New Tobacco Product "Attractiveness" Study:

An Algorithm to Predict Usage of
New Tobacco Products Prior to Market Launch

Methodological Report

April 3, 2012

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Research conducted on behalf of RAIS's Regulatory Oversight Department in anticipation of potential FDA requirements. Research shall only be used and/or disseminated for compliance-related activities.

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1. STUDY BACKGROUND AND OBJECTIVES

1.1 Study Background

Under its new mandate to regulate the impact of tobacco on public health and safety, the FDA requires manufacturers of tobacco products to demonstrate, prior to the launch of any new tobacco product, that the market entry of the new product will not increase "net harm" to the population by increasing net tobacco prevalence. The first step of this proof requires an independent and reliable projection of product use – overall and within key sub-populations.

1.2 Study Objectives

To provide the FDA with projected usage estimates for a tobacco product *before* it is launched, RAI Services commissioned research to create a ratings conversion algorithm. The algorithm converts 10-point survey rating data, measuring "likelihood of purchase with intent to try," to projectable estimates of actual trial.

Marlboro Special Blend was chosen as the vehicle for algorithm development because the timing of product launch offered an opportunity to field the necessary pre-launch and post-launch waves of the research. This study compared pre-launch survey ratings (based on a Marlboro Special Blend "ad") with actual (self-reported) use *post*-launch, and created a conversion algorithm that will allow RAI Services to project use of *future* new products based on pre-market survey ratings alone.

2. STUDY DESIGN

2.1 Sampling Frame and Methodology

(b) (4)

2.2 Fielding Plan

(b) (4)

2.3   Survey Content

In Wave 1, the following data were collected:*

(1) ***Demographics (age, gender, ethnicity and education):*** *to ensure that key consumer groups are represented and that results can be weighted appropriately so that they are representative of the universe of consumers*

(2) ***Current and past use of tobacco products****: to classify respondents into behavioral groups (current vs. former vs. non/never user of tobacco, and user of smoked vs. non-smoked vs. both product types)*

(3) ***Anticipated use of tobacco products nine months in the future****: to permit analysis of additional key sub-groups (those intending/not intending to quit tobacco use)*

(4) ***Presentation of information about Marlboro Special Blend cigarettes, followed by a rating of likelihood of purchase with intent to try*** *to provide the foundation for a projected use model*

In Wave 2, the following data were collected:

(1) ***Current (at the time of Wave 2) use of tobacco products****: to permit comparisons of predicted vs. actual tobacco use behavior (anticipated vs. actual continuing, quitting, starting, and re-starting tobacco use behavior)*

(2) ***Purchase of Marlboro Special Blend for personal use at any point in the previous nine months:*** *to provide required input to the model*

(3) ***On-going use of Marlboro Special Blend:*** *to provide insights regarding post-trial persistence with the brand*

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3. DATA COLLECTION TIMELINES AND SAMPLE DISPOSITION

3.1 Data Collection Timelines

Wave 1 was conducted from December 23, 2009 until 9am on January 6, 2010, to ensure field closed before consumers could have purchased or tried Marlboro Special Blend, which was expected to be launched on January 6, 2010. The Wave 2 follow-up survey was conducted approximately nine months later (September 16, 2010 through October 5, 2010).

3.2 Sample Disposition

For Wave I, a total of 15,393 consumers completed the survey. All Wave I respondents were eligible for, and invited to participate in, Wave II.

Table 1: Unweighted Sample Distribution
- Demographics by Tobacco Status -

	Tobacco Status		
	Current User	Former User	Non- User
(n) =	5,545	4,328	5,520
Northeast	994	806	1,047
Midwest	1,384	987	1,207
South	1,989	1,530	1,890
West	1,178	1,005	1,376
18-30	1,207	594	1,544
31-50	2,800	1,530	2,296
51-75	1,538	2,204	1,680
Male	3,179	2,224	2,474
Female	2,366	2,104	3,046
Hispanic	650	370	876
Non-Hispanic White	3,886	3,205	3,459
Non-Hispanic Black	619	483	706
Non-Hispanic Asian/Other	424	307	508
High School (or less)	1,124	509	876
Some College	3,662	2,876	3,362
Bachelor's Plus	759	943	1,282

4. ANALYSIS

4.1 Analysis of Potential Non-Response Bias

Of the 15,393 people interviewed in Wave 1, a total of 8,328 responded to the second survey, a 54% recontact rate. This level of attrition was anticipated at the start of the research.

Wave 2 responders were compared to non-responders to determine if any bias was introduced through sample attrition. As shown below in Table 2a, the unweighted samples are almost identical with respect to tobacco behavior, suggesting that no bias was introduced.

Table 2a: Unweighted Sample Distribution
- Tobacco Behavior by Wave 2 Participation Status -

	Total Wave 1	Completed Wave 2	Did Not Complete Wave 2
(n) =	15,393	8,328	7,065
Tobacco Status:			
Current User	**36%**	**34%**	**38%**
Cigarette	(78%)	(78%)	(78%)
Cigar/Cigarillo	(20%)	(20%)	(21%)
Snuff or snus	(16%)	(16%)	(17%)
Chewing Tobacco	(14%)	(14%)	(15%)
Pipe	(5%)	(5%)	(5%)
Former User	**28%**	**29%**	**27%**
Cigarette	(94%)	(95%)	(94%)
Cigar/Cigarillo	(15%)	(14%)	(15%)
Snuff or snus	(4%)	(4%)	(5%)
Chewing Tobacco	(6%)	(6%)	(7%)
Pipe	(8%)	(9%)	(7%)
Non-User (Never)	**36%**	**37%**	**35%**

Wave 2 responders and non-responder were also compared with respect to demographics. As shown in Table 2b below, the unweighted demographic data are similar for both groups – the key differences being a slightly higher rate of attrition among respondents age 18-30 and non-Hispanic Whites, which required a minor weighting adjustment to rebalance.

Table 2b: Unweighted Sample Distribution
- Demographics by Wave 2 Participation Status -

	Total Wave 1	Completed Wave 2	Did Not Complete Wave 2
(n) =	15,393	8,328	7,065
Region:			
Northeast	19%	19%	18%
Midwest	23%	24%	22%
South	35%	34%	37%
West	23%	23%	23%
Age:			
18-30	22%	18%	26%
31-50	43%	42%	45%
51-75	35%	40%	29%
Gender:			
Male	51%	52%	51%
Female	49%	48%	49%
Race/Ethnicity:			
Hispanic	12%	10%	15%
Non-Hispanic White	68%	72%	64%
Non-Hispanic Black	12%	11%	13%
Non-Hispanic Other	8%	7%	8%
Education:			
Up to High School	16%	16%	16%
Some College	41%	39%	42%
Bachelor's Degree	24%	25%	23%
More than a Bachelor's Degree	19%	20%	19%

Table 2c below provides the unweighted distribution of ratings for "likelihood of purchasing Marlboro Special Blend with intent to try" (Wave 1 responses). The distribution of Wave 1 ratings were similar for individuals who did and did not respond in Wave 2, further minimizing concern about non-response bias.

