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Understanding investors' decisions to purchase innovative products: Drivers of adoption timing and range

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ABSTRACT

This paper integrates findings from marketing and finance literature to increase our understanding of consumers' decisions to purchase innovative investment products. Two different surveys administered to individual investors examine the psychological and sociological drivers of dispositional innovativeness and its effects on adoption timing and range of adoption for five new investment products. Study 1 shows that consumer psychographics (e.g., market mavenism, product-category involvement, and ambiguity intolerance) rather than socio-demographics (e.g., age, education, and risk profile) explain dispositional innovativeness and that dispositional innovativeness strongly impacts time of adoption and ownership of new investment products. Study 2 cross-validates the results of Study 1 and investigates the indirect effects of dispositional innovativeness on adoption timing through consumers' perceptions of new investment products' complexity, riskiness, and visibility (exposure to and engagement in word-of-mouth). Individuals who score high on dispositional innovativeness adopt new investment products quickly because they perceive lower complexity and greater visibility, *not* because they perceive lower risk. The combined results of Studies 1 and 2 show that individual investors' psychological and sociological roots systematically explain their innovative adoption behavior and indicate that — counter to standard finance predictions — they incorporate more than just risk-return trade-offs in their investment choices.

1. Introduction

> "…investment professionals practice marketing as they seek to understand investor needs. Yet few articles link marketing to the investment profession." —Statman, 2004: 160

Consumers' investment decisions are amongst the most important ones they make (Raghubir & Das, 2010). They are risky, involve high stakes, and can have life-long consequences for their wealth (He, Inman, & Mittal, 2008). The significance of these decisions increases as an aging population and increased self-responsibility for retirement lead equity-based products to constitute an ever-increasing part of consumers' financial assets. From 1989 to 2007, stock holdings increased from 28% (median value $14,000) of a U.S. household's financial assets to 53% (median value $54,000), while stock market participation jumped from 32% to 51% (Time Magazine, 2009).

Considering their importance and significance, there is a surprising lack of research on consumers' investment decisions, particularly their decisions to adopt new investment products, which entail even greater risk as less is known about their performance (Howcroft, Hamilton, & Hewer, 2007). Consumer behavior literature traditionally focuses on consumption decisions (Zhou & Pham, 2004), leaving investment decisions largely to the standard financial risk-return model. According to this model, consumers would only adopt new investment products if this improves their portfolios' overall risk-return trade-off (Markowitz, 1952). However, marketing research shows that consumers are often unable to adequately estimate expected risk and returns due to financial information that is either incomplete (Goldstein, Johnson, & Sharpe, 2008) or misinterpreted (Johnson, Tellis, & Macinnis, 2005; Raghubir & Das, 2010). In addition, consumers' investment preferences go beyond risk and return, including, for instance, entertainment value and status considerations (Dorn & Sengmueller, 2009; Statman, 2004; Hamilton & Biehal, 2005; Zhou & Pham, 2004). Hence, to increase our understanding of consumers' investment decisions, it is necessary to integrate insights from both marketing and finance (Goldstein et al., 2008) and consider psychological and sociological motivations apart from economic rents (Hoffmann & Broekhuizen, 2009; Statman, 1999). This article extends the growing literature on the marketing–finance interface and

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investigates the psychological and sociological personality traits that form the roots of consumers' predispositions to embrace new investment products.

Dispositional innovativeness is a crucial concept in explaining consumers' innovation adoption (Midgley & Dowling, 1978) and refers to their predisposition to buy new products and brands rather than to continue with previous choices and consumption patterns (Steenkamp, Ter Hofstede, & Wedel, 1999). Although this concept has gained considerable attention in the marketing literature, for investment products, little is known about the personality traits driving this predisposition or its effect on consumers' adoption of new products. Investment products have a number of distinctive characteristics in terms of complexity, riskiness, and visibility (Easingwood & Storey, 1991). Consumers' perceptions of these characteristics may vary across different types of new investment products (Rogers, 1995) and affect the degree to which their innovative predispositions influence the adoption timing of these products (Cowart, Fox, & Wilson, 2008; Im, Mason, & Houston, 2007; Midgley & Dowling, 1978). The goal of this paper, therefore, is to increase our understanding of consumers' decisions to adopt new investment products by (1) identifying the psychological and sociological roots of consumers' dispositional innovativeness regarding these products and investigating how this affects their actualized innovativeness or adoption behavior, and (2) studying how the relationship between dispositional innovativeness and adoption timing is mediated by consumers' perceptions of the distinctive characteristics of investment products and how the strength of such indirect effects varies across different new investment products. To achieve this goal, we present two studies.

Study 1 examines the psychological and sociological drivers of dispositional innovativeness and investigates its effects on adoption timing and range of adoption for five different new products. The results show that psychographics rather than socio-demographics explain dispositional innovativeness. Dispositional innovativeness, in turn, strongly impacts adoption timing and the range of adoption of new investment products. Study 2 cross-validates Study 1 while shedding more light on how and to what degree dispositional innovativeness affects adoption timing across different new investment products. Study 2 tests how dispositional innovativeness indirectly impacts adoption timing by altering consumers' perceptions of new products' complexity, riskiness, and visibility (exposure to and engagement in product-related word-of-mouth [WOM]). As such, we test the mechanisms through which dispositional innovativeness manifests itself, and elicit the reasons why "consumer innovators" (i.e., consumers scoring highly on dispositional innovativeness) are quicker to adopt new products. Consumer innovators are quicker to adopt new investment products because of lower perceived complexity and because they are more exposed to and engaged in WOM, not because their risk perceptions are different. The indirect effects are particularly strong for more complex, risky, and visible investment products. According to standard finance, consumers' adoption of new investment products would only be driven by risk and return considerations. The combined findings of Studies 1 and 2, however, demonstrate that consumers' psychological and sociological traits systematically influence their innovative predispositions, which, in turn, explain adoption timing and the range of adoption of new investment products.

This paper's findings are relevant for marketing research and practice. First, although the opening quote suggests value in studying the interface between marketing and finance to better comprehend consumers' investment decisions, a literature that brings these two fields together is scarce (cf. Hanssens, Rust, & Srivastava, 2009: 117). By integrating insights from marketing (dispositional innovativeness) and finance (investor psychology), this article adds to this emerging literature and increases our understanding of consumers' motivations to adopt new investment products. Such an understanding is urgently needed by practitioners in the dynamic and competitive investment industry where successful product innovation is crucial for business success (Storey & Easingwood, 1999), but where around 80% of all new products fail (Clancy & Shulman, 1991). This need becomes even more pressing considering the size of the industry, the investments made during product development and launch (Easingwood & Storey, 1991), consumers' increased self-responsibility for retirement (Goldstein et al., 2008), and the fact that individual investors hold about 50% of U.S. equity (Barber & Odean, 2000). Consumer innovators are key to the ultimate marketplace success of new products (Rogers, 1995) as they are amongst the first to accept them, show increasing usage after adoption (Prins, Verhoef, & Franses, 2009), and propel adoption by others through "social proof" or WOM effects (Cialdini, 2001). Hence, to quickly build a critical mass of early adopters and recover their investments, managers in the investment industry should be able to identify and target consumer innovators. We provide insight into effective ways of adjusting new product launches and promotion strategies.

2. Study 1

Study 1 aims to identify the personality traits driving consumers' dispositional innovativeness regarding investment products and investigate how this affects their actualized innovativeness. Next, we present the theoretical background, conceptual model, hypotheses, method, and results.

2.1. Theoretical background

Despite the importance of understanding why consumers adopt innovative investment products, little is known about the psychological or sociological attributes of early adopters in this context. Existing research discusses product- and company-related success factors (Easingwood & Storey, 1991) but not the role of psychological antecedents like dispositional innovativeness. Research on dispositional innovativeness studies the adoption of new service delivery channels (Im et al., 2007) but not the adoption of new investment products distributed through such channels.

Investment products have several unique characteristics distinguishing them from tangible products and non-financial services. As the psychological and sociological antecedents of consumer innovativeness are context dependent (e.g., Steenkamp & Gielens, 2003: 380), additional research is necessary. Compared to tangible products, consumers perceive greater risk in service innovations due to their intangibility and simultaneity of production and consumption, leading to differences in information search processes (Murray, 1991) and adoption behavior (Im et al., 2007). In comparison to relatively simple, non-financial services (e.g., dry-cleaning and cable television), investment products typically involve greater monetary risks, have long-term wealth effects, are often more complex, and feature more credence attributes that make them difficult for consumers to evaluate in terms of quality, even after consumption. Consumers often have insufficient product-specific knowledge and information to adequately evaluate new investment products (Dhar & Zhu, 2006), and their performance is surrounded by causal ambiguity, making their relative advantage less clear and product trials less likely (Steenkamp & Gielens, 2003). High risk perceptions and complex products increase the odds that consumers use social information and rely on the opinions and behaviors of relevant others, such as consumer innovators (Cox & Rich, 1964). Consumer innovators, in turn, may help to communicate product benefits to later adopters through WOM and thus improve the visibility of new investment products.

