

## Practice Prize Paper

Uncovering *Implicit* Consumer Needs for Determining  
*Explicit* Product Positioning: Growing Prudential  
Annuities' Variable Annuity Sales

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A variable annuity is a popular product for investing retirement income. However, thousands of similar-looking variable annuity products are being offered by hundreds of financial service companies. In such a scenario, how can Prudential achieve meaningful product differentiation to increase the sales of its variable annuities? The solution led to the development and implementation of the “Emotion Quotient” (EQ) Tool. The EQ Tool enabled Prudential to redefine its marketing and sales approach along a proactive (as opposed to responsive) market orientation paradigm. This was accomplished by first using the EQ Tool to uncover and quantify the prevalence of certain emotions (such as fear and regret) in the prospective consumer and then pitching relevant variable annuity product(s) that could mitigate the specific behavioral risk corresponding to the prevalent emotion(s). This approach, which was backed by extensive research (as described in this study), enabled Prudential to gain over \$450 million lift in variable annuity sales and contributed to consumer welfare by promoting awareness of behavioral risk to investors who are within five years of their retirement. This research study illustrates how industry can collaborate with academia to successfully apply marketing science to solve real-world business problems.

*Key words:* behavioral economics; emotions; structural equation model; proactive market orientation; implicit consumer needs; product positioning; marketing strategy

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## 1. Introduction

Consumer needs can be broadly categorized as being explicit or implicit (Narver et al. 2004). Explicit needs are stated or recognized needs of the consumers, for example, a grocery shopping list. In contrast, consumers are not actively aware or conscious of their implicit needs. From the firms' perspective, positioning a product's features and benefits along the consumers' expressed or explicit needs is relatively straightforward. However, competing firms are already aware of consumers' explicit needs and benefits. This can lead to a loss of competitive advantage with similar firms in the industry that offer similar products and promise similar benefits to the same set of consumers (Porter 1980). In this study, we develop a marketing framework that entails positioning a product to meet the implicit needs of the consumers. Whereas several theoretical studies in the past have emphasized the importance of implicit needs of the consumers, there are a handful of empirical studies that have described the systematic

implementation of the concept and linked the outcome to firm performance.

## 2. Research Background

### 2.1. Study Context

In the United States, one of every 76 million baby boomers approaches retirement every 7 seconds.<sup>1</sup> A disturbing fact underscores this statistic—close to 61% of American households are “at risk” of being unable to maintain their standard of living in retirement (Munnell et al. 2009). In recent years, variable annuity (VA) has emerged as a very popular product for investing retirement savings. A VA product distinguishes itself from other investment options by doubling up as an insurance contract to mitigate certain kinds of risks. See Appendix A of the electronic companion, which is available at <http://mktsci.pubs.informs.org/>, for a more detailed

<sup>1</sup> Source. “Get involved! Baby boomer facts,” U.S. Census Bureau; [http://www.getinvolved.gov/newsroom/programs/factsheet\\_boomers.asp](http://www.getinvolved.gov/newsroom/programs/factsheet_boomers.asp).

explanation of VA. From a consumer's standpoint, purchasing the right VA product could prove critical for preserving savings during the term of retirement. However, the increasing popularity of VA products has caused the marketplace to be deluged with large competing firms offering similar VA products with similar product features. Currently, over a thousand VA products are being offered in the American market by more than a hundred financial companies. Hence, an eternal challenge for firms in this industry is to grow sales by meaningfully differentiating the product with a unique product positioning strategy.

## 2.2. Study Overview

This paper describes how Prudential Annuities,<sup>2</sup> a leading provider of variable annuities, develops a unique product positioning approach for its VA products. Basically, instead of focusing VA products' attributes on the explicit (or readily known) needs of the consumers, Prudential positioned its VA products along the implicit (or unstated) needs of the consumers. To operationalize this concept, the management at Prudential observed that although most VA products prominently advertised protection against *sequential and longevity risks*, a third kind of potentially potent risk—*behavioral risk*—was not adequately emphasized by the rival firms. Behavioral risk is manifested in the form of suboptimal investment behavior driven by certain human emotions and behavioral tendencies. Consequently, prevalence of certain emotions or behavioral tendencies would indicate the implicit need for a VA product that could mitigate the behavioral risk and help a consumer protect his or her retirement investments. However, in the context of retirement investment decisions, it is not known *which* emotions or behavioral tendencies dominate the investment behavior. How can these deep-rooted constructs (that are resident within each individual) be uncovered? More importantly, how can Prudential implement a product positioning strategy based on the implicit needs of the consumers? Can such an approach help Prudential grow its VA sales and gain a competitive advantage in the marketplace? The answers lie in the creative application of marketing science to develop a unique tool for Prudential called the Emotion Quotient (EQ) Tool. The EQ Tool enabled Prudential to position its VA products along the implicit needs of the consumers. Upon implementation, the EQ Tool enabled Prudential to achieve a VA sales gain of at least \$453 million and contributed toward consumer welfare by promoting the awareness of behavioral risk. The financial performance underscores the value of the proposed approach.