Table 2c: Unweighted Rating Distribution
- Purchase Intent Ratings by Wave 2 Participation Status -

	Total Wave 1	Completed Wave 2	Did Not Complete Wave 2
(n) =	15,393	8,328	7,065
Definitely Would Not Purchase ▶ 1	62%	63%	60%
2	4%	5%	5%
3	3%	3%	4%
4	2%	2%	2%
5	5%	5%	5%
6	4%	4%	4%
7	4%	4%	4%
8	5%	5%	5%
9	3%	3%	3%
Definitely Would Purchase ▶ 10	8%	7%	8%

4.2 Weighting

Step 1. Development of Base Weights

Table 3: Population Estimates
- Population Counts by Region, Tobacco Status and Age -

		AGE		
		18-30	31-50	51-75
Northeast	Current User	1,535,299	2,669,602	1,737,684
	Former User	628,455	2,287,085	3,879,997
	Non-User	6,188,629	8,856,635	6,845,356
Midwest	Current User	2,666,523	4,346,810	2,812,432
	Former User	1,145,679	2,741,039	4,859,317
	Non-User	7,535,954	10,642,870	8,109,569
South	Current User	4,071,618	6,657,492	4,736,665
	Former User	1,464,386	4,068,533	7,673,351
	Non-User	14,508,307	20,487,904	15,422,969
West	Current User	2,194,904	3,179,379	2,196,272
	Former User	1,022,016	2,861,253	4,883,656
	Non-User	10,365,597	14,180,452	9,633,430

* The following sources were used to develop all population counts: Census website (http://www.census.gov/); the March 2010 Annual Social and Economic Supplement to the Current Population Survey; and the Tobacco Use Supplement to the Current Population Survey (from May 2006, August 2006, and January 2007)

Step 2. Raking

(b) (4)

Table 4a: Weighted Tobacco Use Distribution
- Tobacco Behavior by Wave -

	Total Wave 1	Completed Wave 2
(n)* =	15,393	8,328
Tobacco Status:		
Current User	**19%**	**19%**
Cigarette	(83%)	(83%)
Cigar/Cigarillo	(18%)	(18%)
Snuff or snus	(14%)	(14%)
Chewing Tobacco	(11%)	(11%)
Pipe	(4%)	(4%)
Former User	**18%**	**18%**
Cigarette	(94%)	(94%)
Cigar/Cigarillo	(14%)	(15%)
Snuff or snus	(5%)	(5%)
Chewing Tobacco	(7%)	(6%)
Pipe	(9%)	(9%)
Non-User (Never)	**63%**	**63%**

* Unweighted sample sizes (on which the weighted data are based) are shown.

Table 4b: Weighted Sample Distribution
- Demographics by Wave -

	Total Wave 1	Completed Wave 2
(n)* =	15,393	8,328
Region:		
Northeast	17%	17%
Midwest	21%	21%
South	38%	38%
West	24%	24%
Age:		
18-30	25%	25%
31-50	40%	40%
51-75	35%	35%
Gender:		
Male	49%	49%
Female	51%	51%
Race/Ethnicity:		
Hispanic	15%	15%
Non-Hispanic White	67%	67%
Non-Hispanic Black	12%	12%
Non-Hispanic Other	6%	6%
Education:		
Up to High School	44%	44%
Some College	29%	29%
Bachelor's Degree	18%	18%
More than a Bachelor's Degree	9%	9%

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* Unweighted sample sizes (on which the weighted data are based) are shown.

Table 4c: Weighted Rating Distribution
- Purchase Intent Ratings by Wave -

	Total Wave 1	Completed Wave 2
(n)* =	15,393	8,328
Definitely Would Not Purchase ▶ 1	72%	72%
2	4%	4%
3	2%	2%
4	2%	2%
5	4%	4%
6	3%	3%
7	2%	2%
8	3%	3%
9	2%	2%
Definitely Would Purchase ▶ 10	6%	6%
Mean Rating	2.5	2.5

* Unweighted sample sizes (on which the weighted data are based) are shown.

4.3 Purchase Intent versus Actual Purchase

Table 5a below provides the distribution of ratings for "likelihood of purchasing Marlboro Special Blend with intent to try" (Wave 1 responses) and the incidence of actual purchase for respondents who provided each rating (Wave 2). Data shown reflect only respondents who participated in both survey waves, providing both a Wave 1 rating and Wave 2 response regarding purchase of Marlboro Special Blend. A predictive algorithm was developed on the basis of these pre-post comparisons.

Table 5a: Weighted Purchase Intent Ratings and Actual Purchase Rates

	% Selecting Rating Value	% Purchased
(N) =	209,097,119	209,097,119
Definitely Would Not Purchase ▶ 1	72%	0.4 %
2	4%	1.5%
3	2%	1.5 %
4	2%	3.0%
5	4%	3.6 %
6	3%	4.6 %
7	2%	6.9 %
8	3%	12.8%
9	2%	18.2%
Definitely Would Purchase ▶ 10	6%	19.1%
Mean	2.5	2.8%

4.4 Algorithm Development

The algorithm that was developed permits continuous ratings of intended purchase for personal use to be translated into purchase estimates, taking into account how different subgroups of the population use the rating scale. For example, survey responses *(shown in Table 5b below)* indicate that an "8" is associated with a significantly higher rate of actual purchase among current tobacco users than current tobacco non-users. By accounting for differences in the way the scale is used by population sub-groups in the algorithm, the algorithm offers more accurate estimates of future purchase than simply using population level data.

Table 5b: Weighted Purchase Intent Ratings and Actual Purchase Rates
- By Tobacco Status -

	Current		Former		Non (Never)	
	% Selecting Rating Value	Of those with Rating, % Purchased	% Selecting Rating Value	Of those with Rating, % Purchased	% Selecting Rating Value	Of those with Rating, % Purchased
(N) =	38,804,678		37,514,766		132,777,676	
Definitely Would Not Purchase ▶ 1	28%	2%	75%	1%	84%	0%
2	5%	2%	4%	1%	4%	1%
3	5%	3%	2%	4%	2%	0%
4	3%	3%	2%	3%	2%	3%
5	9%	7%	3%	2%	3%	1%
6	7%	7%	2%	4%	2%	1%
7	8%	8%	3%	6%	1%	5%
8	10%	20%	3%	4%	1%	2%
9	7%	26%	2%	7%	1%	0%
Definitely Would Purchase ▶ 10	18%	30%	5%	12%	3%	2%
Mean	5.3	11.7%	2.3	2.1%	1.7	0.4%

(b) (4)

The following table lists the model coefficients for demographic groups that were significant predictors of trial:

Table 6: Logistic Regression Results for Key Sub-groups

Model Inputs:	Parameter/ Coefficient	Std. Err.	Wald Chi-Square	pr > ChiSq
Intercept	-6.4986	0.3319	383.2863	<.0001
Raw Rating Score (1-10)	0.3367	0.0315	114.5716	<.0001
Current Tobacco User	1.7425	0.3509	24.662	<.0001
Current Tobacco User Age 18-30	0.843	0.2718	9.6185	0.0019
Current Tobacco User Age 31-50	0.5153	0.228	5.1084	0.0238
Former Tobacco User Age 18-30	1.6292	0.5775	7.9578	0.0048
Former Tobacco User Age 31-50	1.9444	0.4161	21.8334	<.0001

(b) (4)

Tables 7a and 7b (below) show (b) (4)

) (b) (4)

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* Tobacco usage status, age, ethnicity, gender, education level, and region sub-groups

Table 7a: Model Estimates vs. Actual Weighted Purchase Rates
- For Key Demographic Sub-Groups -

	Model Estimate	Actual
Total	2.8%	2.8%
Region:		
Northeast	2.5%	2.0%
Midwest	3.1%	3.3%
South	3.0%	3.1%
West	2.4%	2.4%
Age:		
18 – 30	3.5%	3.5%
31 – 50	3.4%	3.6%
51 - 75	1.6%	1.4%
Gender:		
Male	3.1%	3.0%
Female	2.5%	2.6%
Race/Ethnicity:		
Hispanic	2.4%	3.0%
Non-Hispanic White	3.2%	3.2%
Non-Hispanic Black	1.5%	.9%
Non-Hispanic Other	2.5%	1.9%
Education:		
Up to High School	3.7%	3.7%
Some College	2.7%	2.9%
Bachelor's Degree	1.7%	1.4%
More than a Bachelor's Degree	1.1%	1.3%

Table 7b: Model Estimates vs. Actual Weighted Purchase Rates
- For Key Tobacco Use Groups -

	Model Estimate	Actual
Total	2.8%	2.8%
Tobacco Status:		
Current Tobacco User	11.7%	11.7%
Plan to continue tobacco use (84%)	*12.1%*	*12.3%*
Plan to quit use of all tobacco (16%)	*9.6%*	*8.4%*
Former Tobacco User	2.0%	2.1%
Never Used Tobacco	0.4%	0.4%

(b) (4)

Data suggest that Marlboro Special Blend appeal is greatest among Current Tobacco Users, particularly those tobacco users who expected to still be using some type of tobacco use nine months later (84% of all Current Tobacco Users).