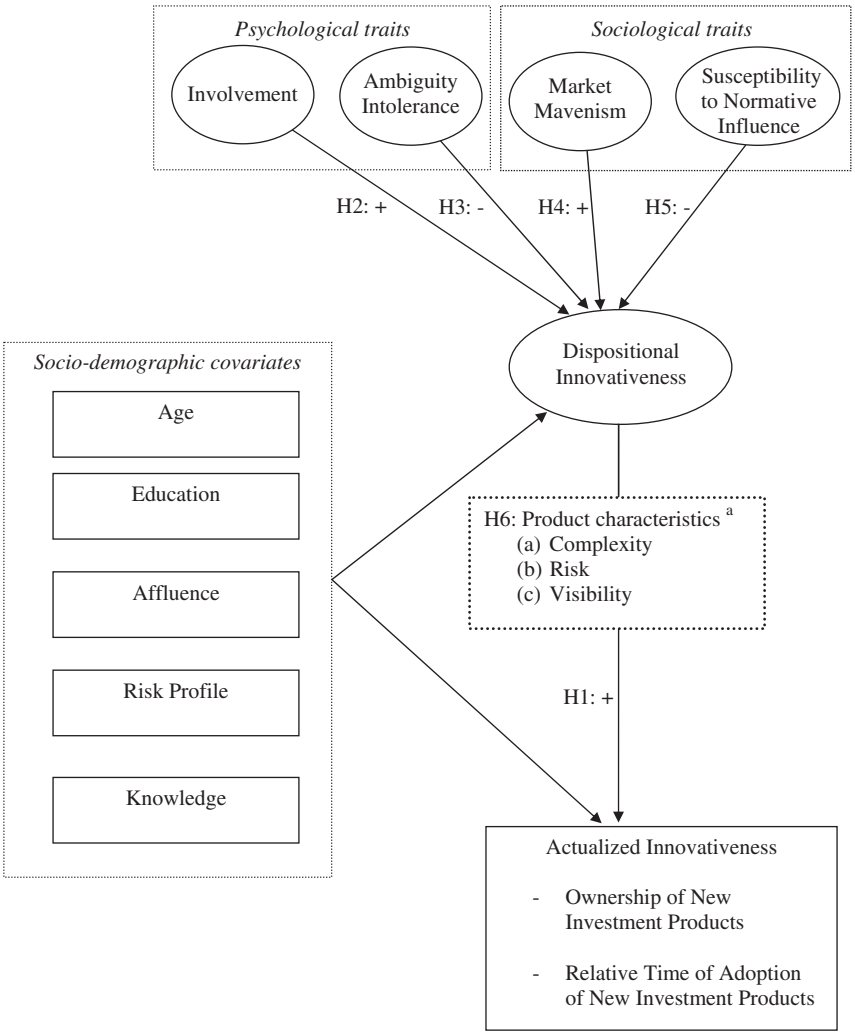

Fig. 1. Conceptual model. Note: a. The mediational role of product characteristics is only tested in Study 2.

2.2. Conceptual model

In our conceptual model (Fig. 1), we propose that adoption behavior (actualized innovativeness) is a function of a consumer's personality traits, which create a domain-specific predisposition toward innovative investment products (Tellis, Yin, & Bell, 2009). Although consumer characteristics can also directly impact new product adoption, in line with recent literature, we expect that their effects are primarily through dispositional innovativeness (see also Steenkamp & Gielens, 2003: 370). We conceptualize dispositional innovativeness as a central variable that mediates the effects of more basic personality traits (cf. Raju, 1980: 273) on adoption behavior. This intervening role is consistent with Midgley and Dowling's (1978: 236) contingency model in which psychological and sociological traits indirectly affect consumers' actualized innovativeness by influencing their dispositional innovativeness.

Because the adoption of innovative investment products is both an individual and social process (Fisher & Price, 1992; Midgley & Dowling, 1978) and represents potential incentives as well as threats for consumers (Cowart et al., 2008), we include two psychological and two sociological traits in our model that prompt consumers to either approach or avoid new investment products.

Regarding psychological traits, we include involvement in the product category as a main characteristic having a positive effect on dispositional innovativeness (Midgley & Dowling, 1978). Highly involved consumers typically like to learn about and experiment with new investment products, and they consider their adoption process an enjoyable and interesting activity (Goldsmith, d'Hauteville, & Flynn, 1998). However, consumers who are intolerant of ambiguous situations steer clear of new investment products because their adoption process is often complex, risky, and surrounded by causal ambiguity (Howcroft et al., 2007). They perceive situations characterized by vague, incomplete, fragmented, or inconsistent information (Budner, 1962) as a threat leading to psychological discomfort and try to avoid them. Hence, consumers' ambiguity intolerance is included as a key characteristic having a negative effect on dispositional innovativeness.

Considering the sociological traits, the adoption of new investment products can serve as a basis for both *differentiation* and *integration* within social systems (Fisher & Price, 1992). Market mavenism taps into consumers' need for uniqueness or social differentiation (Clark & Goldsmith, 2005) and is included as a focal characteristic having a positive effect on dispositional innovativeness. Adopting products that are not yet widely available allows market mavens to enhance their social status (Statman, 2004). Consumer's susceptibility to normative influences gauges their need to comply with the positive expectations of others or to socially integrate (Bearden, Netemeyer, & Teel, 1989) and is incorporated as a core characteristic having a negative effect on dispositional innovativeness. Consumers with a strong need for conformity refrain from adopting new investment

products, as this puts them into the spotlight by potentially deviating from socially accepted behavior (Gilovich, Medvec, & Savitsky, 2000).

To assess the appropriateness of our conceptual model in which dispositional innovativeness mediates the effects of previous personality traits on actualized innovativeness, we perform a formal mediation analysis.[1] Applying Mathieu and Taylor's (2006) method, we find that dispositional innovativeness fully mediates the effect of ambiguity intolerance and partially mediates the effects of involvement and market mavenism. An indirect effect is found for susceptibility to normative influence. Sobel (1982) tests appear highly significant ($p<0.001$) and support mediation. In the remainder of this paper, we thus proceed with the model that only includes the relevant indirect effects. As such, our hypotheses deal with the relationships between the prior personality traits and dispositional innovativeness and the effect of the latter on consumers' actual adoption behavior (cf. Tellis et al., 2009: 3).

2.3. Hypotheses

2.3.1. Dispositional innovativeness

Dispositional innovativeness refers to consumers' predispositions to buy new products and brands rather than to continue with previous choices or consumption patterns (Steenkamp et al., 1999). It relates to their inherent innovative personality and cognitive style (Im et al., 2007), which may lead to innovative adoption behavior. Consumers who score higher on dispositional innovativeness are more likely to buy new products in an earlier stage of a product's life cycle (Steenkamp & Gielens, 2003) and try out a wider range of innovations (Im, Bayus, & Mason, 2003). Because of the high risk and long-term wealth effects associated with adopting new investment products, consumers likely make these decisions consciously and deliberately (Foxall & Pallister, 1998), thereby reducing the effect of situational or external variables like marketing communications (Prins & Verhoef, 2007). Hence, for new investment products, we expect a relatively strong relationship between dispositional innovativeness and adoption behavior (cf. Im et al., 2003).

H1. Dispositional innovativeness is positively associated with (a) the speed and (b) range of adoption of innovative investment products.

2.3.2. Product-category involvement

Involvement reflects a person's perceived relevance of a product or decision based on inherent needs, values, and interests (Zaichkowsky, 1985). We refer to product-category involvement as consumers' enduring interest in the activity of investing. Highly involved individuals are intrinsically motivated to search for more information and spend more time searching for the right option than individuals with lower levels of involvement (Clarke & Belk, 1978). To satisfy their inherent needs to learn and experiment with products from their category of interest, highly involved individuals are very likely to try out new items (Goldsmith et al., 1998).

Consumers' involvement with investing can make adopting new investment products an interesting or enjoyable activity in its own right. Previous finance research shows that trading stocks can satisfy consumers' needs for entertainment (Dorn & Sengmueller, 2009) or seeking positive sensations (Grinblatt & Keloharju, 2009), and — like lottery tickets — every new investment provides the perspective of becoming rich one day (Statman, 2002). Highly involved investors are in a subconscious quest for arousal, looking for both intensity and novelty in their experience and are willing to take financial risks for the sake of such an experience (Dorn & Sengmueller, 2009). As new investment products are often specifically developed and marketed to appeal to such needs (Statman, 1999) and can help to provide the desired level of stimulation (Steenkamp & Baumgartner, 1992), highly involved consumers are likely to be more attracted to these innovations.

H2. Product-category involvement is positively associated with dispositional innovativeness.

2.3.3. Ambiguity intolerance

Intolerance of ambiguity relates to people's risk-taking behavior and can significantly alter their adoption behavior. Persons who are less tolerant of ambiguity gather more information during risk processing, consider ambiguous situations as more risky, and are less willing to take risks (Conchar, Zinkhan, Peters, & Olavarrieta, 2004). They interpret ambiguous situations as threatening, whereas tolerant individuals perceive them as desirable (Budner, 1962). Ambiguous situations occur when individuals cannot adequately structure or categorize a situation because of contradicting or insufficient cues (Budner, 1962), which is a typical scenario for the adoption process of new products which only few consumers have already experiences with.

Persons less tolerant of ambiguity engage less in exploratory behavior in general (Raju, 1980) and are less open to try out new products (Baumgartner & Steenkamp, 1996). Such consumers may suffer from habituation or inertia holding them back from trying new behaviors (Tellis et al., 2009). Considering that investment products are typically surrounded by causal ambiguity (unknown outcomes and distribution of outcomes and conflicting information), consumers' intolerance of ambiguity is expected to have a distinct effect on their disposition to adopt new investment products. Less tolerant consumers often suffer from status quo bias when making their investment decisions and are motivated to avoid innovation (Samuelson & Zeckhauser, 1988). Their fear of the unknown and the fact that losses loom larger than gains motivate them to not engage in explorative behavior (Kahneman, Slovic, & Tversky, 1982).

H3. Ambiguity intolerance is negatively associated with dispositional innovativeness.

2.3.4. Market mavenism

Market mavenism refers to consumers' tendencies to be involved in the marketplace, acquire information about many kinds of products, places to shop, and other facets of the market. Market mavens have a strong need for uniqueness and extensively engage in product-related conversations to share their knowledge (Clark & Goldsmith, 2005; Feick & Price, 1987).

Market mavenism is expected to play a key role in the context of investment products as these products have substantial financial consequences for consumers (He et al., 2008). In these situations, market mavens perceive the benefits of information acquisition to exceed its costs (Steenkamp & Gielens, 2003). Hence, they are open to innovations, to seek valuable product information to share with other consumers, and enhance their social status (Clark & Goldsmith, 2005).

Consumers' tendency to function as market mavens regarding investing can affect their innovative predispositions to adopt new investment products in two complementary ways (Feick & Price, 1987). First, market mavens' marketplace expertise and information

[1] We test our indirect model against two competing models. First, we test our model against a model with four additional *direct* relationships between the psychographics and actualized innovativeness. None of the four added relationships is significant ($p>0.05$), and the χ^2 difference test (with four degrees of freedom) between the nested model (our indirect model) and competing model indicates that our more parsimonious indirect model is the preferred model. Second, we test a non-mediating model, in which psychographics, socio-demographics, and dispositional innovativeness act as direct antecedents of actualized innovativeness. The fit indices (AIC = 1462; BIC = 1909; ECVI = 2.46) are inferior to those of the indirect model (AIC = 1459; BIC = 1888; ECVI = 2.45). Finally, Im et al. (2003) propose but find limited evidence that psychographics and socio-demographics moderate the relationship between dispositional and actualized innovativeness. We perform a formal moderation analysis using a two-stage least squares (2SLS) approach (Bollen & Paxton, 1998). The results show that all interaction term coefficients are insignificant, except for education ($\beta = 0.23$, $p<0.01$) and ambiguity intolerance ($\beta = -0.30$, $p<0.01$), suggesting limited support for moderation. Based on these tests, we prefer the proposed model (Fig. 1).

seeking behavior leads to earlier awareness of new investment products and as a result, they may be more open to change and innovation. Indeed, a finance literature on the availability heuristic and portfolio diversification shows that the number of options investors perceive strongly affects their ultimate investment choices in terms of the number of different products adopted (Benartzi & Thaler, 2001). Second, market mavens are more likely to adopt innovative investment products at an early stage to enhance or maintain their status among other investors as knowledgeable consumers and satisfy their need for social distinctiveness (Clark & Goldsmith, 2005; Statman, 2004). Market mavens intentionally avoid similarity with other consumers, which likely make them more open to adopting new products that others do not yet have (Tellis et al., 2009).