<sup>2</sup>In the rest of the article we shall refer to "Prudential Annuities" as "Prudential" for the sake of brevity.

## 2.3. About Prudential

Prudential Annuities is a major business division of Prudential Financial, Inc., which is a financial services leader with approximately \$542 billion worth of assets under management spanning across approximately 50 million customers (as of March 31, 2009). Prudential's businesses include life insurance, annuities, retirement-related services, mutual funds, investment management, and real estate services. This research study focuses on the Prudential's \$11 billion VA business.

## 3. Research Methodology and Results

The research study comprises three phases.

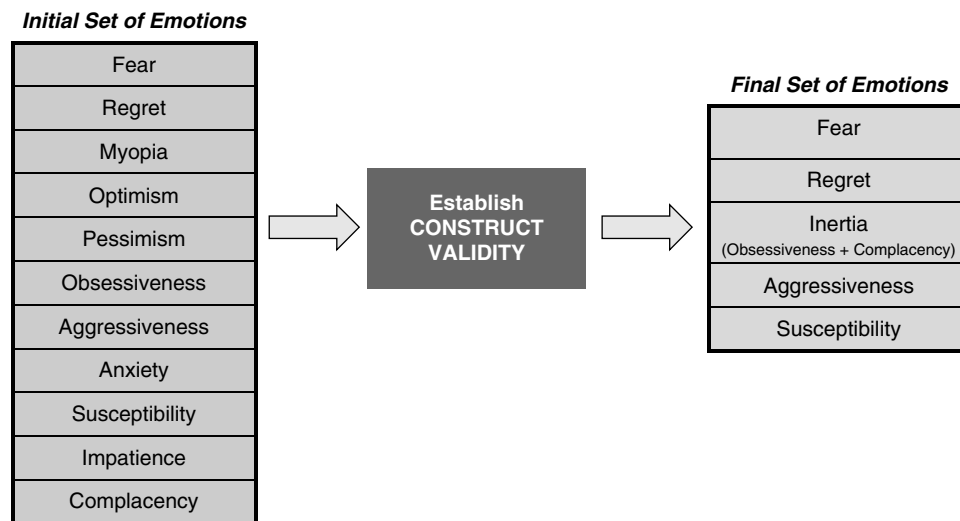
### 3.1. PHASE 1: Uncovering Implicit Needs

Prudential's primary target segment for VA products is investors in the Retirement Red Zone<sup>®</sup> (RRZ). Prudential defines the RRZ as the time period of five years before and after retirement—a particularly important time window for Americans to make crucial decisions pertaining to retirement investment. Consequently, to uncover the implicit needs for a VA product, we had to identify the key emotions and behavioral tendencies that typically dominate the retirement investment behavior of individuals in the RRZ. For the purpose of this study, the conceptualization of emotions and behavioral tendencies was heavily influenced by the specific business needs of Prudential. Therefore, we adopted a broad definition to include emotions, affect, attitudes, and behavioral tendencies as the underlying constructs determining the implicit need for a variable annuity product in the RRZ. For the sake of brevity, we shall collectively refer to these underlying constructs as emotions in the rest of this paper.

To identify the range of emotions, we scanned the social science literature, marketing literature, and behavioral finance theories to understand which emotions could adversely impact decisions pertaining to retirement investment. For example, the prospect theory explains how the emotion of regret can influence investment behavior (Kahneman and Tversky 1979). Similarly, other emotions and behavioral tendencies could be identified. See Appendix B of the electronic companion for a summary of the literature review. The set of emotions identified from the literature review was combined with input from focus group interviews with consumers in the RRZ and subject matter experts from Prudential. The net outcome was the identification of 11 emotions (with a set of measurement items to reflect each emotion) that could potentially impact retirement investment decisions in the RRZ (as shown on the left-hand side of Figure 1).