Probabilities of Marlboro Special Blend use by Former and Never Users suggest that availability of Marlboro Special Blend is *unlikely* to have a significant impact on rates of initiation or recidivism:

- Estimated use by those two groups appears to be well within the historically observed bounds of initiation and recidivism rates

- These same rates of initiation and recidivism are likely to be observed even without introduction of Marlboro Special Blend. Most Former and Never users who become "Tobacco Users" over the nine-month period did not try Marlboro Special Blend (*see Table 7c below*).

- Furthermore, virtually all (1.9% of the 2.1%) "Former Tobacco Users" who tried the Marlboro Special Blend product tried at least one other cigarette brand over the 9-month period of the study, and all of those initiating tobacco tried at least one other cigarette brand (*see Table 7c below*).

- Finally, these rates are likely to represent *maximum* use (i.e., trial rather than repeat or regular use). Only a subset of consumers who tried the product continued to use it* (*see Table 7c below*).

Table 7c: Weighted Self-reported Trial, Recidivism, Initiation, And Repeated Use Rates

	Wave I "Current Tobacco User"	Wave I "Former Tobacco User"	Wave I "Never Used Tobacco"
(n)* =	2,864	2,438	3,039
% Classified as "Tobacco User" in Wave II	88.6%	16.3%	6.5%
% Purchased Marlboro Special Blend (trial)	11.7%	2.1%	.4%
% Purchased at least one other cigarette brand *in addition to* Marlboro Special Blend	11.3%	1.9%	.4%
*% Continued use** of Marlboro Special Blend*	7.1%	1.2%	.2%

4.5 Model Validation

To understand how well this predictive algorithm fits data for other new products, RAI Services commissioned a follow-up validation study (a second two-wave survey) to estimate use of two Marlboro Special Blend line extensions that had not yet been launched (Blue and Black styles). The validation study compared modeled trial rates (likelihood ratings collected in a pre-launch survey fielded February 14, 2011 to March 4, 2011) with actual use reported by consumers in a post-launch survey approximately nine months later (December 1, 2011 to January 3, 2012).

As detailed in the "Algorithm Validation" report (*see Attachment A for full details of study findings*), the actual purchase rate (trial) of the new products was significantly *lower* than the rate predicted by the algorithm, overall, and for all demographic and tobacco status groups. The fact that the model significantly

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* Unweighted sample sizes (on which the weighted data are based) are shown.
** Continued use is defined as "currently purchase for regular or occasional use" at time of the Wave II survey.

over-predicted required diagnostics to be performed to determine: a) if the proper inputs had been applied in developing the original model, and b) if those inputs had been properly weighted.

To address these questions, a separate, parallel model was built, applying the same methodology and procedures used to build the original model, but incorporating only the data from the second (validation) study. The goal in doing this was to validate the required inputs and associated coefficients.

In the second (validation) model, no new effects entered the model, and T-tests confirm that the effect coefficients are not significantly different between the models. Notably, the only difference that rose to statistical significance *(p<.05)* is the intercept value. An exploration of the external factors surrounding the launch of the products in each study identified three key environmental differences that are believed to have contributed to an overall dampening effect in the validation study.

4.6 Implications

Data from the validation study support continued use of model inputs from this study and the associated coefficients and intercept. Results indicate, however, that this model is likely to predict *maximum* new product trial and that actual trial rates may be significantly lower than those predicted.

5. SURVEY INSTRUMENTS

Wave 1: Product Usage Survey
- Final Screener –

Thank you for visiting our survey site to answer a few qualifying questions. This survey is strictly for research purposes only. It is our policy to keep all survey responses anonymous.

All questions on each screen must be answered before you move to the next screen, so please be sure you have answered every question before trying to move forward. On the next few screens you will be asked a few questions to see if you qualify for this study. If you qualify, the survey itself should take less than 5 minutes to complete.

PROGRAMMER: INSERT STANDARD INSTRUCTION SCREEN
FIELD OPS: RECRUIT RESPONDENTS FROM eRewards PANEL; HAVE RECRUITERS DRAW SAMPLE…
1) **ACCORDING TO MINIMUM PURCHASE AGE IN STATE (SEE S7 INSTRUCTIONS)**
2) **ACCORDING TO QUOTA (SEE FINAL PAGE OF SURVEY)**

In this survey we are interested in the opinions of people who have been, or are, regular users of certain products, as well as people who have never used them.

S1a.   Would you consider yourself to be – or to have been at any time in the past – a "regular user" of any of the following products? We leave it to you to define regular use.

Select "yes" or "no" for each row.

	Yes I am – or was – a regular user	No, have never been a regular user
Beer or malt-based beverages?	○	○
Bottled water (still or carbonated)?	○	○
Nutritional supplements/vitamins?	○	○
Tobacco products?	○	○

PROGRAMMER:
1) **DISPLAY ROWS IN RANDOM ORDER**

S1b.   Focusing only on the present, how would you <u>currently</u> describe yourself, relative to each of the following categories?

Select one response for each row.

	Current Non-user	Current Occasional User	Current Regular User
Beer or malt-based beverages?	○	○	○
Bottled water (still or carbonated)?	○	○	○
Nutritional supplements/vitamins?	○	○	○
Tobacco products?	○	○	○

PROGRAMMER:
1) **DISPLAY ONLY ROWS ANSWERED AS "Yes" IN S1a, IN SAME ORDER AS IN S1a**

CLASSIFY AS:
A) <u>Current Tobacco User</u>: S1b "Tobacco product" IS "Infrequent" or "Regular" (col 2 or 3)
B) <u>Former Tobacco User</u>: S1b "Tobacco product" IS "Non-user" <u>AND</u> S1a "Tobacco product" IS "Yes"
C) <u>Non Tobacco User</u>:   S1a "Tobacco product" IS "No"

S2.   What is your current age?

_____ Years

PROGRAMMER:
1. **RANGE IS 10-99**
2. **IF < 18 OR IF > 75, TERMINATE NOW**

S3.   What is your gender?

Male	○
Female	○

S4.   What is the highest grade you have completed in school? *(Select one)*

High school or less	○
Some college or technical/vocational training	○
Four years of college (Bachelor's degree)	○
More than Bachelor's degree	○

S5a.   Do you consider yourself to be of Hispanic, Latino, or Spanish origin?

| Yes | o |
| No | o |

S5b.   What do you consider to be your race? *(Select all that apply)*

White	❒
African American / Black	❒
Asian	❒
Other	❒

PROGRAMMER:
   1. **DISPLAY S5a AND S5b ON SAME SCREEN**

S6.   Which of the following best describes your total <u>household</u> income?

Under $25,000	o
$25,000 to $49,999	o
$50,000 to $74,999	o
$75,000 to $99,999	o
$100,000 or more	o

S7.   In what state do you currently reside?