H4. Market mavenism is positively associated with dispositional innovativeness.

2.3.5. Susceptibility to normative influence

Consumers differ in their tendency to comply with the positive expectations of others in their social system, that is, in their susceptibility to normative influence (SNI) (Bearden et al., 1989). Consumers who depend greatly on the influence of others or have a desire for conformity are generally less open to adopting new products, as they tend to delay their adoption until they can base their decisions on the valuable communicated experiences of adopters (Gatignon & Robertson, 1985; Midgley & Dowling, 1978; Tellis et al., 2009). Such consumers tend to focus on the undesirable social aspects of new product adoption and engage in avoidance behaviors unless a critical mass of relevant others has already adopted the new product (Steenkamp & Gielens, 2003).

Although investments' low visibility suggests they are privately consumed, social information can play an important role in investment decisions (Hirschleifer & Teoh, 2003: 25). Hoffmann and Broekhuizen (2009) demonstrate that consumers' investment choices are affected by social influences, and that this effect is strengthened by their susceptibility to interpersonal influences. Consumers are particularly susceptible to normative influences when they perceive psychological and social risks and experience uncertainty. The latter conditions are typical for innovation adoption in an investment context. Adopting new investment products entails considerable psycho-social risks as deviating from a conventional way of acting increases consumers' vulnerability to regret, self-image incongruence, and social ridicule (Kahneman et al., 1982). De Bondt and Thaler (1985) show that even when an unconventional strategy (i.e., buying past losers and selling past winners) can be highly profitable, investors refrain from such behavior, as it increases the odds of regret, criticism, and social mockery. Similarly, adopting new investment products can lead to social disapproval as they may be incompatible with group norms (e.g., adopting mutual funds consisting of "sin stocks") (Waxler, 2004).

H5. Susceptibility to normative influence is negatively associated with dispositional innovativeness.

2.3.6. Socio-demographic covariates

We incorporate five covariates from the marketing and finance literature to better estimate the relative impact of our focal constructs and provide a stronger test of our hypotheses. Three key socio-demographics — age, education, and affluence — are included because of their known effects on consumers' innovative predispositions and adoption behavior (Im et al., 2003; Rogers, 1995). We also include the risk profile of consumers' current investment portfolio and their investment-related knowledge. Consumers' willingness to take risks (Baumgartner & Steenkamp, 1996: 129) and feelings of competence (Graham, Harvey, & Huang, 2009) may drive both their dispositional and actualized innovativeness.

2.4. Method

2.4.1. Data collection

We used a web-based survey to collect consumer data from visitors of four Dutch investment-related websites. These websites attract respondents who are responsible for their own investment activities, have various backgrounds, and differ in their experiences in buying investment products. The call to participate described the study's purpose and included a link to the survey. We checked the final sample for duplicates using respondents' IP addresses and contact details.

2.4.2. Sample

The net sample contains 596 respondents with an average age of 57 years (SD = 12). Nine percent are women, and over two-thirds have at least a college degree. The respondents note a considerable length of investment experience (M = 19 years, SD = 12) and make investment decisions for their own accounts (97%). The main purchasing channels are online brokers (60%), banks (30%), telephone order lines (4%), and expert advice (6%). The modal portfolio size is €100,000.

The background characteristics of our sample in terms of age, gender, portfolio size, and transaction channel are representative of the typical Dutch individual investor (Bauer, Cosemans, & Eichholtz, 2009). We compared early and late respondents to test for nonresponse bias, but find no significant differences in the variables of interest (Armstrong & Overton, 1977).

2.4.3. Measures and research instrument

Table 1 shows the constructs and their items. Market mavenism is measured using four items from Feick & Price (1987). We use six items by Zaichkowsky (1985) to measure product-category involvement. The three items measuring ambiguity intolerance come from Kirton (1981). We gauge susceptibility to normative influence (SNI) using seven items of Bearden et al. (1989). All items — except those for ambiguity intolerance — were adjusted to the investment context. The ambiguity intolerance scale could not be adjusted without losing content validity.

Respondents self-report on their age, affluence (gauged by taking the natural log of portfolio size), and education level. Product-category knowledge refers to respondents' familiarity with and expertise on investment products (Alba & Hutchinson, 1987). To measure their risk profile, respondents ranked their current investment portfolio from 1 = very defensive to 5 = highly speculative. Each bracket corresponds to a specific mix of (risky) equity, bonds, or savings, providing an objective measure of respondents' risk-taking propensity regarding investing.

Dispositional innovativeness is measured using eight items by Steenkamp and Gielens (2003). Extant research shows that the relationship between general operationalizations of dispositional innovativeness and specific adoption behavior is typically weak (Goldsmith, Freiden, & Eastman, 1995). To ensure predictive validity, we therefore measure this construct at the domain-specific level. We operationalize actualized innovativeness using both consumers' relative time of adoption of a new investment product compared to other consumers (Rogers & Shoemaker, 1971) and a cross-sectional ownership method where respondents indicate which new investment products they have bought (Im et al., 2007). Our first measure uses respondents' self-reported time of adoption for five new investment products: leveraged–structured investment products, index-based funds, emergent market funds, non-Western real estate funds, and green funds. The scale ranges from 1 = never, 2 = less than half a year ago, 3 = between half a year and 1 year ago, 4 = between 1–2 years ago, 5 = between 2–5 years ago, and to 6 = more than 5 years ago. Our second measure is an index score ranging from zero to five, reflecting the array of new investment products respondents have ever purchased.

In drawing up the list of new investment products, we selected products that were perceived to be new by the investors in the region of

Table 1
Measurement model results, Studies 1 and 2.

Construct and item wording	Item	Study 1 SL	Study 1 t-value	Study 2 SL	Study 2 t-value	Study 1/2 AVE	Study 1/2 CR
Market mavenism (Feick & Price, 1987; Steenkamp & Gielens, 2003)						0.48/0.54	0.73/0.78
I like introducing new investment products to my friends.	MM1	0.57	11.52	0.88	10.50		
My friends and neighbors often come to me for advice on investment products.	MM2	0.79	13.69	0.76	10.31		
People seldom ask me for my opinion about new investment products. (r)	MM3	0.70	(−)	0.53	(−)		
Susceptibility to normative influence (Bearden et al., 1989)						0.54/0.53	0.86/0.85
I generally purchase those investment products that I think others will approve of.	SNI1	0.64	14.83	0.66	12.73		
I like to know what investment decisions make good impressions on others	SNI2	0.78	18.07	0.76	14.66		
I often identify with other people by purchasing the same investment products they purchase.	SNI3	0.75	17.41	0.73	14.12		
I achieve a sense of belonging by purchasing the same investment products that others purchase.	SNI4	0.75	17.62	0.76	14.52		
If others can see in which investment products I invest, I often invest in products that they invest in.	SNI5	0.76	(−)	0.74	(−)		
Ambiguity intolerance (Kirton, 1981)						0.40/0.40	0.57/0.56
What we are used to is always preferable to what is unfamiliar.	AI1	0.69	7.35	0.69	5.92		
A person who leads an even, regular life, in which few surprises or unexpected happenings arise, has a lot to be grateful for.	AI2	0.57	(−)	0.56	(−)		
Involvement (Zaichkowsky, 1985)						0.64/0.64	0.91/0.92
Investing is…							
Unimportant–important	INV1	0.74	19.34	0.75	17.50		
Of no concern to me–of concern to me	INV2	0.83	20.63	0.70	15.93		
Irrelevant–relevant	INV3	0.71	17.25	0.86	21.06		
Worthless–valuable	INV4	0.86	21.15	0.88	21.83		
Investing…							
Doesn't matter to me–matters to me	INV5	0.79	20.26	0.79	16.61		
Means nothing to me–means a lot to me	INV6	0.84	(−)	0.82	(−)		
Domain-specific dispositional innovativeness (Steenkamp & Gielens, 2003)						0.50/0.48	0.83/0.82
In general, I am among the first to buy new investment products when they appear on the market.	DI1	0.81	20.01	0.68	11.63		
I am very cautious in trying new and different investment products. (r)	DI2	0.74	18.09	0.68	11.58		
I enjoy trying new investment products, hoping for a windfall.	DI3	0.70	17.13	0.82	12.15		
I do not like to buy a new investment product before other people do. (r)	DI4	0.71	17.26	0.61	10.12		
When I am confronted with a new investment product, I am reluctant to give it a try. (r)	DI5	0.57	(−)	0.67	(−)		
Perceived complexity of a new investment product (Rogers, 1995)							
Please indicate how easy you find it to understand and trade in this product (1 = very simple, 5 = very complex)		n/a		n/a			
Perceived risk of a new investment product (Jacoby & Kaplan, 1972)							
Please indicate how risky this product is in financial terms (amount of money that can be lost) (1 = not risky, 5 = very risky)		n/a		n/a			
Perceived visibility of a new investment product (Im et al., 2007)							
Please indicate how often you are (passively) exposed to WOM about this product (1 = not at all, 5 = very frequently)		n/a		n/a			
Please indicate how often you are (actively) engaged in WOM about this product (1 = not at all, 5 = very frequently)		n/a		n/a			
Covariates							
Age							
What is your age?		n/a		n/a			
Knowledge							
How would others characterize you with regard to the level of knowledge you have about investing? (1 = Very little knowledge, 5 = Very much knowledge)		n/a		n/a			
How would others characterize you with regard to the level of experience you have with investing? (1 = Very limited experience, 5 = Very extended experience)		n/a		n/a			
Affluence							
What is your current portfolio size (in Euros)?		n/a		n/a			
Education							
Please indicate your highest education level (1 = elementary school, 8 = Bachelor/Master degree)		n/a		n/a			
Risk profile							
Please indicate your risk profile (1 = very defensive, 5 = highly speculative)		n/a		n/a			

Notes:
a. All items, unless otherwise noted, use five-point Likert scales, anchoring at 1 = totally disagree and 5 = totally agree.
b. SL = maximum likelihood standardized loadings with t-values, AVE = average variance extracted, and CR = composite reliabilities.
c. (r) = reverse scored item.