To capture the prevalence of these emotions, a preliminary questionnaire (comprised of 33 measurement

Figure 1 Identifying Key Constructs That Influence Retirement Investment Decisions



items) was developed and administered to a nationally representative sample of 200 investors in the RRZ. The response to each question was captured with a five-point Likert scale, and the results were factor-analyzed using exploratory factor analysis and varimax rotation. The outcome was a five-factor solution representing fear, regret, aggressiveness, susceptibility, and inertia. All five factors had eigenvalues greater than 1 and collectively explained 91% of the variance. Note that “inertia” was not a part of the 11 emotions originally identified. Based on the pattern of factor loadings, “obsessiveness” and “complacency” were combined to represent “inertia.” The result from the factor analysis revealed the dominance of five key emotions. Measurement items not belonging to the five dominant emotions or having low factor loadings were dropped, and the factor analysis was rerun. The results improved substantively. Accordingly, we revised the preliminary questionnaire to include 12 measurement items corresponding to the five dominant emotions. Appendix C of the electronic companion lists the measurement items included in the final version of the questionnaire. The exact content of the questionnaire is not reproduced here in order to preserve confidentiality. To ensure external validity and generalizability of the study, the final questionnaire was administered to a relatively large representative sample of 1,008 individuals in the RRZ (502 “pre-retirees” who planned to retire within the next five years and 506 “retirees” who had retired within the past five years).

### 3.2. PHASE 2: Quantifying Implicit Needs

In Phase 2, our main objective was to establish a quantitative relationship between individual responses (from the survey) and the corresponding emotions

(i.e., implicit needs). By doing so, we could quantify the prevalence of emotions within each individual.

**3.2.1. Measurement Model.** Implicit needs are latent constructs prone to measurement errors. We employed a structural equation model (SEM)-based measurement model to reduce measurement error by accommodating multiple indicators per latent construct in the model specification. Please refer to Appendix D of the electronic companion for details of model specification. The measurement model was estimated using the Bayesian approach. With diffused noninformative priors, the Markov chain Monte Carlo algorithm was employed to draw random values of parameters from a high-dimensional joint posterior distribution. Appendix E of the electronic companion lists the parameter estimates of the measurement model in terms of the posterior mean and the 95% posterior interval. The intercept and the regression weight parameters were statistically viable, and the positive direction of the regression weights was consistent with theory. The results were obtained with 500 burn-in and 25,000 iterations. The overall fit of the model was assessed based on the convergence of the posterior distribution as indicated by the convergence statistic (CS) suggested by Gelman et al. (2004). The proposed model had a CS value of 1.006, which indicated a good fit compared with the threshold value of 1.1 or smaller suggested by Gelman et al. (2004). The trace plots and autocorrelation plots of the posterior of the parameter estimate indicated good convergence of the posterior distribution. All indicator error variances and factor variances were positive and differed significantly from zero, thereby indicating the absence of “Heywood cases,” or any serious specification issues. Furthermore, each measurement item had

a relatively high loading on the intended latent factor and a low loading on other factors, thereby indicating a good convergent validity. The Cronbach's alpha for each of the five latent constructs was above the threshold value of 0.7 as recommended by Nunnally (1978). The interfactor correlation between fear and aggressiveness was  $-0.6$  and between regret and inertia was  $0.5$ . The interfactor correlation between remaining factors was less than  $0.4$ , thereby indicating reasonably good divergent validity of the constructs.

**3.2.2. Quantifying the Degree of Emotions.** To communicate the prevalence of emotions to consumers in a simple yet effective way, we developed a scoring system comprised of the Retirement Emotion Quotient (REQ) score and the Percentage Individual Emotion Score (PIES), which were computed based on each individual's responses to the questionnaire. Whereas the REQ indicated the overall prevalence of the five emotions, the PIES indicated the relative mix of *each* emotion within an individual. See Appendix F of the electronic companion for details on why and how the REQ and PIES were computed for each individual.

**3.2.3. Automation.** The process of computing REQ and PIES was automated by developing an Emotion Quotient (EQ) Tool. The EQ Tool was developed as an online interface for consumers to log in and respond to the questionnaire. Based on each consumer's response, the EQ Tool applies the coefficients of the measurement model and automatically generates a report containing the REQ score, PIES, and a detailed interpretation of the scores. Automation of the EQ Tool enabled Prudential to substantially minimize the time it took to administer the questionnaire and generate the relevant output in the form of a detailed report. This was critical to solicit the active cooperation of the prospective consumers to invest their time in the EQ Tool.

### 3.3. PHASE 3: Implementation

Prudential launched the EQ Tool in the marketplace in May 2007. At the time of implementation, there were two critical factors that would ultimately determine the success of the EQ Tool: (a) the adoption of the EQ Tool by Prudential's financial planners (FPs), who are ultimately responsible for selling the VA products to consumers; and (b) the ability of the EQ Tool diagnostics to favorably influence consumers' perceptions toward Prudential's VA products.

