowledge needed. For instance, Lown (2004) finds that consumers needing

financial knowledge often prefer the information to be presented short and simple, to overcome a tendency to procrastinate dealing with the topic of personal finance. Blogposts are in general short and concise to keep the attention of the reader, as can be seen in Figure 1, which provides an illustrative screenshot from the popular U.S. blog *Get Rich Slowly*. Moreover, the focus of personal finance blogs is on behavioural change through rules-of-thumb which foster financially viable habits. Thus, the characteristics of personal finance blogs are aligned with the value-based education as advocated by Hira (2012), who stresses the imminent need to go beyond mathematical and mechanical teachings to promote sustainable financial behaviour by consumers. Preferably, these behaviours should be taught by individuals who live what they teach, which is typical for personal finance bloggers.

To explore the potential influence of personal finance blogs on consumers seeking financial knowledge, the relationship between perceived helpfulness of and intention to use personal finance blogs is appraised. Personal finance blogs can be understood as a combination of an e-learning tool and a traditional website. Perceived usefulness was found to positively affect consumers' intention to use e-learning tools in a study by Liaw (2008). Additionally, Lederer, Maupin, Sena,

and Zhuang (2000) find that website usefulness is an important predictor of individuals' intention to use them. Thus, if an individual perceives personal finance blogs as more helpful in terms of providing financial knowledge, the intention to use them is expected to increase as well.

H₁: *Perceived helpfulness of personal finance blogs has a positive association with intention to use personal finance blogs.*

2.2 | Susceptibility to informational influence

Susceptibility to Informational Influence (SII) reflects the tendency to accept information from others as evidence of reality (Deutsch & Gerard, 1955), and is exhibited in two ways (see Hoffmann & Broekhuizen, 2009). First, through actively searching for information from individuals perceived to be knowledgeable regarding the topic at hand, which in this study are the writers who publish on personal finance blogs. Second, consumers make inferences through observing others' behaviour, which personal finance blogs support, as they serve as an online diary where individuals share personal experience and information. The more susceptible an individual is to informational influence, the more likely (s)he is to accept information provided by personal finance blogs and consider the financial knowledge gained from them as helpful. In support of this argument is the finding by Chen et al. (2016), who show that for consumers scoring high on SII, eWOM information sources are perceived as more useful. Bickart and Schindler's work (2001), where blogs are classified as eWOM, implies that people with high SII perceive personal finance blogs as more helpful and have a higher intention to use them.

H₂: *Susceptibility to informational influence has a positive association with perceived helpfulness of personal finance blogs.*

H₃: *Susceptibility to informational influence has a positive association with the intention to use personal finance blogs.*

2.3 | Financial literacy

Financial literacy pertains to the knowledge of basic financial concepts (Lusardi, 2008). Within information seeking studies, previous knowledge is an important predictor of the amount of information sought externally and internally (Bloch, Sherrell, & Ridgway, 1986). The greater the knowledge of the information seeker, the less likely (s)he is to have a preference for Word-of-Mouth sources (Gilly, Graham, Wolfinbarger, & Yale, 1998). Thus, if an individual is more financially literate and as a result, relies more on internal search rather than external search, the relationship between financial literacy and intention to use personal finance blogs would be negative. Additionally, if an individual is already financially literate, information provided on blogs may be a repetition of what they already know and thus, they would not perceive personal finance blogs as helpful. Along the same line of reasoning, Lee and Cho (2005) find that

(perceived) expertise in financial matters has a significant negative relationship with the perceived value of information intermediaries. Examples of information intermediaries include search engines and financial advisors, both reducing the time and effort individuals spend looking for information. The relationship between financial literacy and perceived helpfulness of and intention to use personal finance blogs is also expected to be affected by the common presentation format used on blogs. Beatty and Smith (1987) find that cognitive heuristics are most likely to be used by individuals with less involvement in a particular decision. If financial literacy is positively associated with intrinsic motivation (Mandell & Klein, 2007), then people with lower levels of financial literacy may feel less involvement in improving their financial knowledge and thus prefer the heuristic presentation of financial knowledge as is typically found on personal finance blogs. Given the informal and practical nature of blogs, people with lower levels of financial literacy are hypothesized to perceive blogs as more helpful and have a higher intention to use them, suggesting a negative relationship between financial literacy and perceived helpfulness of and intention to use personal finance blogs.