Table 2
New investment products included in Studies 1 and 2.

	Emergent market funds "BRIC"	Real estate funds "non-western real estate"	Green investment funds "sustainable investments"	Leveraged–structured investment products "Turbo's/Speeders"	Index-based funds "trackers"
Explanation	A security that is based on investments exclusively made in emergent markets, including Brazil, Russia, India, and China.	A mutual fund that invests exclusively in securities in real estate companies in non-Western countries such as Eastern Europe.	A mutual fund that invests exclusively in securities in companies operating in environmentally friendly and sustainable ways.	Option-based securities/structured products that use leverage. Turbo certificates are one of the most popular versions of leveraged certificates that combine the simplicity of open-ended index-tracking certificates with the leverage effect of warrants. Can be used to invest in all kinds of commodities (e.g., gold, corn, and oil) or specific companies (e.g., ING).	An index fund or tracker is a collective investment scheme (usually a mutual fund or exchange-traded fund) that aims to replicate the movements of an index of a specific financial market or a set of rules of ownership that are held constant, regardless of market conditions.
Key examples and fund inception dates/first availability on the Dutch stock market	Barclays/iShares MSCI Emerging Markets" 17/11/2005 Barclays/iShares "MSCI BRIC Indexfund" 11/12/2007	Middle Europe Investments "Romania and Bulgaria Fund" 01/03/2006 Middle Europe Investments "Middle Europe Real Estate" 01/12/2003	ABN AMRO "ABN AMRO Sustainable World Fund" 01/05/2000 ING "Sustainable Fund" 01/05/2000	ABN AMRO/RBS "Turbo's" 2004 Citi/Commerzbank "Speeders" 01/06/2006	Barclays/iShares "AEX" 18/11/2005

interest, were available to them, and had sufficient levels of awareness at the time of the survey (cf. Im et al., 2003: 66). An expert panel of five academics and six finance professionals confirmed that the included products matched the criteria. Table 2 shows that key examples pertaining to these products — with the exception of green funds — have only recently been introduced to the Dutch market. As green funds existed for more than 5 years, but initially traded at low volumes, we did robustness checks with and without this product and found highly similar results. In the rest of the paper we report the results of the complete model.

2.4.4. Construct validity and reliability

We employed standard psychometric procedures to test the reliability and validity of our scales (Tables 1, 3). Although the initial measurement model showed reasonable fit with the data (χ^2/df = 2.02; GFI = 0.89; CFI = 0.91; RFI = 0.80; TLI = 0.89; RMSEA = 0.041), the construct validity of some scales needed improvement. After eliminating items that contributed most to lack of fit (Steenkamp & van Trijp, 1991), the final measurement model using maximum likelihood estimation demonstrates good fit (χ^2/df = 1.97; GFI = 0.91; CFI = 0.94; RFI = 0.85; TLI = 0.92; RMSEA = 0.040). We find evidence for convergent validity and unidimensionality for all constructs because all items load significantly ($p<0.001$) on their posited underlying construct and insignificantly on all other constructs. Except for the ambiguity intolerance scale, the average variance extracted (AVE) is satisfactory (Fornell & Larcker, 1981). To establish discriminant validity, we find that the intercorrelations between the latent factors (± two standard errors) do not include unity (Anderson & Gerbing, 1988) (Table 3). Furthermore, the square root of each latent construct's AVE is greater than the correlations of this construct with any other construct in the model (Fornell & Larcker, 1981). Finally, we find evidence for sufficient construct reliability because the composite reliabilities are close to or well above 0.60 (Bagozzi & Yi, 1988).

Because we use survey data, common-method variance may be a concern. In the survey design, we limit acquiescence effects by including reverse-coded items (Lindell & Whitney, 2001) and kept the questionnaire relatively short to avoid respondents shifting from response accuracy to speed. We checked for potential method bias by performing a Harman's single-factor test using CFA (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) and find a poor fit for the one-factor model (χ^2/df = 9.36; GFI = 0.59; CFI = 0.41; RMSEA = 0.12). We also conducted a Lindell and Whitney (2001) marker variable test using three theoretically unrelated marker variables, including newspaper consumption (1 = extremely low and 5 = extremely high) and the degree to which the respondent values stocks based on (1) the company's CEO or (2) its past stock prices (1 = not at all and 5 = to a great degree). High correlation among any of the study's principal constructs and the marker variables indicates common-method bias. The average correlations of the marker variables with the principal constructs were low (maximum $r = 0.06$) and all insignificant. Finally, the highest correlation among the principal constructs is 0.46 and below Bagozzi, Yi and Philips's (1991) 0.8 limit. All tests suggest that common-method variance is not a serious threat to our study.

2.5. Results

2.5.1. Structural model

Fig. 2 shows the structural analysis results. The overall structural model fits the data well (χ^2/df = 2.35; GFI = 0.92; CFI = 0.94; RFI = 0.86; TLI = 0.92; RMSEA = 0.048) and explains a reasonable amount of variance in dispositional innovativeness (R^2 = 27%) and cross-sectional actualized innovativeness (R^2 = 25%). Multicollinearity diagnostic tests in a set of regression analyses reveal no serious concerns as the maximum variable inflation factor is 1.58. To test the relative importance of dispositional innovativeness in explaining adoption timing across different new products, we tested separate structural models, explaining 4–20% of the variance.

We find considerable variance in the adoption rate for the selected new investment products. Whereas 59% of our respondents have owned emergent market funds, 30% have owned leveraged–structured investment products, 25% have owned index-based funds, 15% have owned green investment funds, and only 13% have ever owned real estate funds.

2.5.2. Hypotheses testing

As predicted by H1, we find empirical evidence that dispositional innovativeness is strongly associated with the range of adopted new investment products ($\beta = 0.39$, $p<0.001$). The standardized effects (Table 4) show that the sole effect of dispositional innovativeness on cross-sectional actualized innovativeness is comparable to the

Table 3
Construct correlations and AVE, Studies 1 and 2.

	AI	DI	MM	AMB	SNI	INV	AGE	EDU	AFF	KNO	RP	EME	RES	GRE	LEV	IND
AI	n/a	0.36***	0.30***	−0.16**	0.00	0.20***	0.08	0.13*	0.21***	0.24***	−0.04	0.60***	0.44***	0.44***	0.50***	0.52***
DI	0.40***	**0.71/0.69**	0.63***	−0.44***	0.05	0.19***	−0.07	0.07	−0.04	0.28***	0.10	0.19**	0.13*	0.10	0.26***	0.24***
MM	0.27***	0.46***	**0.69/0.73**	−0.20**	0.20***	0.29***	−0.03	−0.01	0.05	0.26***	0.06	0.18**	0.16**	−0.01	0.19***	0.23***
AMB	−0.17**	−0.22***	−0.20**	**0.63/0.63**	0.09	−0.08	0.13*	0.06	0.09	−0.09	−0.12*	−0.07	0.01	−0.13*	−0.05	−0.03
SNI	0.00	0.16**	0.26***	0.28***	**0.73/0.73**	−0.06	0.06	−0.08	−0.01	−0.11*	−0.14*	0.02	0.05	−0.03	−0.07	0.03
INV	0.20***	0.15**	0.24***	0.07	−0.03	**0.80/0.80**	−0.07	−0.03	0.13**	0.42***	0.27***	0.07	0.04	0.03	0.16**	0.20***
AGE	0.06	−0.10**	−0.16***	0.17**	0.01	−0.06	n/a	0.01	0.28***	0.11	0.07	0.05	0.19**	0.04	0.01	0.02
EDU	0.14***	0.01	0.15**	−0.36***	−0.14**	−0.02	−0.09**	n/a	0.09	0.15**	0.01	0.15**	−0.01	0.09	0.04	0.07
AFF	0.18***	−0.04	0.05	0.06	−0.03	0.12**	0.24***	0.02	n/a	0.20***	−0.01	0.18**	0.13*	0.05	0.04	0.12*
KNO	0.26***	0.12**	0.38***	−0.11	−0.12**	0.48***	0.00	0.23	0.16***	n/a	0.27***	0.19***	0.08	0.03	0.24***	0.20***
RP	0.12***	0.10**	0.06	−0.22	−0.10**	0.22***	−0.15***	0.13***	0.00	0.29***	n/a	−0.04	−0.07	−0.06	0.07	−0.03
EME	0.53***	0.24***	0.15**	−0.14**	0.01	0.11**	0.07	0.11**	0.09*	0.20***	0.08**	n/a	0.27***	0.23***	0.16**	0.26***
RES	0.38***	0.11**	0.12**	−0.04	0.06	0.06	0.17***	0.03	0.11**	0.06	−0.03	0.10**	n/a	0.14*	0.12*	0.17**
GRE	0.41***	0.08	0.09	0.01	0.01	−0.04	0.05	0.06	0.16***	0.01	0.01	0.10**	0.04	n/a	0.08	0.07
LEV	0.58***	0.36***	0.26***	−0.14**	−0.03	0.21***	0.00	0.09**	0.05	0.29***	0.16***	0.21***	0.07	0.08	n/a	0.21***
IND	0.50***	0.14**	0.14**	−0.09	−0.03	0.15***	0.00	0.10**	0.12**	0.17***	0.05	0.15***	0.04	0.09	0.21***	n/a

Notes:
a. AI = actualized innovativeness (cross-sectional), DI = dispositional innovativeness; MM = market mavenism, AMB = ambiguity intolerance, SNI = susceptibility to normative influence, INV = product-category involvement, AGE = age, EDU = education, AFF = affluence, KNO = knowledge, RP = risk profile, EME = emergent market fund, RES = real estate fund, GRE = green investment fund, LEV = leveraged–structured investment product, and IND = index-based fund.
b. * $p<0.05$; ** $p<0.01$; *** $p<0.001$ (2-tailed), correlations and standard errors were derived from bootstrapping with 500 replications.
c. The numbers demonstrate the correlations between the latent constructs of Study 1 (below the diagonal) and of Study 2 (above the diagonal). The diagonal represents the square root of the AVE for Study 1 and Study 2, respectively, n/a = not applicable.