**3.3.1. EQ Tool Adoption by FPs.** To facilitate adoption, the EQ Tool was hosted by Prudential on a secure server and made accessible as a downloadable online tool to about 60,000 FPs across the United States. Consequently, FPs could administer the questionnaire to prospective consumers and generate a

diagnostic report at their respective office locations. More importantly, to enable the FPs to apply the EQ Tool diagnostics for positioning Prudential's VA products along the implicit needs of the consumers, Prudential developed five FP guides corresponding to the five dominant emotions. Each FP guide provided a tutorial on how to interpret and communicate the EQ Tool results to the respective consumer and, depending on the behavioral risk profile of the consumer (as indicated by the REQ score and PIES), how to position the relevant features and benefits of VA products to the consumer. Appendix G of the electronic companion summarizes the adverse behavioral outcomes corresponding to the five key emotions and how a combination of VA product features could help mitigate the behavioral risks associated with the adverse outcomes. Besides the FP guides, Prudential organized over 100 training seminars to educate 2,000 FPs about the concept of behavioral risk and its implications for investors and offered ongoing technical support in the form of an e-marketing team and traveling website experts for on-site support of the EQ Tool. In response, the FPs perceived the EQ Tool as a valuable marketing and sales tool. More than 1,000 FPs voluntarily downloaded the EQ Tool within the first few months of the launch. Appendix H of the electronic companion lists a sample of testimonials received from FPs.

**3.3.2. Impact of the EQ Tool on Consumers' Perceptions.** An underlying objective of the EQ Tool was to make the consumers aware of their behavioral risk and hence influence their need to seek protection. A research report titled "Behavioral Risk in the Retirement Red Zone" detailing the research study of the EQ Tool was made available to all consumers free of cost on Prudential's website. To evaluate the extent to which the EQ Tool succeeded in influencing the consumers' perceptions toward their behavioral risk, Prudential probed every respondent who took the survey and found interesting results. Before taking the EQ Tool survey, about 60% of the respondents claimed that they did not exhibit any behavioral risk. However, after viewing their personalized EQ Tool report, 75% of the respondents expressed strong interest in a VA product that could guarantee protection against behavioral risk. Clearly, the EQ Tool was successful in influencing consumers' perceptions toward behavioral risk.

**3.3.3. Estimating the Impact of the EQ Tool on Prudential's VA Sales Performance.** The most important objective of implementing the EQ Tool was to increase Prudential's VA sales. To quantify the impact, we specified a relationship between Prudential's VA sales and the EQ Tool while controlling other factors that could potentially drive VA sales. Theoretically,

VA sales are influenced by firm-initiated marketing actions and macroeconomic variables. Therefore, we modeled Prudential's VA sales (*Sales*) in month *t* as

$$\begin{aligned} Sales_t = & \beta_0 + \beta_1(EQ\_Tool)_t + \beta_2(Ad\_Stock)_t \\ & + \beta_3(Prod)_t + \beta_4(Un\_Rate)_t + \beta_5(S\&P)_t \\ & + \beta_6(GDP)_t + \beta_7(PI)_t + \varepsilon_t, \end{aligned} \quad (1)$$

where *EQ\_Tool* was operationalized as a binary variable indicating the absence or presence of the EQ Tool in the marketplace. *Ad\_Stock* and *Prod* represented firm-initiated marketing in the form of advertisement expenses and the cumulative number of new product introductions, respectively. The macroeconomic variables included in the model were the unemployment rate (*Un\_Rate*), the S&P 500 index (*S&P*), the gross domestic product (*GDP*), and the average personal income of the population (*PI*). The term  $\varepsilon$  represented the error term and was assumed to be independent and identically distributed normal. To account for the carryover effect of advertisement, the *Ad\_Stock* variable in Equation (1) was specified as a geometric series transformation of the monthly advertisement expenditure data (*Ad<sub>t</sub>*) as shown:

$$\begin{aligned} Ad\_stock_t \\ = Ad_t + \chi Ad_{t-1} + \chi^2 Ad_{t-2} + \chi^3 Ad_{t-3} + \dots \end{aligned} \quad (2)$$