[SHOW POP UP LIST OF STATES]

PROGRAMMER:
   1. **IF STATE IS ALABAMA, ALASKA, NEW JERSEY OR UTAH AND S2= 18, TERMINATE NOW**
      (minimum age for tobacco purchase in these states is 19)
   2. **IF STATE IS IOWA OR MASSACHUSETTS, TERMINATE AT END OF SCREENER**

NOTE TO TEAM: IOWA AND MASSACHUSETTS WERE EXCLUDED BECAUSE THE PRODUCT WAS NOT EXPECTED TO BE AVAILABLE IN THOSE MARKETS

S8.   Earlier you indicated that you [currently use tobacco products./have used tobacco products on a "regular basis" in the past, but that you no longer do.] Which of the following types of tobacco products [do you currently use/did you use regularly]? *(Select all that apply)*

Cigarette	❒
Cigar/cigarillos	❒
Pipe	❒
Chewing tobacco	❒
Snuff or snus	❒

PROGRAMMER:
1. **ASK IF CLASSIFIED AS "Current" or "Former" Tobacco User**
2. **IF S1b "Tobacco product" IS "Infrequent" OR "Regular," USE FIRST TEXT IN BRACKETS, ELSE USE 2ND TEXT**
3. **CHECK QUOTAS, BUT DO NOT TERMINATE ANY RESPONDENT OF ELIGIBLE AGE WHO SELECTS ROW 4 OR 5 (Chewing tobacco, snuff or snus) IN S8**

"You have qualified for our survey, and we'd like to invite you to participate. The survey will require less than five minutes to complete, and we ask for your undivided attention once you begin it. If you do not have five minutes right now, please click "stop," and return any time during the next 24 hours when you have an <u>uninterrupted</u> five minutes."

Wave 1: Product Usage Survey
– Final Survey –

1a. Earlier you indicated that you used to use tobacco products on a "regular basis," but that you no longer do. When did you <u>stop</u> using the following types of tobacco products?
Select one column for each product shown below.

	Less than 6 months ago	6 months to 1 year ago	Over 1, but less than 2 years ago	Over 2, but less than 5 years ago	More than 5 years ago
Cigarette	O	O	O	O	O
Cigar/cigarillos	O	O	O	O	O
Pipe	O	O	O	O	O
Chewing tobacco	O	O	O	O	O
Snuff or snus	O	O	O	O	O

PROGRAMMER:
1. **ASK IF CLASSIFIED AS "Former" Tobacco User**
2. **SHOW ONLY PRODUCTS SELECTED IN S8**

1b. Earlier you indicated that currently use tobacco products. About how long have you been using the following types of tobacco products? *Select one column for each product shown below.*

	Less than 6 months	6 months to 1 year	Over 1, but less than 2 years	Over 2, but less than 5 years	More than 5 years
Cigarette	O	O	O	O	O
Cigar/cigarillos	O	O	O	O	O
Pipe	O	O	O	O	O
Chewing tobacco	O	O	O	O	O
Snuff or snus	O	O	O	O	O

PROGRAMMER:
1. **ASK IF CLASSIFIED AS "Current" Tobacco User**
2. **SHOW ONLY PRODUCTS SELECTED IN S8**

2.   Now please think ahead to nine months from now. Based on your experience, product preference, and goals, do you expect that you will be using the following types of products nine months from now?

Select "yes" or "no" for each row.

	Yes	No
Cigarette	○	○
Cigar/cigarillos	○	○
Pipe	○	○
Chewing tobacco	○	○
Snuff or snus	○	○

The final section of this survey focuses on a new tobacco product. Please note that everyone is asked all of the questions in this survey, regardless of the products they currently use or their in-going expectations about future use.

Please take your time and read the information closely so that you will be able to answer the questions that follow.

Please carefully read the profiles below. Take as much time as you need.

New Marlboro Special Blend

Premium, non-menthol cigarettes from Marlboro...

...made with a new special blend of fine tobaccos.

Special Price
$1 off per pack
$10 off per carton

SURGEON GENERAL'S WARNING: Quitting Smoking Now Greatly Reduces Serious Risks to Your Health.

---

3. Assuming the product were available today, how likely would you be to purchase the Marlboro Special Blend product so that you could try it?

Definitely Would <u>Not</u> Purchase it (to Try) ⬇					Definitely Would Purchase It (to Try) ⬇				
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
○	○	○	○	○	○	○	○	○	○

4. If you decided to try the Marlboro Special Blend product and found that you liked it enough to continue using it, please predict as best you can how you would imagine using it. *Select one row.*

I would imagine that I would use the new product . . .	
<u>*In place of*</u> some or all of my use of my current brand(s) (<u>no</u> net increase in tobacco use)	○
<u>*In addition to*</u> my use of my current brand(s) (leading to some potential increase in tobacco use)	○

PROGRAMMER:
1. **ASK IF "CLASSIFIED AS CURRENT USER" <u>AND</u> Q3 > 1**

Earlier you indicated that you do not currently use tobacco products. Please note that the goal of this survey is only to assess how interesting the new tobacco product is to people from many different backgrounds, and it is **not** intended to encourage you or anyone else to start using tobacco products.

- Individuals should consider the conclusions of the U.S. Surgeon General, the Centers for Disease control, and other public health and medical officials when making decisions regarding smoking.

- The best course of action for tobacco users concerned about their health is to quit. Adults who continue to use tobacco products should consider the reductions of risks for serious diseases associated with moving from cigarettes to the use of smoke-free tobacco or nicotine products.

- Minors should never use tobacco products and adults who do not use or have quit using tobacco products should not start.

- Adults who smoke should avoid exposing minors to secondhand smoke, and adult smokers should comply with rules and regulations designed to respect the rights of other adults.

PROGRAMMER:
1. **DISPLAY IF CLASSIFIED AS "Non" Tobacco User OR AS "Former" Tobacco User**

THANK YOU SCREEN

	Current Tobacco User	Former Tobacco User	Non-Tobacco User
OVERALL QUOTA:	**5,000**	**5,000**	**5,000**
Northeast	700 - 1000	700 - 1000	700 - 1000
Midwest	900 - 1300	900 - 1300	900 - 1300
South	1500 - 2000	1500 - 2000	1500 - 2000
West	900 - 1300	900 - 1300	900 - 1300
18-30	1300 - 1600	600 - 800	1300 - 1600
31-50	1900 - 2200	1600 - 1900	1900 - 2200
51-75	1300 - 1600	2300 - 2600	1300 - 1600
Male	2250 - 2750	2250 - 2750	2250 - 2750
Female	2250 - 2750	2250 - 2750	2250 - 2750
Hispanic	650 - 850	650 - 850	650 - 850
Non-Hispanic - White	3000 - 3500	3000 - 3500	3000 - 3500
Non-Hispanic - Black	500 - 700	500 - 700	500 - 700
Non-Hispanic - Asian/Other	350 - 500	350 - 500	350 - 500
Up to High School	2400 - 2700	1700 - 2000	1600 - 1900
Some College	1300 - 1600	1300 - 1600	1200 - 1500
Bachelor's Plus	800 - 1100	1500 - 1800	1700 - 2000

Northeast	Midwest	South	West
Connecticut	Indiana	Alabama	Alaska
Maine	Illinois	Arkansas	Arizona
Massachusetts	Iowa	Delaware	California
New Hampshire	Kansas	District of Columbia	Colorado
Rhode Island	Michigan	Florida	Hawaii
New Jersey	Minnesota	Georgia	Idaho
New York	Missouri	Kentucky	Montana
Pennsylvania	Nebraska	Louisiana	Nevada
Vermont	North Dakota	Maryland	New Mexico
	Ohio	Mississippi	Oregon
	South Dakota	North Carolina	Utah
	Wisconsin	Oklahoma	Washington
		South Carolina	Wyoming
		Tennessee	
		Texas	
		Virginia	
		West Virginia	

Thank you for visiting our survey site. This survey is strictly for research purposes only. It is our policy to keep all survey responses anonymous.