combined effect of the five socio-demographics. Dispositional innovativeness also significantly impacts — though to a lesser extent — the speed of adoption for each individual new investment product. It most strongly relates with the early adoption of leveraged–structured investment products ($\beta = 0.34$, $p<0.001$), followed by emergent market funds ($\beta = 0.23$, $p<0.001$), non-Western real estate funds

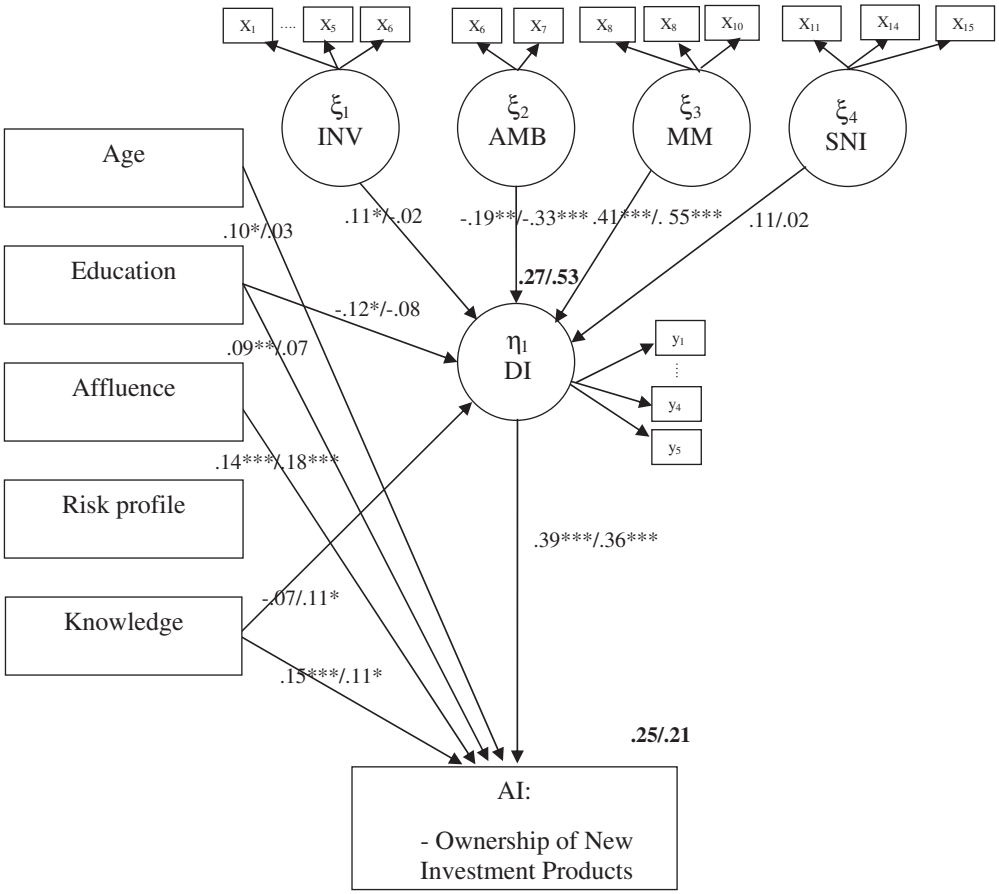

Fig. 2. Structural model results (cross-sectional), Study 1 and 2. Notes: a. Correlations between independent variables, errors in equation and latent variables, and insignificant relationships of socio-demographic variables are omitted for clarity. b. MM = market mavenism, INV = product-category involvement, AMB = ambiguity intolerance, SNI = susceptibility to normative influence, DI = dispositional innovativeness, AI = actualized innovativeness. c. Table 4 reports the effect of dispositional innovativeness on adoption timing of the five new investment products. d. Standardized beta coefficients are shown with the explained variance in bold. * p < .05; ** p < .01; *** p < .001 (2-tailed). e. Study 1/Study 2. The results of the indirect model using the intervening product variables (Study 2) are reported in Table 5.

Table 4
Structural model results, Studies 1 and 2.

	Dispositional innovativeness		Actualized innovativeness		Emergent market fund		Real estate fund		Green fund		Leveraged–structured investment product		Index-based fund	
			(Ownership)		(Time to adopt)		(Time to adopt)		(Time to adopt)		(Time to adopt)		(Time to adopt)	
	Study 1	Study 2	Study 1	Study 2	Study 1	Study 2	Study 1	Study 2	Study 1	Study 2	Study 1	Study 2	Study 1	Study 2
MM	**0.41*****	**0.55*****	–	–	–	–	–	–	–	–	–	–	–	–
SNI	0.11	0.02	–	–	–	–	–	–	–	–	–	–	–	–
AMB	**−0.19****	**−0.33*****	–	–	–	–	–	–	–	–	–	–	–	–
INV	**0.11***	−0.02	–	–	–	–	–	–	–	–	–	–	–	–
AGE	0.01	−0.01	**0.10***	0.03	**0.11****	0.01	**0.16*****	**0.17*****	0.03	0.02	0.04	0.00	01	−0.02
EDU	**−0.12***	−0.08	**0.09***	0.07	0.07	**0.12****	0.04	−0.04	0.07	0.07	0.03	−0.01	0.05	0.03
AFF	−0.04	−0.06	**0.14*****	**0.18*****	0.05	**0.16*****	0.07	0.09	**0.16*****	0.06	0.01	0.01	**0.10***	**0.12***
KNO	−0.07	**0.11***	**0.15*****	**0.11***	**0.14*****	**0.10***	0.03	0.01	−0.05	−0.01	**0.22*****	**0.17*****	**0.12****	**0.13****
RP	0.04	0.00	0.04	−0.08	0.02	−0.08	−0.04	−0.07	0.010	−0.08	0.07	−0.01	−0.01	−0.09
DI	–	–	**0.39*****	**0.36*****	**0.23*****	**0.16****	**0.13****	**0.17****	**0.10***	**0.11***	**0.34*****	**0.24*****	**0.13****	**0.24*****
$\mathbf{R^2}$	0.27	0.53	0.25	0.21	0.12	0.10	0.05	0.08	0.04	0.03	0.20	0.11	0.06	0.11
Fit statistics														
χ^2/df	2.35	2.40			2.37	2.03	2.37	1.96	2.37	2.05	2.39	1.96	2.37	2.01
GFI	0.92	0.91			0.92	0.90	0.92	0.91	0.92	0.91	0.92	0.91	0.92	0.91
CFI	0.94	0.93			0.93	0.93	0.93	0.94	0.93	0.94	0.93	0.94	0.93	0.93
TLI	0.92	0.91			0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
RMSEA	0.048	0.049			0.048	0.049	0.048	0.047	0.048	0.048	0.048	0.047	0.048	0.049

Notes:
a. Standardized beta coefficients are shown for Study 1 and Study 2. The results are displayed for the cross-sectional model explaining dispositional innovativeness (DI) and actualized innovativeness (AI), and for the separate models explaining the relative time of adoption for each new investment product.
b. Complete models were tested for the structural models explaining the adoption timing of each individual new product. The effect of the consumer psychographics and socio-demographic covariates on dispositional innovativeness was identical to the cross-sectional model; therefore we do not repeat these results in this table. * $p<0.05$; ** $p<0.01$; *** $p<0.001$ (2-tailed).

(β = 0.13, $p = 0.003$), index-based funds (β = 0.13, $p = 0.004$), and green funds (β = 0.10, $p = 0.030$).

As hypothesized by H2, we find support for a positive relationship between product-category involvement and dispositional innovativeness (β = 0.11, $p = 0.042$). Ambiguity intolerance is negatively associated with dispositional innovativeness (β = -0.19, $p = 0.009$), as anticipated in H3. In support of H4, market mavenism strongly positively influences dispositional innovativeness (β = 0.41, $p<0.001$). Finally, the results force us to reject H5, as SNI (β = 0.11, $p = 0.057$) is not related to dispositional innovativeness at the 5% significance level.

2.5.3. Effects of socio-demographic covariates

Except for education, the socio-demographic covariates have no significant effect on dispositional innovativeness. The effects of socio-demographics on the breadth and speed of adoption are direct and not mediated by dispositional innovativeness. Consumers adopt a wider range of innovative investment products when they are older, better educated, more affluent, and more knowledgeable. The effect of socio-demographics on adoption timing varies across new investment products. Age has a positive influence on early adoption for non-Western real estate funds and emergent market funds. Affluence has a positive effect on the speed of adopting index-based investment products and green funds. Product-category knowledge has a positive influence on several products, most strongly influencing adoption of the relatively complex leveraged–structured investment products. Education and risk profile do not influence adoption timing.

3. Study 2

Given the specific nature of Study 1's sample (self-selection), and the observed differences in the strength of the relationship between dispositional innovativeness and adoption timing across different new investment products, the objectives of Study 2 are both to cross-validate the findings of Study 1 with a randomly selected sample and to investigate how dispositional innovativeness influences adoption timing across various products by altering consumers' perceptions of complexity, risk, and visibility. We present the hypotheses, method, and results below.

3.1. Intervening role of perceived innovation characteristics

Previous research suggests that the connection between dispositional and actualized innovativeness can be mediated by an innovation's perceived characteristics in terms of complexity and risk (Cestre & Darmon, 1998; Holak & Lehmann, 1990; Ostlund, 1974) as well as visibility reflected by the intensity of product-related social interactions (Im et al., 2007). Consumer innovators generally perceive fewer threats and hence, lower product complexity and risk in adopting innovations at an early stage (Cowart et al., 2008). Because of their high social interrelatedness, consumer innovators also tend to have greater exposure to innovations and perceive greater product visibility compared to consumers scoring lower on dispositional innovativeness. Hence, to achieve a better understanding of the mechanisms through which dispositional innovativeness exerts its influence on adoption behavior, Study 2 investigates these mediational effects.

3.1.1. Complexity

Complexity refers to the degree to which an innovation is difficult to understand and use (Rogers, 1995). New investment products are considered rather complex as their functioning and quality is often difficult to grasp (Easingwood & Storey, 1991). Perceived complexity lowers the probability of early adoption (Cestre & Darmon, 1998). Consumer innovators, however, tend to perceive lower complexity when adopting innovations as they usually have a high degree of (technological) skills, which enable them to better understand and use the novel product (Ostlund, 1974).