This is consistent with the popular Koyck model specification that has been used extensively in the marketing literature (e.g., Clarke 1976). We empirically determined the decay parameter  $\chi$  to be 0.85 for the monthly advertisement data. This is equivalent to the decay constant of 0.6 estimated by Clarke (1976) with quarterly data. A high level of multicollinearity was detected among the following variables: *Prod*, *S&P*, *GDP*, and *PI*. Consequently, we employed principal component analysis to combine the collinear variables. The first principal component (*Prin\_Comp*) extracted about 90% of the variance and was included as a proxy variable to represent the collinear variables. Consequently, Equation (2) was respecified as

$$\begin{aligned} Sales_t = & \beta_0 + \beta_1(EQ\_Tool)_t + \beta_2(Ad\_Stock)_t \\ & + \beta_3(Un\_Rate)_t + \beta_4(Prin\_Comp)_t + \varepsilon_t. \end{aligned} \quad (3)$$

**Data and Estimation.** The data for estimating the model parameters were available for a time period of 48 months (35 months prior and 13 months after the launch of the EQ Tool). Consequently, the estimation was susceptible to the low power of the significance test hypothesis because of the possible violation of asymptotic normality assumptions in small samples. Hence, we employed a Bayesian approach for estimating the regression equation. An added advantage

**Table 1** Parameter Estimates for the Econometric Descriptive Model

Variable	Posterior mean	95% posterior interval	
Intercept	1,323,696,967	1,287,298,084	1,362,307,008
EQ Tool	35,863,277	27,867,989	43,055,664
Advertisement	36	31	40
Principal component factor	79,094,733	76,916,218	81,117,845
Unemployment rate	-132,876,665	-140,783,251	-125,420,250

was that we could account for the uncertainty associated with the parameter estimates. For estimation, we selected diffused uniform priors and employed Gibbs sampling. Table 1 gives the parameter estimates with the values for the 95% posterior interval.

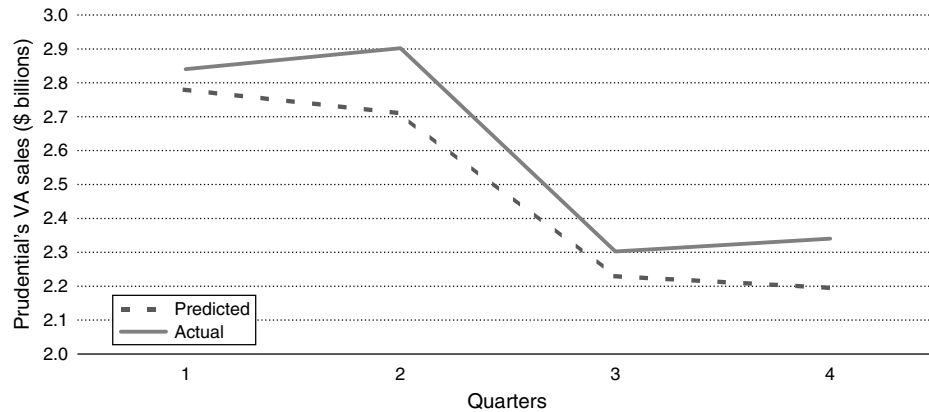
The results indicated that the EQ Tool, advertisement, new product introductions, S&P 500, GDP, and personal income have a positive impact on Prudential's VA sales, whereas the unemployment rate has a negative impact on Prudential's VA sales. The mean absolute percentage error (MAPE) of the fitted model was about 6.2%. The coefficient associated with the *EQ\_Tool* indicated the average monthly contribution of the EQ Tool for driving Prudential's VA sales. Over the observed period of 13 months from the time of launch of the EQ Tool, we estimated the average impact of the EQ Tool to lie in the range of \$453 to \$463 million. This was computed based on 5,000 repetitive and independent draws of the coefficient of the EQ Tool.

**Model Specification Tests.** We did not encounter any problem pertaining to endogeneity associated with firm-initiated marketing variables, namely, advertisement and new product introductions (as indicated by the Hausman test). Also, the simple linear model (as specified in Equation (3)) provided the best fit compared with alternative model specifications where the impact of EQ Tool was allowed to (i) vary flexibly over time and (ii) follow a diffusion curve.

**Robustness of Results.** To verify our results concerning the impact of the EQ Tool on Prudential's VA sales, we adopted an alternative approach and evaluated whether we could obtain similar results. We specified a similar (to Equation (1)) but more parsimonious model:

$$\begin{aligned} Sales_t = & \lambda_0 + \lambda_1(New\_Prod)_t + \lambda_2(Ad\_Stock)_t \\ & + \lambda_3(Un\_Rate)_t + \lambda_4(S\&P\_500)_t + \varepsilon_t. \end{aligned} \quad (4)$$

We estimated the parameters of the model using an Bayesian approach as described earlier. The fundamental difference is that we only utilized the first 35 months' data (i.e., the time period *before* the EQ Tool launch). The model results yielded parameter estimates to be consistent with theory, and the MAPE of

**Figure 2** Estimated Lift in VA Sales as a Result of the EQ Tool

the fitted model was about 6%. Thereafter, we applied the parameter estimates of the fitted model and predicted Prudential's VA sales for the next 13 months (i.e., the time period *after* the EQ Tool launch) and computed the difference between the actual and the predicted VA sales. The difference in sales (as shown in Figure 2) may be attributed to the implementation of the EQ Tool.