H₄: *Financial literacy is negatively associated with perceived helpfulness of personal finance blogs.*

H₅: *Financial literacy is negatively associated with intention to use personal finance blogs.*

Individuals with higher levels of domain-specific knowledge are generally more confident about making correct decisions and demonstrate less interest in others' opinions and information (Bearden, Netemeyer, & Teel, 1989; Clark & Goldsmith, 2006; Locander & Hermann, 1979). That is, knowledgeable consumers typically depend less on others to obtain relevant product information and thus score lower on SII (Furse, Punj, & Stewart, 1984; Gilly et al., 1998; Mangleburg, Doney, & Bristol, 2004). In the context of this study, domain-specific knowledge refers to an individual's knowledge of basic financial concepts as measured by his or her financial literacy. Accordingly, a negative relationship is expected between financial literacy and SII.

H₆: *Financial literacy is negatively associated with susceptibility to informational influence.*

2.4 | Perceived financial uncertainty

Planning for financial security is a challenging endeavour, filled with uncertainty due to the many variables to take into account. In this study, perceived financial uncertainty refers to uncertainty in terms of the perceived ability to accurately predict future financial needs. There are two competing theories regarding the effect of perceived financial uncertainty, each with opposite predictions: Uncertainty Reduction Theory and Information Avoidance Theory.

Uncertainty Reduction Theory states that people attempt to reduce uncertainty through information seeking (Berger & Calabrese, 1975). Murray (1991) argues that in the face of greater uncertainty, consumers engage in extended decision processes. Accordingly,

seeking more information is a risk-reduction strategy, as the greater perceived financial uncertainty the individual has, the larger their need to seek information to reduce this perceived uncertainty (Locander & Hermann, 1979). Moreover, eWOM sources, such as blogs, are likely to be adopted when decisions facing the consumer are ridden with uncertainty and perceived as complex and important (Berger, 2014). Collins (2012) finds that financial advice helps people overcome feelings of insecurity. So, based on Uncertainty Reduction Theory, individuals with higher levels of perceived financial uncertainty are expected to perceive personal finance blogs as more helpful and have a higher intention to use them.

However, according to Information Avoidance Theory, one would expect the opposite. According to this theory, some individuals suffer from a tendency to avoid amassing information that is available, but unwanted from the individual's perspective (Sweeny, Melnyk, Miller, & Shepperd, 2010). Underlying reasons relate to unpleasant feelings associated with the information, a feeling of the information leading to undesired action, or the information challenging current beliefs. When browsing through personal finance blogs, their long-term perspective is evident through the predominant focus on saving and retirement. Therefore, individuals who are uncertain about their financial future may perceive the information on personal finance blogs not to be helpful, as it provokes unpleasant feelings, and thus also have a lower intention to use personal finance blogs. Because of the competing theories, the effect of perceived financial uncertainty on perceived helpfulness of and intention to use personal finance blogs is an empirical question, and the hypotheses are thus unidirectional.

H₇: *Perceived financial uncertainty is associated with perceived helpfulness of personal finance blogs.*

H₈: *Perceived financial uncertainty is associated with intention to use personal finance blogs.*

In terms of SII, people facing ambiguous and uncertain situations are more likely to conform and follow social evidence (Griskevicius, Goldstein, Mortensen, Cialdini, & Kenrick, 2006; Winterich & Nenkov, 2015). Further, Baron, Vandello, and Brunsman (1996) find that conformity often serves as a means to reduce uncertainty and increases as a function of task importance. Estimating resources needed to live comfortably later in life is an important, but complex task, entailing significant uncertainty. Thus, individuals perceiving a higher level of financial uncertainty are likely to score higher on SII.

H₉: *Perceived financial uncertainty is positively associated with susceptibility to informational influence.*

The conceptual model in Figure 2 provides a graphical summary of the hypotheses. Apart from testing the direct effects of the three predictor variables as formalized in hypotheses H₁–H₉, a mediation analysis by the approach of Hair, Hult, Ringle, and Sarstedt (2014) is conducted, where perceived helpfulness as a central construct is examined as a mediator between the predictor variables (SII, financial literacy and perceived financial uncertainty) and the intention to use personal finance blogs. In so doing, this study elaborates on the mechanism underlying consumers' intention to use personal finance blogs. To test the conceptual model, this study will use Structural Equation Modelling.

3 | DATA AND METHODS

3.1 | Data collection

The data were collected in 2016 through an online survey administered on Amazon Mechanical Turk (Mturk). Mturk pairs requesters of Human Intelligence Tasks (HITs) with participants of an online labour market, referred to as workers. Requesters, in this case the authors, compensate workers to incentivize them to fulfil tasks truthfully. To recruit respondents, workers were paid \$1 for an average of ten minutes'