3.1.2. Risk

Consumers' perceived risk is defined as the amount of money an investor can lose by adopting the new product (Conchar et al., 2004). New investment products typically entail high risk because little is known about their performance, and their pay-off structures may be opaque,

thereby reducing the speed of innovation adoption (Gatignon & Robertson, 1985). Consumer innovators, however, typically are less sensitive to threats than non-innovators (Raju, 1980; Steenkamp & Baumgartner, 1992) and usually perceive less risk in the relevant new product category (Cowart et al., 2008).

3.1.3. Visibility

In line with Rogers' (1995) observability concept, visibility refers to the degree to which the benefits of an innovation are visible and can be communicated to others. Greater innovation salience speeds up adoption (Im et al., 2007). Consumers' investment decisions typically have low visibility, as the results of (adopting) a new investment product are not easily observed by others unless these decisions are publicly discussed (Hoffmann & Broekhuizen, 2009). Peer discussion enhances investment products' visibility (Hong, Kubik, & Stein, 2004; Rogers, 1995). The visibility of each new investment product is thus defined as consumers' perceived exposure to and engagement in WOM for each product. Consumer innovators express their innovative personality traits both by having more contact with similar others (exposure to WOM) and by actively telling others (engagement in WOM) about new products (Midgley & Dowling, 1978).

H6. Dispositional innovativeness indirectly influences adoption timing through lower levels of (a) product complexity and (b) risk, and through higher levels of (c) visibility.

3.1.4. Relative strength of indirect effects across products

Consumers' perceptions of complexity, risk, and visibility are likely to differ across the five new investment products under investigation, which may affect the strength of the indirect effects of dispositional innovativeness on actualized innovativeness through these intervening variables. Previous research proposes that such indirect associations may become particularly strong when an intervening variable has high salience (Cialdini, 2001). Im et al. (2007), for instance, suggest that their indirect model including WOM particularly applies to high-risk contexts in which personal sources of information are more influential in helping consumers assess product quality than in low-risk contexts (Murray, 1991). Likewise, we expect that the indirect effects through perceived risk and complexity are strongest for products for which consumers perceive these intervening variables as more salient.[2]

H7. The indirect effects are strongest for more complex, risky, and visible investment products.

3.2. Method

3.2.1. Data collection

A random sample of clients at a large discount broker in the Netherlands was invited by email to participate in an investment survey. The broker is labeled as a discount broker because no investment advice is given. Using a discount broker ensures that the survey responses reflect consumers' own decision-making and opinions and not those of an investment advisor. Discount brokers are the dominant channel through which both U.S. and Dutch consumers invest (Barber & Odean, 2000; Bauer et al., 2009), allowing us to collect a representative sample. The email invitation introduced the study, featured a privacy statement, and contained a link to the online survey.

3.2.2. Sample

We sent out 2500 emails, of which 76 were undeliverable, leaving us with 2424 usable email addresses, from which we received 427 completed surveys (net response rate of 17.6%). Both in terms of background characteristics and the variables of interest, the sample of Study 2 is highly similar to that of Study 1, thereby alleviating concerns of a potential self-selection bias in Study 1. Comparing early versus late respondents reveals no significant differences in the variables of interest, providing evidence against nonresponse bias (Armstrong & Overton, 1977).

3.2.3. Measures and research instrument

To cross-validate the findings of Study 1, we use the same measures in Study 2 (Table 1). In addition, we gauge consumers' perceptions of complexity, risk, and visibility for each of the five new investment products. Complexity refers to the degree to which respondents find the product easy to understand and trade in (1 = very simple and 5 = very complex) (Rogers, 1995). Risk is measured as the amount of financial risk involved with the product (1 = not risky and 5 = very risky) (Jacoby & Kaplan, 1972). Visibility is measured as the degree to which prior to adoption consumers passively received information about the product from personal sources (exposure to WOM) and the degree to which they are actively involved in such interpersonal information exchange (engagement in WOM) (1 = not at all and 5 = very frequently) (Im et al., 2007).

3.3. Results

The measurement model again demonstrates a good fit (χ^2/df = 1.85; GFI = 0.92; CFI = 0.94; RFI = 0.83; TLI = 0.91; RMSEA = 0.045), and, as in Study 1, the scales demonstrate sufficient levels of reliability, unidimensionality, convergent validity, and discriminant validity (Tables 1, 3).

The structural model fits the data well (χ^2/df = 2.40; GFI = 0.91; CFI = 0.93; RFI = 0.84; TLI = 0.91; RMSEA = 0.049) and confirms the overall results of Study 1 (Table 4). The most noticeable difference is that the effect of product-category involvement on dispositional innovativeness is no longer significant in Study 2 due to the stronger effect of market mavenism.[3] Dispositional innovativeness strongly and systematically explains new product adoption timing and range in both studies, while risk profile continues to have no significant effects. In Studies 1 and 2, age has a positive effect on the adoption timing of real estate funds, affluence a positive effect on adoption timing of index-based funds, and knowledge a positive effect on adoption timing of emergent market funds, leveraged–structured investment products, and index-based funds.

3.3.1. Intervening role of perceived innovation characteristics

Table 5 shows the effects of dispositional innovativeness on the adoption timing of the different investment products through altering consumers' perceptions of these products' complexity, riskiness, and visibility. The first part of the indirect effect is significant for all relationships, as dispositional innovativeness consistently reduces perceived complexity and risk, and increases exposure to and engagement in WOM. The second part of the indirect effect shows some insignificant relationships. Perceived complexity negatively affects adoption timing of all products except real estate funds, whereas perceived risk only shows a significant negative relationship with adoption timing for real estate funds.[4] Exposure to WOM positively affects the adoption timing of emergent market funds and leveraged–structured investment products but does not impact the adopting timing of the other three products. Engagement in WOM has

[2] In an additional analysis, we also test dispositional innovativeness as a potential moderator influencing the relative importance of risk, complexity, and visibility. Analyses with product interaction terms reveal no empirical evidence for such moderation.

[3] When tested in isolation, the effect of involvement is highly significant and similar to that in Study 1 ($\beta = 0.20$, $p < 0.001$).

[4] The insignificant effect of risk is not due to multicollinearity issues (highest variable inflation factor = 1.78). The highest average correlation is with complexity and is fairly low ($r = 0.40$).

Table 5
Indirect effects of dispositional innovativeness on adoption timing through intervening variables, Study 2.

	Expected relationship	Emergent market fund	Real estate fund	Green fund	Leveraged–structured investment product	Index-based fund
DI➔Complexity[a]	−	**−0.25*****	**−0.21*****	**−0.15****	**−0.41*****	**−0.33*****
DI➔Risk	−	**−0.15****	**−0.11***	**−0.12***	**−0.14***	**−0.17****
DI➔Visibility						
(Exposure to WOM)	+	**0.36*****	**0.27*****	**0.16****	**0.44*****	**0.38*****
(Engagement in WOM)	+	**0.43*****	**0.34*****	**0.17****	**0.52*****	**0.44*****
Complexity➔AI (time to adopt)	−	**−0.24*****	0.03	**−0.12****	**−0.47*****	**−0.19*****
Risk➔AI (time to adopt)	−	0.06	**−0.11***	−0.06	0.05	−0.03
Visibility➔AI (time to adopt)						
(Exposure to WOM)	+	**0.09***	0.05	0.03	**0.08***	0.00
(Engagement in WOM)	+	**0.39*****	**0.26*****	**0.34*****	**0.33*****	**0.38*****
Total indirect effect: DI➔AI[b]		0.25***	0.12***	0.09**	0.25***	0.24***
R^{2c}		0.29	0.12	0.14	0.41	0.23

Notes:
a. Standardized beta coefficients are shown (AMOS results), * $p<0.05$; ** $p<0.01$; *** $p<0.001$ (2-tailed).
b. Significance of total indirect effects derived from bootstrapping with 1000 replications (AMOS results).
c. Variance explained in the adoption timing for each investment product (AMOS results).

a consistent and strong positive effect on the adoption timing of all new investment products.

To test the appropriateness of the indirect effects model, we first estimate the significance of the total standardized indirect effects of dispositional innovativeness on adoption timing through all intervening variables for each product using a bootstrap approximation (1000 samples) (Table 5). The results confirm that the aggregate indirect effects are all substantially different from zero ($p<0.01$) based on two-sided bias-corrected confidence intervals. Next, using Sobel (1982) tests, we separately investigate the significance of the indirect effects for each intervening variable. The indirect effects through complexity are significant for all products except real estate funds, while the indirect effects through risk are not significant for any product. All indirect effects through visibility (engagement in and exposure to WOM) are significant. Hence, we find empirical evidence in support of H6a and H6c but not H6b.

Apart from testing our indirect effects hypotheses, we use the multiple mediator model of Preacher and Hayes (2008) to formally test whether the relative magnitudes of the specific indirect effects through each of the intervening variables differ. For each product, this method simultaneously estimates the effect of multiple intervening variables, allowing us to determine to what degree a specific mediator (e.g., complexity) influences the dependent variable, conditional on the presence of other mediators (e.g., risk, exposure to WOM, and engagement in WOM). The difference tests demonstrate that the relative magnitudes of the specific indirect effects significantly differ ($p<0.05$) and show a consistent pattern: engagement in WOM has the strongest impact, followed by complexity, exposure to WOM, and lastly, risk.

Finally, we assess whether the effect of dispositional innovativeness on adoption timing is fully, partially, or not mediated by the intervening variables using Mathieu and Taylor's (2006) method. As such, we test whether the intervening variables act as an intermediate processing stage between dispositional innovativeness and adoption timing. The results show that the effect of dispositional innovativeness on adoption timing is fully mediated by engagement in WOM for all products except index-based funds. Complexity fully mediates the effect of dispositional innovativeness on adoption timing for leveraged–structured investment products, while the effect of exposure to WOM fully mediates the relationship for real estate funds. The relationship between dispositional innovativeness and adoption timing is not mediated by perceived risk for any product, as the effect of dispositional innovativeness on adoption timing does not become insignificant when including risk. These results suggest that complexity and visibility (in particular engagement in WOM) entirely mediate the effect of dispositional innovativeness on adoption timing and thereby highlight the critical role of these intervening variables for understanding why consumer innovators more quickly adopt new investment products.

3.3.2. Relative strength of indirect effects across products

We find considerable and significant mean differences in consumers' perceptions of complexity, risk, and visibility across the various investment products (Table 6). These differences help to explain the relative strength of the indirect effects across these different products.