We computed the difference in sales 5,000 times by taking random draws of the parameter estimates. The results indicated the impact of the EQ Tool on Prudential's VA sales to lie within the range of \$455 to \$480 million over the time period of 13 months. This is fairly consistent with the \$453 to \$463 million range obtained from the earlier approach. Consequently, we inferred the EQ Tool's impact on Prudential VA sales to be at least \$453 million over an observation period of 13 months following the implementation of the EQ Tool. Figure 3 summarizes the research and key steps undertaken to execute the three phases of the study.

## 4. Implications

### 4.1. For Prudential

The implementation of the EQ Tool offered a competitive leverage to Prudential in terms of accelerated growth in sales *vis-à-vis* competition. More importantly, it enabled Prudential to proactively customize the positioning of its VA products along the implicit needs of the prospective consumers. According to Prudential, such an approach to product positioning was unique in the highly competitive VA industry.<sup>3</sup> Table 2 summarizes the impact of the EQ Tool initiatives on Prudential's VA business practice.

<sup>3</sup>Note that there are some fundamental level differences between the EQ Tool approach for evaluating behavioral risk and the standard risk tolerance surveys administered by portfolio managers. A table in the Appendix I of the electronic companion highlights the key differences.

Although this study measures the impact of the EQ Tool over a limited period of 13 months from the time of implementation, Prudential has continued to reap the benefits of the EQ Tool to date. In 2009, Prudential earned the *Boomer Market Advisor Magazine's* Readers' Choice Award and was given kudos for its marketing practices that entail "explaining (to consumers) the relationship between emotions and investment decision-making." As of the third quarter of 2009, Prudential's FP-sold VA sales have catapulted to the number one position (*vis-à-vis* competition). Interestingly, Prudential ranked number five on this metric before the launch of the EQ Tool.