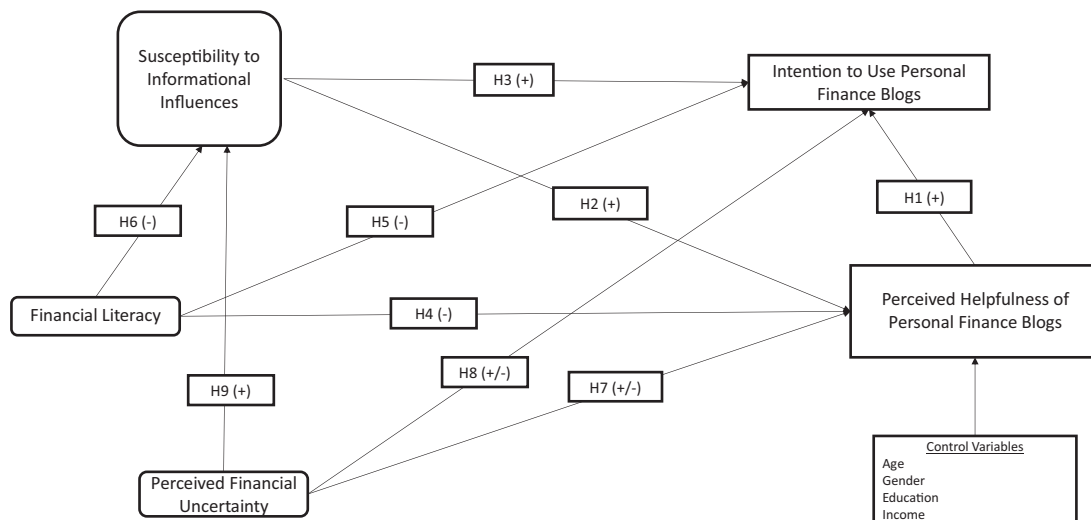


FIGURE 2 Conceptual model

work. This level of compensation followed best practices as advised by Paolacci (2015), which stipulate an hourly wage of \$6.

Mturk was chosen as the channel to distribute the survey through for several reasons. First, Mturk workers have been found to be representative of the population of U.S. internet users (Paolacci, Chandler, & Ipeirotis, 2010). Second, requiring certain nationalities of the respondents is a possibility at Mturk. Many of the popular personal finance blogs are North American. This context makes it relevant to target the U.S. population with this survey to gauge attitudes towards personal finance blogs. As such, all the survey respondents who participated are residents of the United States. Third, since this study's focus on personal finance blogs represents an online environment, Mturk respondents are an appropriate sample, because they are familiar with searching and processing information distributed online as they are internet savvy enough to utilize Mturk. Fourth, data quality of Mturk samples is typically high, because of the inbuilt incentive structure of this platform (Goodman & Paolacci, 2017).

Notwithstanding these advantages of Mturk, using crowdsourcing to collect data for consumer research also has several potential pitfalls (for a review, see Goodman & Paolacci, 2017). First, although Mturk workers are more demographically representative of the general population than student samples, they still differ from the general population. For example, Mturk workers are typically younger and more highly educated, but have lower incomes. Second, like students, Mturk workers self-select into the HITs, meaning that participants will have some interest in the study at hand. Third, Mturk workers are non-naïve, and may know about some of the classical paradigms in psychology. In our view, given the particular topic of this study, the advantages of using Mturk outweigh its pitfalls.

The total number of respondents was 251. After removing duplicates, defined as being from the same IP-address, and checking for control-question validity (see Section 3.2 below for details on this attention check), data from 239 respondents remained for analysis.

3.2 | Survey design

After accepting the HIT, Mturk workers were redirected to an online survey. The welcoming page greeted respondents, introduced them to the topic of personal finance blogs, and prompted them to answer the survey questions truthfully. The next pages contained questions measuring SII, perceived financial uncertainty, financial literacy and various socio-demographics. These questions were followed by a section asking respondents to visit the personal finance blog *Get Rich Slowly* (<http://www.getrichslowly.org/blog/>) and sift through some blogposts to familiarize themselves with the nature of a personal finance blog. This approach ensured that all participants were able to answer the subsequent questions on the perceived helpfulness of and intention to use a personal finance blog in a meaningful way. A control question asking respondents to type in some blogpost headlines was inserted after respondents had visited the blog, to ensure that all respondents had actually clicked the link and taken notice of the personal finance blog. Figure 1 provides an illustrative screenshot of this particular personal finance blog, to get an idea about the type of blogposts that

participants saw. The personal finance blog *Get Rich Slowly* was chosen for several reasons. First, this blog is known for providing accurate, timely and useful financial information. Indeed, it was declared a 'Best Blog' by Time Magazine (McCracken, 2011). Second, its founder is well-known in the personal finance blog-sphere and has run a number of successful personal finance blogs. Third, it is a multi-author blog, alleviating the topic specialization that may come with one author. Fourth, the layout of the blog enables respondents to quickly skim through headings and beginnings of posts, speed being a necessity given the limited time respondents was asked to spend on the blog as part of our online survey.