All questions on each screen must be answered before you move to the next screen, so please be sure you have answered every question before trying to move forward.

PROGRAMMER: INSERT STANDARD INSTRUCTION SCREEN
FIELD OPS: ALL RESPONDENTS SHOULD BE FROM eRewards PANEL – ONLY RESPONDENTS WHO COMPLETED THE SURVEY IN DECEMBER 2009/JANUARY 2010 ARE ELIGIBLE FOR SCREENING

[NOTE: Q0 DESCRIPTORS WILL NOT BE RE-ASKED IN WAVE II, SO FOR DUE-DILIGENCE WE ARE ASKING RESPONDENTS TO VALIDATE THAT THEY ARE THE PERSON WHO ANSWERED IN WAVE I]

S0.   We are trying to re-contact individuals who completed one of our surveys through eRewards in late December 2009 or in early January 2010.

Someone connected with this e-mail address completed the survey, and at that time indicated that **[he/she]** was:

- A **[S2]** year old **[S3]**
- **[S5a "Yes" = Of/"No" = Not of]** Hispanic, Latino, or Spanish origin
- Who completed **[S4 with lower-case first letter]**

Are you this person?

Yes	○
No	○

PROGRAMMER:
1. **e.g.: A 53 year old male**
   Of Hispanic, Latino, or Spanish origin
   Who completed some college or technical/vocational training
2. **REPLACE "he/she" WITH "he" IF S3 IS "male," AND WITH "she" IF S3 IS "female"**
3. **IF S0 IS "No, TERMINATE NOW**

[NOTE: S1 IS IDENTICAL TO THE QUESTION IN WAVE I; ASKED TO CAPTURE CHANGES IN CLASSIFICATION WHICH MAY BE A NECESSARY INPUT TO THE MODEL]

S1.   Focusing only on the present, how would you <u>currently</u> describe yourself, relative to each of the following categories?   We leave it to you to define regular use.

Note that your answers to this question do not need to match those in the prior survey – we are asking this question again because we recognize that your status may have changed since then. Please select one response for each row.

	Current Non-user	Current Occasional User	Current Regular User
Beer or malt-based beverages?	○	○	○
Bottled water (still or carbonated)?	○	○	○
Nutritional supplements/vitamins?	○	○	○
Tobacco products?	○	○	○

PROGRAMMER:
   2) DISPLAY ROWS IN RANDOM ORDER

CLASSIFY AS:
A) <u>Current Tobacco User</u>: S1b "Tobacco product" IS "Occasional" or "Regular" (col 2 or 3)
B) <u>Current Non Tobacco User</u>:   S1b "Tobacco product" IS "Non-user"

[NOTE: S2 "purchase for personal use" LANGUAGE MIRRORS WAVE I "LIKELIHOOD" SCALE; NECESSARY MODEL INPUT. NOTE THAT WE ASK THIS QUESTION OF ALL RESPONDENTS; "NON-USER" IS REALLY "NON-REGULAR" USER, AND COULD HAVE PURCHASED FOR SHORT-TERM OR SINGLE PERSONAL USE]

S2.   When, if ever, was the <u>most recent time that you purchased</u> the following products for personal use (either regular *or* occasional use)?   *Select one column for each product shown below.*

	Some time this calendar year (between January 1, 2010 and today)	Some time in 2009	Some time <u>before</u> 2009 (and NOT since then)	Have not purchased any of this product for personal use
Beer or malt-based beverages?	○	○	○	○
Bottled water (still or carbonated)?	○	○	○	○
Nutritional supplements/vitamins?	○	○	○	○
Tobacco products?	○	○	○	○

PROGRAMMER:
   1. IF "Tobacco products" IS COL 2, 3, OR 4 (Some time in 2009 or earlier), TERMINATE NOW

"You have qualified for our survey, and we'd like to invite you to participate. The survey will require less than five minutes to complete, and we ask for your undivided attention once you begin it. If you do not have five minutes right now, please click "stop," and return any time during the next 24 hours when you have an <u>uninterrupted</u> five minutes."

Wave 2: Product Usage Survey
– Final Survey –

[NOTE: THE ONLY RESPONDENTS ENTERING THE SURVEY ARE THOSE WHO PURCHASED TOBACCO IN SOME FORM OVER THE PAST 9 MONTHS. Q1 AND Q2 IDENTIFY THOSE WHO PURCHASED CIGARETTES IN THE PAST 9 MONTHS.]

1.   Which of the following types of tobacco products have you <u>ever</u> purchased for personal use (either regular *or* occasional use)? *(Select all that apply)*

Cigarette	❑
Cigar/cigarillos	❑
Pipe	❑
Chewing tobacco	❑
Snuff or snus	❑

PROGRAMMER:
   1. ASK ALL

---

2.   When, if ever, was the <u>most recent time that you purchased</u> the following types of tobacco products for personal use? *Select one column for each product shown below.*

	Some time this calendar year (between January 1, 2010 and today)	Some time in 2009	Some time <u>before</u> 2009 (and NOT since then)	Have not purchased any of this type of tobacco for personal use
Cigarette	o	o	o	o
Cigar/cigarillos	o	o	o	o
Pipe	o	o	o	o
Chewing tobacco	o	o	o	o
Snuff or snus	o	o	o	o

PROGRAMMER:
   1. SHOW ONLY PRODUCTS SELECTED IN 1
   2. IF "Cigarette" IS COL 2, 3, OR 4 (2009 OR EARLIER), SKIP TO FINAL "WARNING" SCREEN (POST Q6) AND CHECK LOGIC FOR DISPLAY

[Q3 PROVIDES THE BASIS FOR Q4 AND Q5 MARLBORO SPECIAL BLEND DRILL-DOWN. Q3/Q4 IDENTIFY RESPS WHO HAVE <u>EVER</u> PURCHASED MARLBORO SPECIAL BLEND; Q5 IDENTIFIES RESPS WHO <u>CURRENTLY</u> PURCHASE MARLBORO SPECIAL BLEND]

3.   [Even though you no longer use cigarettes,] Which of the following cigarette brands have you <u>purchased</u> for personal use <u>in the past nine months</u> (since January 1, 2010)? *Select "yes" or "no" for each row.*

Have you purchased…	Yes	No
American Spirit?	○	○
Basic?	○	○
Benson and Hedges (B&H)?	○	○
Camel?	○	○
Capri?	○	○
Carlton?	○	○
Doral?	○	○
Dunhill?	○	○
Eclipse?	○	○
GPC?	○	○
Kent?	○	○
Kool?	○	○
Lucky Strike?	○	○
Marlboro?	○	○
Merit?	○	○
Misty Slims?	○	○
Newport?	○	○
Pall Mall?	○	○
Parliament?	○	○
Salem?	○	○
USA Gold?	○	○
Vantage?	○	○
Virginia Slims?	○	○
Winston?	○	○

PROGRAMMER:
1. **ASK IF Q2 "Cigarette" IS COL 1 (PAST 9 MONTHS)**
2. **INSERT TEXT THAT IS IN BRACKETS IF CURRENTLY CLASSIFIED AS "Current Non Tobacco User"**

4. [Again, even though you no longer use cigarettes,] Which of the following Marlboro cigarette products have you <u>purchased</u> for personal use <u>in the past nine months</u> (since January 1, 2010)?

Select "yes" or "no" for each of the following Marlboro products.