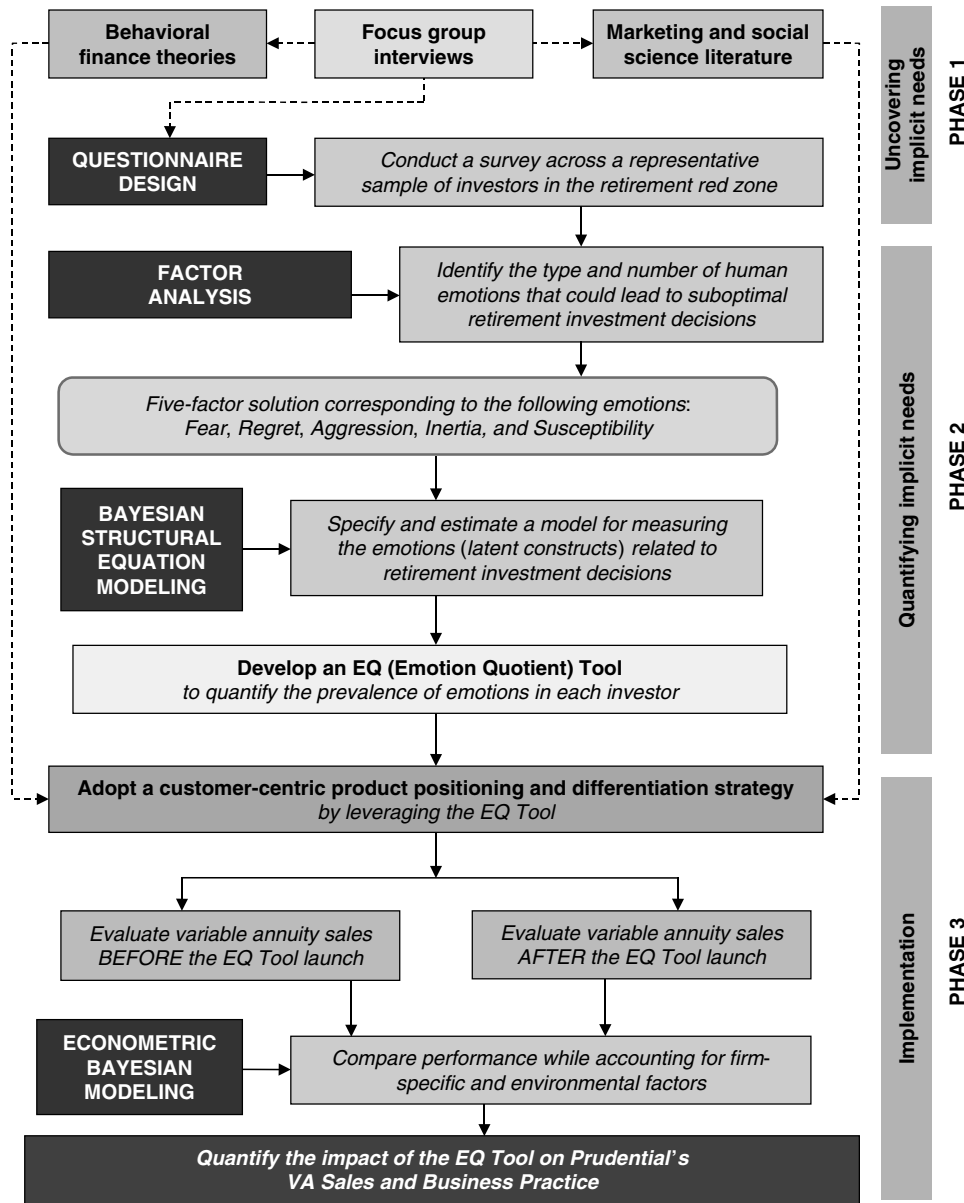
### 4.2. For Consumers

A key distinction of the marketing approach proposed in this study (as adopted by Prudential) lies in the consumer welfare dimension. Uncovering the implicit needs of the consumers with the EQ Tool has dual objectives: (1) it benefits the consumers in terms of enabling them to understand their inherent behavioral risk (of which they themselves may be unaware), and (2) it enables the FPs to offer the right VA product that is in the best interest of the consumer. The former objective is critical to incentivize consumers to invest time for responding to the questionnaire, whereas the latter objective ensures that FPs selling efforts are primarily directed toward meeting the needs of the consumer rather than toward personal sales quotas.

### 4.3. Generalizability

The proposed framework can be implemented for virtually any financial service investment product, such as securities, equity portfolios, and mutual funds. A relevant question is whether firms from other industries can benefit from adopting a similar framework as proposed in this study. Our contention is that any firm that can position its products or services along the implicit needs of the consumers can adapt the proposed framework. Figure 4 illustrates a generalized conceptual framework with a list

Figure 3 Overview of the Research Study



of relevant discussion points for managers desiring to adopt the proposed framework in the context of their specific business or industry setting. For example, medical noncompliance is a serious issue in the United States.<sup>4</sup> In such a scenario, pharmacy benefit management firms like CVS Caremark and Medco can adapt the proposed framework to uncover the implicit drivers of medical noncompliance (Phase 1) and quantify them based on the development of a suitable scoring system (Phase 2). Accordingly, the respective firms can develop a customized marketing program that is directed toward the specific implicit

drivers of each consumer that is medically noncompliant (Phase 3). The outcome (i.e., increased medical compliance), if successful, would not only benefit the firms' revenues but also benefit the consumers in terms of improving their health and reducing the long-term risk of hospitalization.