3.3 | Measurement scales

All constructs used established scales. Item wording, reliability and validity information is in Table 1. Unless stated otherwise, all items employed a seven-point Likert scale, ranging from strongly disagree (1) to strongly agree (7). SII was adapted from Bearden et al. (1989). Perceived financial uncertainty was measured by a question inspired by van Schie, Donkers, and Dellaert (2012). Perceived helpfulness was adapted from the measure by Chen and Wells (1999). Intention to use was measured using a scale adapted from Bruner and Kumar (2000). Financial literacy was measured using the five-point scale of Allgood and Walstad (2016), which was also employed in the U.S. National Financial Capability Study (NFCS). The NFCS was commissioned by the Financial Industry Regulatory Authority (FINRA) Investor Education Foundation and was executed in consultation with the U.S. Treasury Department as well as the President's Advisory Council on Financial Literacy. The purpose of the NFCS was to provide a set of baseline results regarding the financial capability of U.S. adults. Measured socio-demographic control variables included gender, age, education and income.

3.4 | Sample characteristics and descriptive statistics

Sample characteristics and descriptive statistics are in Table 2. Of the 239 respondents, 61.1% are male. All of the respondents are from the U.S. The average age of the respondents is 35 years, with a minimum of 19 and a maximum of 74. Table 2 also reports the age distribution of the respondents. Regarding education, 13.8% of the sample graduated from high school or less and 29.3% had some college education. The largest group was college graduates (39.7%). Graduate education has been accomplished by 17.2% of the sample. Regarding monthly pre-tax income, 33.9% of the sample earns less than \$2,000, 13% earns more than \$5,000. An overall positive attitude towards personal finance blogs emerges. On the seven-point Likert scale, mean (median) perceived helpfulness of personal finance blogs is 5.78 (6), whereas mean (median) intention to use personal finance blogs is 5.84 (6).

3.5 | Scale validity and reliability

Utilizing the decision rules by Jarvis, MacKenzie, and Podsakoff (2003), the constructs in the model are all deemed reflective. Detailed results of scale validity and reliability are in Table 1. Convergent validity is assessed through evaluating factor loadings and Average Variance

TABLE 1 Constructs, item wording, scale validity and reliability

Construct	Authors	Item wording	Cronbach's alpha	Factor loading	Composite reliability	AVE
Susceptibility to Informational Influence	Adapted from Bearden et al. (1989)		0.82		0.88	0.66
SII_1		I frequently gather financial knowledge from friends or family before I make a financial decision.		0.81		
SII_2		To make sure I follow the right financial advice; I often observe what advice other people follow.		0.83		
SII_3		I often consult other people to help make the best financial decision.		0.85		
SII_4		If I have little experience with a financial situation, I often ask my friends and acquaintances about it.		0.74		
Perceived Helpfulness of Personal Finance Blogs	Chen and Wells (1999)	I perceive personal finance blogs to be...	0.93		0.94	0.73
PH_1		Informative.		0.80		
PH_2		Intelligent.		0.85		
PH_3		Knowledgeable.		0.86		
PH_4		Resourceful.		0.84		
PH_5		Useful.		0.90		
PH_6		Helpful.		0.88		
Intention to use Personal Finance Blogs	Bruner and Kumar (2000)	I will consider using personal finance blogs when I want to acquire financial knowledge in the future...	0.93		0.95	0.87
BI_1		Unlikely/Likely		0.94		
BI_2		Improbable/Probable		0.95		
BI_3		Impossible/Possible		0.92		
Perceived Financial Uncertainty	Adapted from van Schie, Donkers and Dellaert (2012)	I am unsure about what to expect regarding the financial resources needed to live comfortably in the future (e.g., when retired).	N/A ^a	N/A ^a	N/A ^a	N/A ^a
FU_1		Correct answers (*) of FL_1–FL_5 are summed up to a score between 0 and 5.		N/A ^a		
Financial Literacy	Allgood and Walstad (2016)	Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years how much do you think you would have in the account if you left the money to grow? (a) more than \$102*; (b) exactly \$102; (c) less than \$102; (d) I don't know.	N/A ^b	N/A ^b	N/A ^b	N/A ^b
FL_1		Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in the account? (a) more than today; (b) exactly the same; (c) less than today*; (d) I don't know.		N/A ^b		
FL_2		If interest rates rise, what will typically happen to bond prices? (a) they will rise; (b) they will fall*; (c) they will remain the same; (d) there is no relationship between bond prices and the		N/A ^b		
FL_3				N/A ^b		

(Continues)

TABLE 1 (Continued)