Combining the insights from Tables 5 and 6 shows that the total standardized indirect effects of dispositional innovativeness on adoption timing are strongest for products that are perceived to be more complex, risky, and visible in terms of WOM. The total indirect effect is largest for leveraged–structured investment products (high complexity and risk and moderate visibility) and emergent market funds (moderate complexity and risk and high visibility) (both 0.25), followed closely by index-based funds (moderate complexity, risk, and visibility) (0.24). The total indirect effect is much lower for real estate funds (high complexity and risk and low visibility) (0.12) and green funds (low complexity and risk and moderate visibility) (0.09). The low total indirect effect for real estate funds, despite their high levels of complexity and risk, can be explained by the fact that this product scores lowest on both visibility aspects, while visibility (in particular engagement in WOM) has a strong effect on this product's adoption timing. Overall, the results confirm H7.

Finally, the results demonstrate that including the intervening variables increases the variance explained in adoption timing (compare R^2's of Tables 4 and 5), while the strongest improvements in predictive power are achieved for the more risky, complex, and visible products.

4. Discussion and conclusion

4.1. Discussion of results

This study increases our understanding of consumers' decisions to purchase new investment products by empirically testing a comprehensive model of the relationships among consumer characteristics, product characteristics, dispositional innovativeness, and new product adoption behavior. By investigating a set of important psychological and sociological traits, we provide a theoretical explanation for why some consumers score higher on dispositional innovativeness towards investments than other consumers. Both studies show a strong impact of this innovative predisposition on consumers' adoption of innovative investment products, whereas Study 2 provides additional insight into the intervening

Table 6
Mean scores of consumers' perceived product characteristics, Study 2.

	A: emergent market fund	B: real estate fund	C: green fund	D: leveraged–structured investment product	E: index-based fund
Complexity	2.67[b,c,d]	3.45[a,c,e]	2.28[a,b,d,e]	3.31[a,c,e]	2.82[b,c,d]
Risk	3.51[b,c,d]	4.01[a,c,d,e]	2.90[a,b,d,e]	4.22[a,b,c,e]	3.44[b,c,d]
Visibility					
(Exposure to WOM)	2.87[b,c,d,e]	1.85[a,c,d,e]	2.27[a,b,e]	2.18[a,b]	2.09[a,b,c]
(Engagement in WOM)	2.34[b,c,d,e]	1.46[a,c,d,e]	1.74[a,c,d]	1.88[a,b,c]	1.77[a,b]

Note:
a. Superscripts represent significant mean differences between cells based on independent LSD tests ($p<0.05$).

role of consumers' perceptions of new product's complexity, riskiness, and visibility (exposure to and engagement in WOM).

Taken as a whole, our results support behavioral finance's general conjecture that risk and return are not sufficient in explaining consumers' investment decisions (Statman, 1999). Neither in Study 1 nor in Study 2 does consumers' risk-taking tendency, as measured by their portfolio's risk profile, influence their dispositional or actualized innovativeness. Study 2 additionally shows that consumers' risk perceptions of different new investment products do not mediate the relationship between dispositional innovativeness and adoption timing. Additional isolated tests also indicate that risk has the weakest impact of the four intervening variables on adoption time for four out of five products.[5] The combined findings of Studies 1 and 2 demonstrate that psychological and sociological personality traits play an important role in consumers' adoption of new investment products by systematically affecting their dispositional innovativeness. Study 2, in turn, shows that innovative predispositions affect actualized innovativeness most strongly for products that consumers consider to be most complex, risky, and visible. These results extend previous work (Im et al., 2007) by indicating that not only between-category differences (e.g., products versus services) may determine the appropriateness of the indirect model, but also within-category heterogeneity (e.g., differences amongst new investment products) is important to understand the exact indirect effect of dispositional innovativeness on adoption timing.

The results of Study 1 and Study 2 show that market mavenism has a positive effect and ambiguity intolerance a negative effect on dispositional innovativeness. Additionally, Study 1 finds that product-category involvement positively influences dispositional innovativeness. However, in contrast to previous studies on consumer packaged goods (Steenkamp & Gielens, 2003), Studies 1 and 2 show that in an investment context SNI does not negatively influence dispositional innovativeness. We present two explanations for this result. First, in an investment setting, consumers' adoption decisions have important long-term wealth effects (He et al., 2008), thus increasing the significance of making accurate decisions. Higher salience of accuracy goals intensifies consumers' resistance to conformity pressures (Quinn & Schlenker, 2002). Second, investment products possess many credence attributes and involve high risk, thereby amplifying the relative weight of experts as compared to the recommendations of friends and family (Lafferty, Goldsmith, & Flynn, 2005). SNI refers more to the latter personal sources of influence and less to the former impersonal reference groups like experts (Bearden et al., 1989), which may explain its insignificance here.

4.1.1. Managerial implications

This study has several implications for marketing managers. Successfully persuading consumer innovators to adopt a new investment product is a vital precondition for ultimate marketplace success as innovators' behavior functions as an example for other consumers to follow (Rogers, 1995). Dispositional innovativeness plays a central role in explaining consumers' adoption decisions, especially for more complex, risky, and visible new investment products. Hence, identifying and targeting consumer innovators is most effective for these types of products. To do so, this study identifies a number of important psychographic variables that typify consumers scoring highly on dispositional innovativeness, thus providing insight into consumer innovators' underlying motivations to embrace new investment products.

Because consumer innovators are most strongly influenced by market mavenism, marketers may do wise to develop strategies tapping into this personality trait. Consumer innovators may be offered free email or print subscriptions informing them about product introductions and offering advanced purchase opportunities. Additionally, marketers can create new investment products which consumers like to converse about and introduce to others. This process can be supported by providing these innovators with online platforms to discuss and endorse new products, catering to their need for social distinctiveness and uniqueness, while exploiting the important roles of social learning and WOM in speeding up new product adoption processes (Im et al., 2007).

As less innovative consumers are more intolerant towards ambiguous situations and adopt later because they perceive higher product complexity, managers may accelerate market penetration by improving transparency and clarity for this segment. By providing accurate and consistent performance range estimates as well as easy to understand and informative product descriptions, managers can encourage further adoption by and maintain high levels of trust from the consumer in both the financial system and the investment industry (cf. Foxall & Pallister, 1998).

4.1.2. Limitations and further research

Our study contains several limitations providing interesting avenues for future research. First, the generalizability of the findings beyond our sample may be limited. Our respondents are from a highly developed country in Western Europe. Recent research suggests cross-cultural differences in consumer innovativeness (Tellis et al., 2009) and financial risk-taking (Statman, 2008), making it worthwhile to test our conceptual model using data from other countries and regions.

Second, we used previously tested and validated scales, maintaining content validity by minimally adjusting the items to the study context. Unfortunately, this was not possible for ambiguity intolerance. Using a non-context specific scale may have caused this constructs' low construct validity and an underestimation in its relative impact on dispositional innovativeness.

Third, we used well-established measures of actualized innovativeness incorporating both individual (cross-sectional) and social (relative timing to others) innovativeness. Future research could also investigate the impact of dispositional innovativeness and other consumer characteristics on alternative measures such as the size of consumers' asset allocation shifted into or withdrawn from an innovative product category (cf. Prins et al., 2009).

[5] To rule out that risk's low impact is due to differences in risk-taking between consumer innovators and later adopters (e.g., innovators may be more willing to take risk), we run a two-group SEM analysis to determine the invariance of the structural coefficients of risk to adoption timing between a group scoring low (lowest 80%) and high (highest 20%) on dispositional innovativeness. The test reveals that consumer innovators are equally affected by risk as later adopters for each new investment product. Hence, the low impact of risk does not seem to be explained by innate risk-taking tendencies of consumer innovators.

Despite these limitations, this study contributes to the consumer behavior and marketing literature by providing a better understanding of investors' decisions to adopt new investment products, showing the drivers of adoption timing and range. We show that research in marketing and finance do not contradict but rather complement each other (cf. Goldstein et al., 2008: 454).