In the past 9 months, have you purchased Marlboro…	Yes	No
Red Pack (Full Flavor)	o	o
Red Label (Medium)	o	o
Gold Pack (formerly Lights)	o	o
Silver Pack (formerly Ultra Lights)	o	o
Blend No. 27	o	o
Virginia Blend	o	o
Special Blend Red	o	o
Special Blend Gold	o	o
Menthol	o	o
Menthol Blue Pack (formerly Milds)	o	o
Menthol Gold Pack (formerly Lights)	o	o
Menthol Silver Pack (formerly Ultra Lights)	o	o
Menthol Blend No. 54	o	o
Menthol Smooth	o	o

PROGRAMMER:
1. **ASK IF Q3 "Marlboro" IS "Yes"**
2. **INSERT TEXT THAT IS IN BRACKETS IF CURRENTLY CLASSIFIED AS "Current Non Tobacco User"**
3. **DISPLAY PICTURES OF RELEVANT PRODUCTS IN EACH ROW**
4. **DISPLAY MESSAGE IF NO ROW IS "Yes" "Earlier you indicated that you have purchased a Marlboro cigarette product in the past nine months. Please review your answers to this question, selecting the Marlboro product that you purchased, or click the "Back" button to revise your earlier answer.**

5. Which, if any, of the following types of Marlboro cigarette products do you <u>currently</u> purchase on an occasional *or* on a regular basis?

Select "yes" or "no" for each of the following Marlboro products.

Do you currently purchase Marlboro …	Yes	No	
Red Pack (Full Flavor)	o	o	1
Red Label (Medium)	o	o	2
Gold Pack (formerly Lights)	o	o	3
Silver Pack (formerly Ultra Lights)	o	o	4
Blend No. 27	o	o	5
Virginia Blend	o	o	6
Special Blend Red	o	o	7
Special Blend Gold	o	o	8
Menthol	o	o	9
Menthol Blue Pack (formerly Milds)	o	o	10
Menthol Gold Pack (formerly Lights)	o	o	11
Menthol Silver Pack (formerly Ultra Lights)	o	o	12
Menthol Blend No. 54	o	o	13
Menthol Smooth	o	o	14

PROGRAMMER:
1. **ASK IF "Current Tobacco User" <u>AND</u> Q3 "Marlboro" IS "Yes"**
2. **DISPLAY PICTURES OF RELEVANT PRODUCTS IN EACH ROW**
3. **DISPLAY ONLY ROWS SELECTED AS "Yes" IN Q4**

[Q6 IS INTENDED TO HELP US UNDERSTAND TYPE OF SPECIAL BLEND USE – REPLACEMENT VS. ADDITION]

6.   Please think back to the point in time just before you started using Marlboro Special Blend. Relative to that point in time would you say that you use Marlboro Special Blend…
Select one row.

___In place of___ some or all of your use of the tobacco products you used at that time (<u>no</u> net increase in tobacco use)	○
___In addition to___ your use of the tobacco products you used at that time (leading to some increase in tobacco use)	○

PROGRAMMER:
   1.   **ASK IF CLASSIFIED AS "Current Tobacco User" AND Q5 "Marlboro Spec. Blend" (ROW 7 OR 8) IS "Yes"**

Earlier you indicated that you do not currently use tobacco products. Please note that the goal of this survey is only to understand use of tobacco product among people from many different backgrounds, and it is **not** intended to encourage you or anyone else to start using tobacco products.

- Individuals should consider the conclusions of the U.S. Surgeon General, the Centers for Disease control, and other public health and medical officials when making decisions regarding smoking.

- The best course of action for tobacco users concerned about their health is to quit. Adults who continue to use tobacco products should consider the reductions of risks for serious diseases associated with moving from cigarettes to the use of smoke-free tobacco or nicotine products.

- Minors should never use tobacco products and adults who do not use or have quit using tobacco products should not start.

- Adults who smoke should avoid exposing minors to secondhand smoke, and adult smokers should comply with rules and regulations designed to respect the rights of other adults.

PROGRAMMER:
   1.   **DISPLAY IF CLASSIFIED AS "Current Non Tobacco User"**

THANK YOU SCREEN

WAVE I QUOTAS:

OVERALL QUOTA:	Current Tobacco User	Former Tobacco User	Non-Tobacco User
	5,000	**5,000**	**5,000**
Northeast	700 - 1000	700 - 1000	700 - 1000
Midwest	900 - 1300	900 - 1300	900 - 1300
South	1500 - 2000	1500 - 2000	1500 - 2000
West	900 - 1300	900 - 1300	900 - 1300
18-30	1300 - 1600	600 - 800	1300 - 1600
31-50	1900 - 2200	1600 - 1900	1900 - 2200
51-75	1300 - 1600	2300 - 2600	1300 - 1600
Male	2250 - 2750	2250 - 2750	2250 - 2750
Female	2250 - 2750	2250 - 2750	2250 - 2750
Hispanic	650 - 850	650 - 850	650 - 850
Non-Hispanic – White	3000 - 3500	3000 - 3500	3000 - 3500
Non-Hispanic – Black	500 - 700	500 - 700	500 - 700
Non-Hispanic - Asian/Other	350 - 500	350 - 500	350 - 500
Up to High School	2400 - 2700	1700 - 2000	1600 - 1900
Some College	1300 - 1600	1300 - 1600	1200 - 1500
Bachelor's Plus	800 - 1100	1500 - 1800	1700 - 2000

Northeast	Midwest	South	West
Connecticut	Indiana	Alabama	Alaska
Maine	Illinois	Arkansas	Arizona
Massachusetts	Iowa	Delaware	California
New Hampshire	Kansas	District of Columbia	Colorado
Rhode Island	Michigan	Florida	Hawaii
New Jersey	Minnesota	Georgia	Idaho
New York	Missouri	Kentucky	Montana
Pennsylvania	Nebraska	Louisiana	Nevada
Vermont	North Dakota	Maryland	New Mexico
	Ohio	Mississippi	Oregon
	South Dakota	North Carolina	Utah
	Wisconsin	Oklahoma	Washington
		South Carolina	Wyoming
		Tennessee	
		Texas	
		Virginia	
		West Virginia	

6. WEIGHTING TARGETS

WEIGHTING TARGETS BY CELL

	Northeast			Midwest			South			West		
	Current User	Former User	Non-User	Current User	Former User	Non-User	Current User	Former User	Non-User	Current User	Former User	Non-User
Male	3,220,841	3,554,154	10,102,318	5,289,888	4,749,589	11,994,988	8,592,717	7,471,931	22,478,791	4,436,032	4,949,378	16,014,223
Female	2,721,744	3,241,383	11,788,302	4,535,876	3,996,446	14,293,406	6,873,058	5,734,339	27,940,390	3,134,522	3,817,547	18,165,257
Hispanic	542,087	377,109	3,081,389	362,891	229,180	1,685,282	1,503,372	1,120,642	8,659,586	1,354,579	1,309,486	10,119,784
Non-Hispanic White	4,526,412	5,803,408	14,122,882	8,140,018	7,794,077	20,446,553	10,961,082	10,133,928	28,864,382	5,031,141	6,502,909	17,687,747
Non-Hispanic Black	643,054	436,616	2,888,550	997,741	532,484	3,067,746	2,415,606	1,534,598	10,460,632	412,984	259,137	1,740,856
Non-Hispanic Other	231,032	178,404	1,797,799	325,114	190,295	1,088,813	585,715	417,102	2,434,581	771,850	695,394	4,631,092
Up to Highschool	3,520,889	2,909,061	8,673,426	5,869,580	3,754,508	9,890,005	9,424,944	5,759,618	21,444,255	3,859,875	3,038,035	13,291,056
Some College	1,532,001	1,738,218	5,573,622	2,932,215	2,726,662	7,933,981	4,263,691	3,925,101	13,809,200	2,600,140	3,080,571	10,091,309
Bachelor's Degree	663,558	1,334,679	4,704,257	818,129	1,466,968	5,536,936	1,354,874	2,327,684	9,832,246	847,296	1,744,024	7,282,202
More than a Bachelor's Degree	226,136	813,579	2,939,315	205,839	797,898	2,927,471	422,265	1,193,868	5,333,480	263,244	904,296	3,514,912