Construct	Authors	Item wording	Cronbach's alpha	Factor loading	Composite reliability	AVE
FL_4		interest rate; (d) I don't know. A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage, but the total interest paid over the life of the loan will be less. (a) true ^a ; (b) false; (d) I don't know.		N/A ^b		
FL_5		Buying a single company's stock usually provides a safer return than a stock mutual fund. (a) true; (b) false ^a ; (d) I don't know.		N/A ^b		
Socio-demographics						
Gender		Please indicate your gender	N/A ^b	N/A ^b	N/A ^b	N/A ^b
Age		Please indicate your age				
Education		(a) High School graduate or less; (b) Some College; (c) College graduate; (d) Graduate education				
Income		(a) Less than \$2000; (b) \$2000-\$3000; (c) \$3001-\$4000; (d) \$4001-\$5000; (e) More than \$5000.				

Notes. If not stated otherwise, all questions are scaled on a 7-point Likert scale (1 = Strongly disagree, 7 = Strongly agree).

^aSingle item construct.

^bCategorical variable.

Extracted (AVE). For all constructs, factor loadings are above 0.7 (Hair, Ringle, & Sarstedt, 2011) and the AVE is above 0.50 (Fornell & Larcker, 1981), indicating convergent validity. Cronbach's Alpha assesses internal consistency, and all constructs have a value greater than 0.7, indicating reliability. Composite Reliability is assessed, and all constructs are above 0.7, indicating reliability (Bagozzi & Yi, 1988). Two methods are used to evaluate discriminant validity. First, discriminant validity is established when each construct's AVE is higher than its squared correlation with any other construct (Fornell & Larcker, 1981). Second, cross loadings of the constructs are assessed. Using both methods, discriminant validity is achieved. Multicollinearity is no issue, as none of the predictor variables has a Variance Inflation Factor above five (Hair et al., 2011).

4 | RESULTS

4.1 | Partial least squares

Structural Equation Modelling is used to test the conceptual model. Partial Least Squares (PLS) is used through the SmartPLS software (Ringle, Wende, & Becker, 2015). As the conceptual model is relatively complex, a PLS approach was considered more appropriate than a covariance-based structural equation modelling technique such as used in, for example, AMOS or LISREL (Fornell & Bookstein, 1982).

TABLE 2 Sample characteristics and descriptive statistics

Variable	%	Mean	Median	Mode
Gender				
Male	61.10			
Female	38.90			
Education				
High School	13.80			
Some College	29.30			
College Graduate	39.70			
Graduate Education	17.20			
Income				
< \$2000	33.90			
\$2000-\$3000	22.20			
\$3001-\$4000	17.50			
\$4001-\$5000	13.40			
> \$5000	13.00			
Age		35.31	33.00	30
18-24 years	10.00			
25-34 years	49.40			
25-44 years	21.30			
45-54 years	13.00			
55-64 years	3.80			
65-74 years	2.50			
Perceived helpfulness of personal finance blogs		5.78	6.00	6
Intention to use personal finance blogs		5.84	6.00	7
Financial literacy		3.54	4.00	4
Perceived financial uncertainty		4.24	5.00	5
Susceptibility to informational influence		5.08	5.00	5

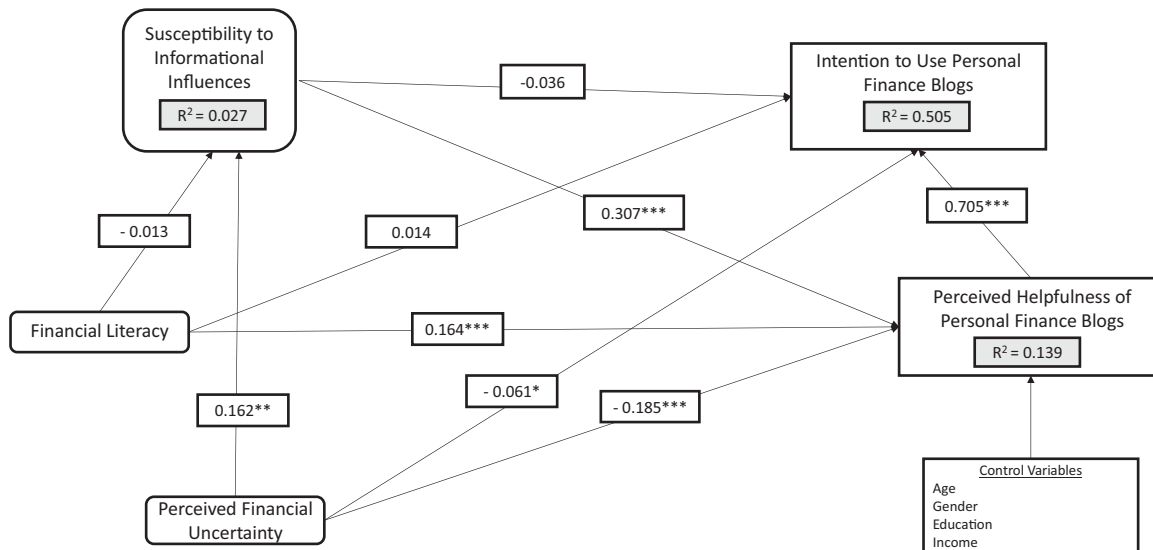


FIGURE 3 Results of conceptual model
Notes. * $p < .10$; ** $p < .05$; *** $p < .01$