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References

Alba, J. W., & Hutchinson, J. W. (1987). Dimensions of consumer expertise. *Journal of Consumer Research*, *13*(4), 411–454.
Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, *103*(3), 411–423.
Armstrong, J. S., & Overton, T. S. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research*, *14*(3), 396–402.
Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, *16*(1), 74–94.
Bagozzi, R. P., Yi, Y., & Phillips, L. W. (1991). Assessing construct validity in organizational research. *Administrative Science Quarterly*, *36*(3), 421–458.
Barber, B. M., & Odean, T. (2000). Trading is hazardous to your wealth: The common stock investment performance of individual investors. *The Journal of Finance*, *55*(2), 773–806.
Bauer, R., Cosemans, M., & Eichholtz, P. M. A. (2009). Option trading and individual investor performance. *Journal of Banking and Finance*, *33*(4), 731–746.
Baumgartner, H., & Steenkamp, J. B. E. M. (1996). Exploratory consumer buying behavior: Conceptualization and measurement. *International Journal of Research in Marketing*, *13*(2), 121–137.
Bearden, W. O., Netemeyer, R. G., & Teel, J. E. (1989). Measurement of consumer susceptibility to interpersonal influence. *Journal of Consumer Research*, *15*(4), 473–481.
Benartzi, S., & Thaler, R. H. (2001). Naive diversification strategies in defined contribution savings plans. *American Economic Review*, *91*(1), 79–98.
Bollen, K. E., & Paxton, P. (1998). Interactions of latent variables in structural equation models. *Structural Equation Modeling*, *5*(3), 267–293.
Budner, Stanley (1962). Intolerance of ambiguity as a personality variable. *Journal of Personality*, *30*(1), 29–50.
Cestre, G., & Darmon, R. Y. (1998). Assessing consumer preferences in the context of new product diffusion. *International Journal of Research in Marketing*, *15*(2), 123–135.
Cialdini, R. B. (2001). *Influence: Science and practice.* Boston, MA: Allyn & Bacon.
Clancy, K. J., & Shulman, R. S. (1991). *The marketing revolution.* New York: Harper Business.
Clark, R. A., & Goldsmith, R. E. (2005). Market mavens: Psychological influences. *Psychology and Marketing*, *22*(4), 289–312.
Clarke, K., & Belk, R. W. (1978). The effects of product involvement and task definition on anticipated consumer effort. *Advances in Consumer Research*, *5*, 313–318.
Conchar, M. P., Zinkhan, G. M., Peters, C., & Olavarrieta, S. (2004). An integrated framework for the conceptualization of consumers' perceived-risk processing. *Journal of the Academy of Marketing Science*, *32*(4), 418–436.
Cowart, K. O., Fox, G. L., & Wilson, A. E. (2008). A structural look at consumer innovativeness and self-congruence in new product purchases. *Psychology and Marketing*, *25*(12), 1111–1130.
Cox, D. F., & Rich, S. U. (1964). Perceived risk and consumer decision-making: The case of the telephone shopping. *Journal of Marketing Research*, *1*(4), 32–39.
De Bondt, W. F. M., & Thaler, R. H. (1985). Does the stock market overreact? *The Journal of Finance*, *40*(3), 793–805.
Dhar, R., & Zhu, N. (2006). Up close and personal: Investor sophistication and the disposition effect. *Management Science*, *52*(5), 726–740.
Dorn, D., & Sengmueller, P. (2009). Trading as entertainment? *Management Science*, *55*(4), 591–603.
Easingwood, C. J., & Storey, C. (1991). Success factors for new consumer financial services. *International Journal of Bank Marketing*, *9*(1), 3–10.
Feick, L. F., & Price, L. L. (1987). The market maven: A diffusor of marketplace information. *Journal of Marketing*, *51*(1), 83–97.
Fisher, R. J., & Price, L. L. (1992). An investigation into the social context of early adoption behavior. *Journal of Consumer Research*, *19*(3), 477–486.
Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*, *18*(3), 382–388.
Foxall, G. R., & Pallister, J. G. (1998). Measuring purchase decision involvement for financial services: Comparison of the Zaichkowsky and Mittal scales. *International Journal of Bank Marketing*, *16*(5), 180–194.
Gatignon, H., & Robertson, T. S. (1985). A propositional inventory for new diffusion research. *Journal of Consumer Research*, *11*(4), 849–867.
Gilovich, T., Medvec, V. H., & Savitsky, K. (2000). The spotlight effect in social judgment: An egocentric bias in estimates of the salience of one's own actions and appearance. *Journal of Personality and Social Psychology*, *78*(2), 211–222.
Goldsmith, R. E., d'Hauteville, F., & Flynn, L. R. (1998). Theory and measurement of consumer innovativeness. *European Journal of Marketing*, *32*(3/4), 340–353.
Goldsmith, R. E., Freiden, J. B., & Eastman, J. K. (1995). The generality/specificity issue in consumer innovativeness research. *Technovation*, *15*(10), 601–612.
Goldstein, D. G., Johnson, E. J., & Sharpe, W. (2008). Choosing outcomes versus choosing products: Consumer-focused retirement investment advice. *Journal of Consumer Research*, *35*(3), 440–456.
Graham, J. R., Harvey, C. R., & Huang, H. (2009). Investor competence, trading frequency, and home bias. *Management Science*, *55*(7), 1094–1106.
Grinblatt, M., & Keloharju, M. (2009). Sensation seeking, overconfidence, and trading activity. *The Journal of Finance*, *64*(2), 549–578.
Hamilton, R. W., & Biehal, G. J. (2005). Achieving your goals or protecting their future? The effects of self-view on goals and choices. *Journal of Consumer Research*, *32*(2), 277–283.
Hanssens, D. M., Rust, Roland T., & Srivastava, Rajendra K. (2009). Marketing strategy and Wall Street: Nailing down marketing's impact. *Journal of Marketing*, *73*(6), 115–118.
He, X., Inman, J. J., & Mittal, V. (2008). Gender jeopardy in financial risk taking. *Journal of Marketing Research*, *45*(4), 414–424.
Hirschleifer, D., & Teoh, S. H. (2003). Herd behaviour and cascading in capital markets: A review and synthesis. *European Financial Management*, *9*(1), 25–66.
Hoffmann, A. O. I., & Broekhuizen, T. L. J. (2009). Susceptibility to and impact of interpersonal influence in an investment context. *Journal of the Academy of Marketing Science*, *37*(4), 488–503.
Holak, S. L., & Lehmann, D. R. (1990). Purchase intentions and the dimensions of innovation: An exploratory model. *Journal of Product Innovation Management*, *7*(1), 59–73.
Hong, H., Kubik, J. D., & Stein, J. C. (2004). Social interaction and stock market participation. *The Journal of Finance*, *59*(1), 137–163.
Howcroft, B., Hamilton, R., & Hewer, P. (2007). Customer involvement and interaction in retail banking: An examination of risk and confidence in the purchase of financial products. *Journal of Services Marketing*, *21*(7), 481–491.
Im, S., Bayus, B. L., & Mason, C. H. (2003). An empirical study of innate consumer innovativeness, personal characteristics, and new-product adoption behavior. *Journal of the Academy of Marketing Science*, *31*(1), 61–73.
Im, S., Mason, C. H., & Houston, M. B. (2007). Does innate consumer innovativeness relate to new product/service adoption behavior? The intervening role of social learning via vicarious innovativeness. *Journal of the Academy of Marketing Science*, *35*(1), 63–75.
Jacoby, J., & Kaplan, L. (1972). In M. Venkatesan (Ed.), *The components of perceived risk* (pp. 382–393). Champaign, IL: Association for Consumer Research.
Johnson, J., Tellis, G. J., & Macinnis, D. J. (2005). Losers, winners, and biased trades. *Journal of Consumer Research*, *32*(2), 324–329.
Kahneman, D., Slovic, P., & Tversky, A. (1982). *Judgement under uncertainty: Heuristics and biases.* New York: Cambridge University Press.
Kirton, M. J. (1981). A reanalysis of two scales of tolerance of ambiguity. *Journal of Personality Assessment*, *45*(4), 407–414.
Lafferty, B. A., Goldsmith, R. E., & Flynn, L. R. (2005). Are innovators influenced by endorser expertise in an advertisement when evaluating a high technology product? *Journal of Marketing Theory & Practice*, *13*(3), 32–48.
Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of Applied Psychology*, *86*(1), 114–121.
Markowitz, H. M. (1952). Portfolio selection. *The Journal of Finance*, *7*(1), 77–91.
Mathieu, J. E., & Taylor, S. R. (2006). Clarifying conditions and decision points for mediational type inferences in organizational behavior. *Journal of Organizational Behavior*, *27*(8), 1031–1056.
Midgley, D. F., & Dowling, G. R. (1978). Innovativeness: The concept and its measurement. *Journal of Consumer Research*, *4*(4), 229–242.
Murray, K. B. (1991). A test of services marketing theory: Consumer information acquisition activities. *Journal of Marketing*, *55*(1), 10–25.
Ostlund, L. E. (1974). Perceived innovation attributes as predictors of innovativeness. *Journal of Consumer Research*, *1*(2), 23–29.
Podsakoff, P. M., MacKenzie, S. B., Lee, J. -Y., & Podsakoff, N. P. (2003). Common method bias in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903.
Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, *40*(3), 879–891.
Prins, R., & Verhoef, P. C. (2007). Marketing communication drivers of adoption timing of a new e-service among existing customers. *Journal of Marketing*, *71*(2), 169–183.
Prins, R., Verhoef, P. C., & Franses, P. H. (2009). The impact of adoption timing on new service usage and early disadoption. *International Journal of Research in Marketing*, *26*(4), 304–313.
Quinn, A., & Schlenker, B. R. (2002). Can accountability produce independence? Goals as determinants of the impact of accountability on conformity. *Personality and Social Psychology Bulletin*, *28*(4), 472–483.
Raghubir, P., & Das, S. R. (2010). The long and short of it: Why are stocks with shorter runs preferred? *Journal of Consumer Research*, *36*(6), 964–982.
Raju, P. S. (1980). Optimum stimulation level: Its relationship to personality, demographics, and exploratory behavior. *Journal of Consumer Research*, *7*(3), 272–282.
Rogers, E. M. (1995). *Diffusion of innovations.* New York: Free Press.
Rogers, E. M., & Shoemaker, F. F. (1971). *Communication of innovations.* New York: Free Press.

Samuelson, W., & Zeckhauser, R. (1988). Status quo bias in decision making. *Journal of Risk and Uncertainty*, *1*(1), 7−59.
Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equations models. In S. Leinhart (Ed.), *Sociological Methodology* (pp. 290−312). San Fransisco: Jossey-Bass.
Statman, M. (1999). Behavioral finance: Past battles and future engagements. *Financial Analysts Journal*, *55*(6), 18−27.
Statman, M. (2002). Lottery players/stock traders. *Financial Analysts Journal*, *58*(1), 14−21.
Statman, M. (2004). What do investors want? *The Journal of Portfolio Management*, *30*, 153−161.
Statman, M. (2008). Countries and culture in behavioral finance. *CFA Institute Conference Proceedings Quarterly, September* (pp. 38−44).
Steenkamp, J. B. E. M., & Baumgartner, H. (1992). The role of optimum stimulation level in exploratory consumer behavior. *Journal of Consumer Research*, *19*(3), 434−448.
Steenkamp, J. B. E. M., & Gielens, K. (2003). Consumer and market drivers of the trial probability of new consumer packaged goods. *Journal of Consumer Research*, *30*(3), 368−384.
Steenkamp, J. B. E. M., Ter Hofstede, F., & Wedel, M. (1999). A cross-national investigation into the individual and national cultural antecedents of consumer innovativeness. *Journal of Marketing*, *63*(2), 55−69.
Steenkamp, J. B. E. M., & van Trijp, H. C. (1991). The use of LISREL in validating marketing constructs. *International Journal of Research in Marketing*, *8*(4), 283−299.
Storey, C., & Easingwood, C. J. (1999). Types of new product performance: Evidence from the consumer financial services sector. *Journal of Business Research*, *46*(2), 193−203.
Tellis, G. J., Yin, E., & Bell, S. (2009). Global consumer innovativeness: Cross-country differences and demographic commonalities. *Journal of International Marketing*, *17*(2), 1−22.
Time Magazine (2009). *10 ideas changing the world right now.*
Waxler, C. (2004). *Stocking up on sin: How to crush the market with vice-based investing.* John Wiley & Sons.
Zaichkowsky, J. L. (1985). Measuring the involvement construct. *Journal of Consumer Research*, *12*(3), 341−352.
Zhou, R., & Pham, M. T. (2004). Promotion and prevention across mental accounts: When financial products dictate consumers' investment goals. *Journal of Consumer Research*, *31*(1), 125−135.