Attachment A

New Tobacco Product "Attractiveness" Study:

**Validation of an Algorithm to Predict Usage of
New Tobacco Products Prior to Market Launch**

Methodological Report

January 29, 2013

Prepared for:
RAI Services Company

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Research conducted on behalf of RAIS's Regulatory Oversight Department in anticipation of potential FDA requirements. Research shall only be used and/or disseminated for compliance-related activities.
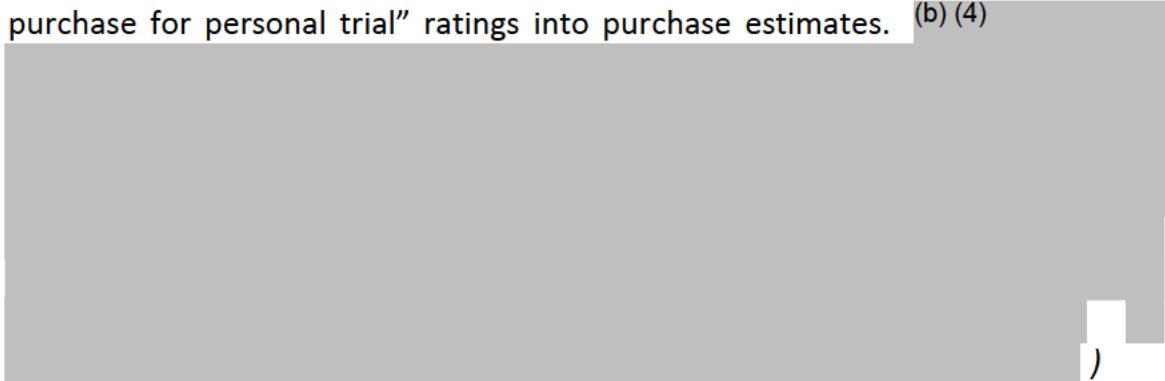
National Analysts
W O R L D W i D E
R E S E A R C H ✦ C O N S U L T I N G

Contents

1. STUDY BACKGROUND AND OBJECTIVES

1.1 Study Background

Under its mandate to regulate the impact of tobacco on public health, the FDA requires manufacturers of tobacco products to demonstrate, prior to the launch of any new tobacco product, that the market entry of the new product will not increase "net harm" to the population by increasing net tobacco prevalence. The first step of this evaluation requires an independent and reliable projection of product use – overall and within key sub-populations.

To provide the FDA with projected usage estimates for a tobacco product *before* it is launched, RAI Services Company commissioned two-wave survey research* to create a ratings conversion algorithm that translates continuous "likelihood to purchase for personal trial" ratings into purchase estimates. (b) (4)

)

1.2 Study Objectives

To understand how well the predictive algorithm is likely to fit data for other new products, RAI Services Company commissioned a validation study (a second two-wave survey) to estimate trial of additional new products. Marlboro Special Blend line extensions (the Blue and Black styles) were chosen as the vehicle for testing algorithm fit because they represent the same type of product (cigarette), and the product launch timing offered an opportunity to field the necessary pre-launch and post-launch waves of the research. This study compared pre-launch survey ratings (based on a Marlboro Special Blend Blue or Black "ad") and the resulting projected estimates (based on the algorithm) with actual (self-reported) purchase for trial *post*-launch.

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* Wave 1 of the "Algorithm Development" survey was conducted from December 23, 2009 until January 6, 2010, and Wave 2 was conducted from September 16, 2010 until October 5, 2010

2. DETAILED STUDY DESIGN

2.1 Sample Design

(b) (4)

(b) (4)

2.2 Survey Content

In Wave 1, the following data were collected:*

(1) ***Demographics (age, gender, race/ethnicity and education)**: to ensure that key consumer groups are represented and that results can be weighted appropriately so that they are representative of the universe of consumers*

(2) ***Current and past use of tobacco products**: to classify respondents into behavioral status groups (current vs. former vs. never regular user of tobacco, and user of smoked vs. non-smoked vs. both product types)*

(3) ***Anticipated use of tobacco products nine months in the future**: to permit analysis of additional key sub-groups (those intending/not intending to quit tobacco use)*

(4) ***Presentation of information about Marlboro Special Blend Blue or Black cigarettes, followed by a rating of likelihood of purchase with intent to try** to provide the foundation for a projected use model*

In Wave 2, the following data were collected:

(1) ***Current (at the time of Wave 2) use of tobacco products**: to permit comparisons of predicted vs. actual tobacco use behavior (anticipated vs. actual continuing, quitting, starting, and re-starting tobacco use behavior)*

(2) ***Purchase of Marlboro Special Blend Blue or Black for personal trial at any point in the previous nine months**: to provide required input to the model*

(3) ***On-going use of Marlboro Special Blend Blue or Black**: to provide insights regarding post-trial persistence with the brand*

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* See Section 5 of this report for survey instruments

3

2.3 Data Collection Timelines

Wave 1 was conducted from February 14, 2011 until March 4, 2011, to ensure field closed before consumers could have purchased Marlboro Special Blend Blue or Black for trial, which was expected to be launched on March 5. The Wave 2 follow-up survey was conducted approximately nine months later (December 1, 2011 through January 3, 2012).

2.4 Distribution of Completed Interviews

On the day the survey was launched, invitations were issued at rates projected to reach a first-day goal of 5% completion in all quota groups as a sampling quality control check. Invitations were then issued every second or third day, focusing initially on reaching lower-incidence populations to ensure that an adequate sample size would be reached for all key sub-populations.

For Wave 1, a total of 13,178 consumers completed the survey. The overall demographic distributions are shown below by tobacco status. All Wave 1 respondents were eligible for, and invited to participate in, Wave 2.

Table 1: Unweighted Sample Distribution
- Demographics by Tobacco Status -

	Tobacco Status		
	Current Regular User	**Former Regular User**	**Never Regular User**
(n) =	4,022	4,490	4,666
Region:			
Northeast	926	1,000	947
Midwest	1,132	1,078	1,124
South	1,254	1,521	1,540
West	710	891	1,055
Age:			
18-30	785	637	1,600
31-50	1,947	1,586	1,661
51-75	1,290	2,267	1,405
Gender:			
Male	1,589	1,741	1,915
Female	2,433	2,749	2,751
Race/Ethnicity:			
Hispanic	208	438	626
Non-Hispanic White	3,497	3,499	3,188
Non-Hispanic Black	176	422	503
Non-Hispanic Asian/Other	190	163	414
Education Level:			
High School (or less)	1,315	1,271	1,148
Some College	1,600	1,419	1,504
Bachelor's Plus	1,107	1,800	2,014

3. NON-RESPONSE ANALYSIS AND WEIGHTING

3.1 Analysis of Potential Non-Response Bias

Of the 13,178 people interviewed in Wave 1, a total of 6,469 responded to the second survey, a 49% recontact rate. This level of attrition was anticipated at the start of the research.

Wave 2 responders were compared to non-responders to determine if any bias was introduced through sample attrition. As shown below in Table 2a, the unweighted samples are almost identical with respect to tobacco behavior status, suggesting that no bias was introduced.