Moreover, we used PLS as our study has a moderate sample size of 239 (Hair et al., 2011). Whereas PLS has a minimum recommended number of observations of 30–100, covariance-based Structural Equation Models such as AMOS or LISREL have a minimum recommended number of observations of 200–800 (Chin & Newsted, 1999). Finally, as we set out to study the antecedents of perceived helpfulness of and intention to use personal finance blogs, the predictive nature of PLS suits the purpose of this study and calculates the explained variance maximized in the dependent constructs. As suggested by Hair et al. (2011), the number of cases was set equal to the number of respondents, and the number of samples was set to 5,000 in the bootstrapping procedure.

4.2 | Model assessment

PLS does not provide a global goodness-of-fit (GoF) measure to indicate how well the model fits. Therefore, a measure appropriate for reflective indicators as suggested by Tenenhaus, Amato, and Esposito Vinzi (2004), called the GoF index, is used: $GoF = \sqrt{Communality \times R^2}$. This formula takes into account the geometric average of the communality and the R^2 . The cut-off values for the GoF index are based on Wetzels, Odekerken-Schröder, and Van Oppen (2009), who suggest $GoF_{Small} = 0.1$, $GoF_{Medium} = 0.25$ and $GoF_{Large} = 0.36$. The model of this study has a GoF of 0.41, indicating a large global fit.

4.3 | SmartPLS results

The results of testing the conceptual model using SmartPLS are graphically summarized in Figure 3. Financial literacy, perceived financial uncertainty and SII together explain 13.9% of the variance in perceived helpfulness of personal finance blogs. Perceived helpfulness, financial literacy, perceived financial uncertainty and SII jointly predict 50.5% of the variance in the intention to use personal finance blogs. Perceived financial uncertainty and financial literacy together explain 2.7% of the

variance in SII. Effect size is calculated as recommended by Henseler, Ringle, and Sinkovics (2009) through the following formula:

$$f^2 = \frac{R^2_{included} - R^2_{excluded}}{1 - R^2_{included}}$$

The following effect-size cut-off values are used:
 $f^2_{weak} = 0.02$, $f^2_{moderate} = 0.15$ and $f^2_{strong} = 0.35$.

A one-standard deviation increase in perceived helpfulness leads to a 70.5% standard deviation increase in intention to use personal finance blogs ($f^2 = 0.86$, $p < .01$), supporting H₁. In line with H₂, a one-standard deviation increase in SII is associated with a 30.5% standard deviation increase in perceived helpfulness of personal finance blogs ($f^2 = 0.11$, $p < .01$). No support is found for H₃, as SII is not significantly associated with the intention to use personal finance blogs. A one-standard deviation increase in financial literacy leads to a 16.4% standard deviation increase in perceived helpfulness of personal finance blogs ($f^2 = 0.03$, $p < .01$), in contrast to H₄, which predicted a negative effect of financial literacy. Financial literacy is not significantly associated with either SII or the intention to use personal finance blogs, not supporting H₅ and H₆. A one-standard deviation increase in perceived financial uncertainty leads to a 18.5% decrease in perceived helpfulness of personal finance blogs ($f^2 = 0.03$, $p < .01$), supporting H₇. A one-standard deviation increase in perceived financial uncertainty leads to a 6% standard deviation decrease in the intention to use personal finance blogs ($f^2 = 0.01$, $p < .10$), supporting H₈. Lastly, a one-standard deviation increase in perceived financial uncertainty leads to a 16.2% standard deviation increase in SII ($f^2 = 0.03$, $p < .01$), supporting H₉.