#### 4.4. Future Research

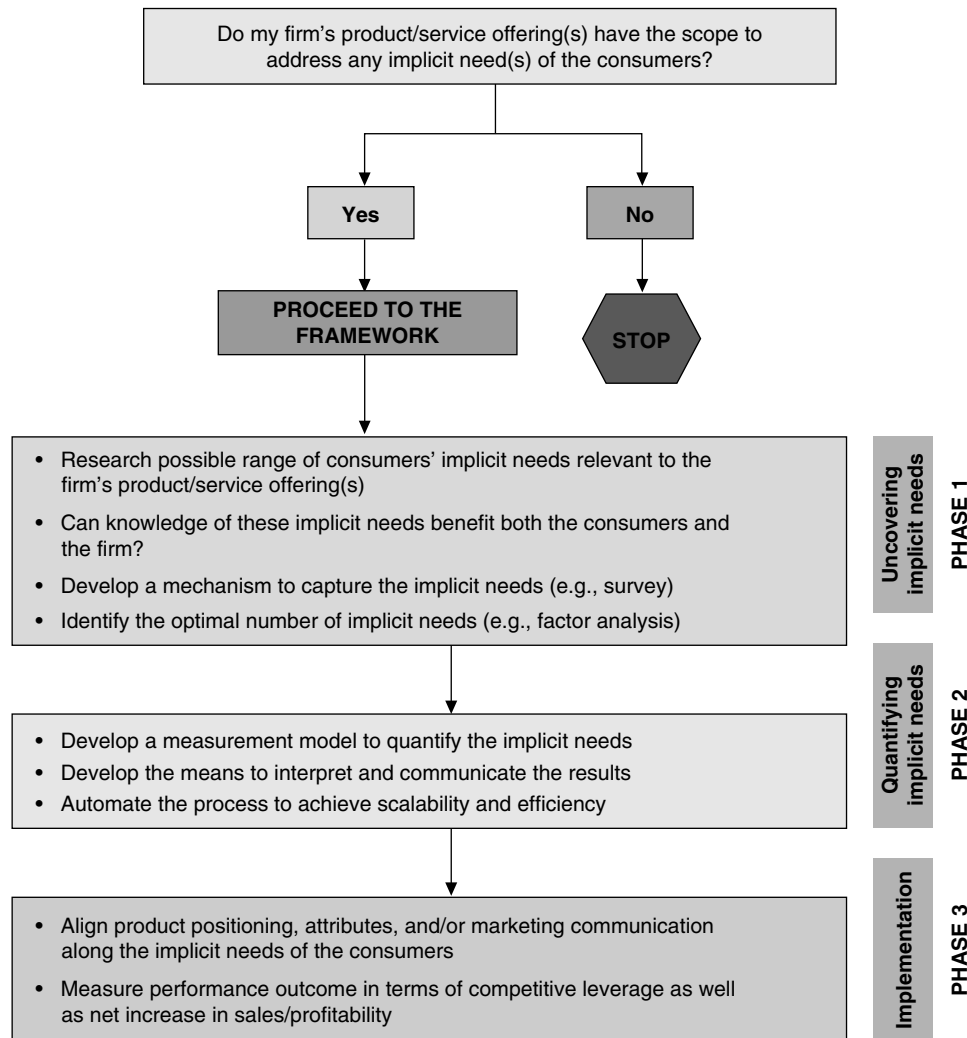
This research can be extended along different dimensions comprising application as well as methodological advances. Future research can apply the framework for firms in different industries. Besides product positioning, the framework may also be applied to develop new product attributes along the latent or implicit needs of the consumers, for

<sup>4</sup> Source. "2009 Survey of Healthcare Consumers: Key Findings, Strategic Implications," Deloitte Center for Health Solutions.

**Table 2** Impact of EQ Tool on Prudential's VA Business Practice

	Before EQ Tool research	After EQ Tool research
Prudential's understanding of behavioral risk	Behavioral risk as a result of inherent human emotions adversely impact retirement investment decisions	There are five dominant emotions that adversely impact retirement investment decisions—namely, fear, regret, aggressiveness, inertia, and susceptibility
Product positioning and differentiation	Mainly related to mitigation of sequential and longitudinal risk Limited scope for product differentiation	Mainly related to mitigation of behavioral risk in addition to sequential and longitudinal risk Product offering is differentiated for every consumer based on his or her PIES and REQ score
Market orientation	Responsive action to consumer's needs	Proactive action to a consumer's needs
Marketing approach	Attempt to satisfy the consumer's expressed needs	Attempt to satisfy the consumer's latent or unarticulated needs (which the consumer may be unaware of)
Sales approach	Driven by consumers' explicit needs in general	Driven by each <i>individual</i> consumer's implicit needs
Average quarterly sales growth performance vis-à-vis competition over one year	Outperformed competition (i.e., the rest of the VA industry) by 11%	Outperformed competition (i.e., the rest of the VA industry) by 19%
Incremental sales lift as a result of the EQ Tool	n.a.	At least \$453 million

**Figure 4** A Generalized Framework for Leveraging Implicit Needs



which an obvious demand may not be prevalent in the marketplace. Future research may also consider some methodological advances involving technological sophistication. For example, instead of soliciting a response through surveys, future research can employ electronic instruments (as employed by neuroscientists) to directly evaluate the hidden emotion-based response of a consumer. Recent research studies in psychology have indicated that emotions comprising positive feelings can make it easier to access information in the brain and hence enhance decision making (Rolls 1999, Isen 2000). In such a scenario, future research studies can extend the measurement model proposed in this study to incorporate both positive as well as negative outcomes of emotions to arrive at a more accurate measure of the behavioral risk of the investor. In conclusion, with increasing amounts of consumer data being made available to companies, we expect the concept of linking *implicit* consumer needs to *explicit* product positioning to emerge as one of the dominant marketing paradigms of the future.

## 5. Electronic Companion

An electronic companion to this paper is available as part of the online version that can be found at <http://mktsci.pubs.informs.org/>.

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