4.4 | Mediation analysis

A mediation analysis is conducted where perceived helpfulness is considered as a mediator between the three predictor variables (SII, financial literacy and perceived financial uncertainty) and the intention to use personal finance blogs. Following the approach of Hair et al. (2014), in which the significance of the product of the path coefficients governing the indirect effect is compared to the direct effect, the

TABLE 3 Results of mediation analysis

	Direct effect	95% confidence interval of the direct effect	t value	Significance ($p < .05$)?	Indirect effect	95% Confidence interval of the indirect effect	t value	Significance ($p < .05$)?
Financial literacy → Behavioural intention	0.014	[-0.060, 0.085]	0.304	No	0.113	[0.042, 0.188]	2.534	Yes
Perceived financial uncertainty → Behavioural intention	-0.061	[-0.138, 0.014]	1.334	No ^a	-0.101	[-0.183, -0.019]	2.001	Yes
SII → Behavioural intention	-0.036	[-0.115, 0.055]	0.686	No	0.216	[0.135, 0.287]	4.711	Yes

Notes.

^aSignificant at $p < .10$.

effects of all predictor variables on intention to use personal finance blogs are mediated by perceived helpfulness. Perceived helpfulness fully mediates the relationships between financial literacy as well as SII and the intention to use personal finance blogs. For both variables, we only find indirect effects, reflected by the insignificant direct effects of financial literacy as well as SII on intention to use personal finance blogs. Perceived helpfulness partially mediates the effect of perceived financial uncertainty on intention to use personal finance blogs and this mediation is complementary, as both the indirect and direct effects are significant. These results can be found in Table 3, and indicate that perceived helpfulness is a central construct in understanding the mechanism through which financial literacy, perceived helpfulness and SII drive the intention to use personal finance blogs.

4.5 | Control variables

Age is a continuous variable, whereas gender, income and education are categorical. Continuous variables can be added to SmartPLS, whereas categorical variables are analysed using group comparisons in SPSS, as recommended by Henseler and Chin (2010). Adding age as an independent variable increased the variance explained in perceived helpfulness of personal finance blogs to 15.1%. Moreover, a one-standard deviation increase in age leads to an 11.4% standard deviation increase in perceived helpfulness of personal finance blogs. However, the effect size is negligible ($f^2 = 0.01$, $p < .05$). Next, interaction variables were added as suggested by Henseler and Chin (2010). SmartPLS automatically calculates standardized scores. None of the interaction variables are significant and neither is the direct effect of age. Using group comparisons, we also find no significant effect of gender, income or education on perceived helpfulness of personal finance blogs. These results indicate that personal finance blogs have the potential for a relatively universal attraction across demographic groups.

5 | DISCUSSION

Previous research suggested a need for just-in-time financial education, which could aid consumers in making better financial choices in everything from debt management to retirement planning (Fernandes et al., 2014). Traditional financial education aiming to increase financial

literacy may mismatch the instances in which individuals are in need of financial information the most. As governments around the world try to financially empower people through increasing financial literacy, oftentimes individuals needing financial advice and knowledge the most, are the ones least likely to take advantage of the courses offered (Meier & Sprenger, 2013). Hence, there is a need to reconsider the current financial education curriculum and explore alternative ways of offering financial education to consumers. The past years have seen an exponential increase in the number and popularity of personal finance blogs. This study sets out to assess the perceived helpfulness of and intention to use personal finance blogs and their antecedents. Through analysing the survey responses of U.S. consumers, this study revealed five important research findings.

First, in line with Liaw (2008) and Lederer et al. (2000), perceived helpfulness of a personal finance blog is a significant predictor of the intention to use the personal finance blog. Hence, this study adds to the existing literature that not only website usage is predicted by perceived helpfulness, but also that the intention to visit personal finance blogs is significantly affected by the perceived helpfulness of the information distributed on the blog.

Second, SII has been found to be an important predictor of whether the information given is reflected on (Chen et al., 2016; Clark & Goldsmith, 2006). This study finds that SII is a significant positive predictor to perceived helpfulness of personal finance blogs, which suggests that individuals who have a tendency to trust other people's information find the financial knowledge disseminated through personal finance blogs more helpful.

Third, financial literacy has a significant positive association with perceived helpfulness of and intention to use personal finance blogs. In other words, those consumers who would need personal finance blogs the least seem most likely to use them. Although this finding is in contrast to our expectations, it is consistent with the literature on the uptake of financial advice by individual investors. Bhattacharya, Hackethal, Kaesler, Loos, and Meyer (2012) find that individuals who accept an offer for free unbiased financial advice from their brokerage firm are more likely to be financially sophisticated. Hackethal, Haliassos, and Jappelli (2012) show that more experienced individuals are more likely to employ financial advisors. These results can be explained by financial literacy lowering the cost of gathering and processing information, as it makes it easier to decipher relevant information (Huhmann & Mcquitty, 2009; van Rooij et al., 2012).

Fourth, perceived financial uncertainty has a significant negative association with perceived helpfulness of and intention to use personal finance blogs. This result is consistent with Information Avoidance Theory, according to which some individuals avoid gathering information that is available, but unwanted from their perspective (see Sweeny et al., 2010).

Fifth, through a mediation analysis, this study underlines the key role of perceived helpfulness of a personal finance blog in explaining the intention to use them to acquire financial knowledge.

6 | IMPLICATIONS

According to a 2012 study (CFPB, 2013), the U.S. government spends \$670 million a year on financial literacy education, making it an important component of government budget. It seems far cheaper to structurally entertain online personal finance blogs than to offer offline financial literacy courses, whose effectiveness is debatable (e.g., Alsemgeest, 2015). The appeal of personal finance blogs is stressed by the insignificance of the control variables gender, education and income on perceived helpfulness of personal finance blogs. As such, personal finance blogs have the potential for a fairly universal attraction across demographic groups. Therefore, it seems relevant to consider the potential positive impact which low-cost communication vehicles such as personal finance blogs could have on public financial welfare. Interestingly, this study's results suggest that mostly financially literate consumers with low perceived financial uncertainty are attracted to personal finance blogs. An important implication of this study is thus for governmental agencies such as the U.S. Consumer Financial Protection Bureau to collaborate with personal finance blogs to try and reach vulnerable consumers who are in need of financial advice the most. In this regard, public policy makers are advised to focus attention on ways to improve the perceived helpfulness of personal finance blogs among these consumers, given the central role of this construct in explaining the intention to use personal finance blogs, as indicated by the mediation analysis.

Low-literate consumers are a particularly relevant group of vulnerable consumers. Although one often assumes universal reading, writing and text comprehension abilities, estimates of adult literacy rates indicate that over half of the adult population in the U.S. has literacy skills below a basic sixth-grade level of equivalency (Adkins & Ozanne, 2005). Feelings of shame or embarrassment often prevent low-literate consumers from seeking help. Financial education programs aimed at these consumers should, therefore, focus attention on overcoming these obstacles by stressing how participating in education programs contributes to a positive identity that will receive favourable social reactions (Adkins & Ozanne, 2005).

Furthermore, the generally positive attitude towards personal finance blogs indicates that those individuals who are attracted to them seem to appreciate 'behavioral education'. Personal finance blogs and its advocates oftentimes appeal to readers through the use of psychological heuristics instead of rational rules. David Ramsey is an example of an online financial influencer who encourages individuals to take

the less 'rational' route to financial independence. For example, he urges people to pay off smallest loans first, although they may not have the highest interest rate (Gale & Levine, 2011). By doing so, consumers experience increased self-confidence in their debt management capabilities through small, quick wins. Given the high perceived helpfulness coupled with the increasing popularity of personal finance blogs, governments may want to rethink strategies to increase financially viable habits. Government sources as information gatekeepers are a part of the solution. However, communicating behavioural changes within personal finances can be promoted through personal finance blogs. In sum, in addition to personal finance education taught in school, governmental agencies could consider making individuals aware of personal finance blogs to gain further knowledge, thus providing the much-needed just-in-time education.

7 | LIMITATIONS AND FURTHER RESEARCH

Several limitations are to be kept in mind when considering the results presented in this study. These limitations provide avenues for future research on consumer financial education.

First, all survey respondents are from the U.S. Future research could assess the results' international generalizability. Second, comparing the socio-demographics with Paolacci et al. (2010), the sample is representative of traditional U.S. respondent pools, except for an overrepresentation of male respondents. This overrepresentation can be explained by the fact that Mturk workers can self-select HITs. As men typically are more financially literate than women (Lusardi, 2008), they may be more likely to participate in a HIT about finances. Further studies on consumers with low financial literacy may be necessary to examine their specialized needs, and whether catered financial education through personal finance blogs would be beneficial to them. Low-literate consumers also warrant careful attention. Third, there are limitations to the introduction of personal finance blogs through surveys. Although the participants spent some time familiarizing themselves with an actual personal finance blog during the online survey, the relatively short period of interaction that was possible during the online survey could be insufficient for respondents to truly grasp the idea of acquiring financial knowledge through such a blog. Future research could use focus groups in which individuals have more time to interact with personal finance blogs. Fourth, this study focused on behavioural intentions instead of actual behaviour. In particular, we were interested in examining the factors driving consumers' perceived helpfulness of personal finance blogs and their intention to use them, after they had a chance to familiarize themselves with the nature of these blogs as part of our online survey. Meta-analyses have reported a strong correlation between consumers' intentions and their actual behaviour (Ajzen & Fishbein, 1980; Sheppard, Hartwick, & Warshaw, 1988), indicating that the findings of this study are relevant for policy makers and practitioners. Nevertheless, future research may want to try and examine both consumers' behavioural intentions and their actual behaviour regarding personal finance blogs.

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