Table 2a: Unweighted Sample Distribution
- Tobacco Behavior Status by Wave 2 Participation Status -

	Total Wave 1	Completed Wave 2	Did Not Complete Wave 2
(n) =	13,178	6,469	6,709
Tobacco Status:			
Current Regular User	**31%**	**30%**	**31%**
Cigarette	(90%)	(89%)	(91%)
Cigar/Cigarillo	(14%)	(14%)	(14%)
Snuff or snus	(4%)	(5%)	(4%)
Chewing Tobacco	(3%)	(3%)	(4%)
Pipe	(2%)	(3%)	(2%)
Former Regular User	**34%**	**35%**	**33%**
Cigarette	(97%)	(97%)	(97%)
Cigar/Cigarillo	(10%)	(10%)	(10%)
Snuff or snus	(2%)	(2%)	(3%)
Chewing Tobacco	(3%)	(3%)	(3%)
Pipe	(5%)	(6%)	(4%)
Never Regular User	**35%**	**35%**	**36%**

Wave 2 responders and non-responders were also compared with respect to demographics. As shown in Table 2b below, the unweighted demographic data are similar for both groups – the key differences being a slightly higher rate of attrition among respondents under age 51 and those with less education than a Bachelor's degree, which required a minor weighting adjustment to rebalance.

Table 2b: Unweighted Sample Distribution
- Demographics by Wave 2 Participation Status -

	Total Wave 1	Completed Wave 2	Did Not Complete Wave 2
(n) =	13,178	6,469	6,709
Region:			
Northeast	22%	22%	21%
Midwest	25%	27%	24%
South	33%	31%	34%
West	20%	20%	21%
Age:			
18-30	23%	20%	26%
31-50	39%	36%	42%
51-75	38%	44%	32%
Gender:			
Male	40%	40%	39%
Female	60%	60%	61%
Race/Ethnicity:			
Hispanic	10%	6%	13%
Non-Hispanic White	77%	81%	74%
Non-Hispanic Black	8%	8%	8%
Non-Hispanic Other	6%	6%	6%
Education:			
Up to High School	28%	25%	32%
Some College	34%	32%	36%
Bachelor's Degree Plus	38%	43%	32%

Table 2c below provides the unweighted distribution of ratings for "likelihood of purchasing Marlboro Special Blend Blue or Black with intent to try" (Wave 1 responses). The distribution of Wave 1 ratings were similar for individuals who did and did not respond in Wave 2, further minimizing concern about non-response bias.

Table 2c: Unweighted Rating Distribution
- Purchase Intent Ratings by Wave 2 Participation Status -

	Total Wave 1	Completed Wave 2	Did Not Complete Wave 2
(n) =	13,178	6,469	6,709
Definitely Would Not Purchase ▶ 1	64%	66%	62%
2	4%	4%	4%
3	3%	3%	4%
4	2%	2%	2%
5	5%	5%	5%
6	4%	4%	4%
7	4%	4%	5%
8	5%	4%	5%
9	3%	2%	2%
Definitely Would Purchase ▶ 10	6%	6%	7%

3.2 Weighting Process

(b) (4)

---

* The following sources were used to develop all population counts: Census website (http://www.census.gov/); the March 2010 Annual Social and Economic Supplement to the Current Population Survey; and the Tobacco Use Supplement to the Current Population Survey (from May 2006, August 2006, and January 2007)

(b) (4)

Step 1. Development of Base Weights

(b) (4)

Table 3a: Population Estimates
- Population Counts by Region, Tobacco Status and Age -

		AGE		
		18-30	**31-50**	**51-75**
Northeast	Current Regular User	1,560,334	2,572,745	1,714,822
	Former Regular User	634,733	2,201,204	3,879,948
	Never Regular User	6,305,272	8,540,561	6,836,429
Midwest	Current Regular User	2,840,899	4,431,188	3,026,938
	Former Regular User	1,207,411	2,822,156	5,233,946
	Never Regular User	7,964,861	10,830,718	8,682,721
South	Current Regular User	3,767,698	6,170,309	4,451,855
	Former Regular User	1,370,343	3,780,297	7,257,459
	Never Regular User	13,797,884	19,213,114	14,656,196
West	Current Regular User	2,024,018	2,805,530	2,078,113
	Former Regular User	933,828	2,528,822	4,584,805
	Never Regular User	9,789,978	12,948,093	9,187,104

Step 2. Raking

(b) (4)

(b) (4)

Table 3b: Population Estimates
- Weighting Targets by Cell -

	Northeast			Midwest			South			West		
	Current Regular User	Former Regular User	Never Regular User	Current Regular User	Former Regular User	Never Regular User	Current Regular User	Former Regular User	Never Regular User	Current Regular User	Former Regular User	Never Regular User
Male	3,551,801	3,896,567	11,344,202	5,582,463	5,070,261	12,572,373	7,987,248	7,041,489	21,247,023	4,056,168	4,548,605	14,855,408
Female	2,953,465	3,603,965	13,225,745	4,716,561	4,193,252	14,905,927	6,402,614	5,366,611	26,420,171	2,851,493	3,498,850	17,069,767
Age 18-30	1,740,814	690,911	7,147,465	2,840,899	1,207,411	7,964,861	3,767,698	1,370,343	13,797,884	2,024,018	933,828	9,789,978
Age 31-50	2,842,608	2,460,824	9,730,262	4,431,187	2,822,156	10,830,718	6,170,309	3,780,297	19,213,114	2,805,530	2,528,822	12,948,093
Age 51-75	1,921,844	4,348,797	7,692,220	3,026,938	5,233,946	8,682,721	4,451,855	7,257,460	14,656,196	2,078,113	4,584,805	9,187,104
Hispanic	588,211	413,862	3,366,626	385,435	257,879	1,784,470	1,466,316	1,111,644	8,647,713	1,290,832	1,247,137	9,833,135
Non-Hisp. White	4,954,415	6,419,996	16,071,707	8,553,413	8,254,427	21,412,465	10,161,038	9,501,831	26,911,938	4,455,195	5,874,503	15,900,268
Non-Hisp. Black	684,798	472,327	3,115,304	1,008,130	550,492	3,077,463	2,227,800	1,408,094	9,767,035	395,151	247,168	1,567,132
Non-Hisp. Other	277,842	194,347	2,016,310	352,046	200,715	1,203,902	534,708	386,531	2,340,508	766,483	678,647	4,624,640
Up to H. School	3,824,979	3,178,529	9,554,821	6,128,447	4,004,795	10,301,969	8,653,879	5,377,640	20,105,670	3,529,335	2,784,467	12,516,758
Some College	1,673,421	1,876,115	6,067,659	3,109,481	2,896,429	8,389,188	4,036,917	3,699,474	13,180,134	2,362,911	2,843,608	9,336,675
Bachelor's Degree	767,023	1,540,623	5,530,516	854,262	1,536,474	5,827,180	1,293,218	2,189,163	9,338,189	775,398	1,593,926	6,811,656
> Bach. Degree	239,843	905,265	3,416,951	206,834	825,815	2,959,963	405,848	1,141,823	5,043,201	240,017	825,454	3,260,086

* See "Practical Considerations in Raking Survey Data" by Michael P. Battaglia, David Izrael, David C. Hoaglin, and Martin R. Frankel, Survey Practice, June 2009

The weighting process produced a Wave 2 sample that not only matched Wave 1 with respect to use of tobacco products *(see Table 4a)*, but was also perfectly aligned with demographics *(see Table 4b)* and purchase intent ratings *(see Table 4c)*, giving us confidence that the algorithm is fully representative of the target universe.

Table 4a: Weighted Tobacco Use Distribution
- Tobacco Behavior Status by Wave -

	Total Wave 1	Completed Wave 2
(n)* =	13,178	6,469
Tobacco Status:		
Current Regular User	**19%**	**19%**
Cigarette	*(87%)*	*(87%)*
Cigar/Cigarillo	*(16%)*	*(16%)*
Snuff or snus	*(8%)*	*(8%)*
Chewing Tobacco	*(4%)*	*(4%)*
Pipe	*(3%)*	*(3%)*
Former Regular User	**18%**	**18%**
Cigarette	*(96%)*	*(96%)*
Cigar/Cigarillo	*(13%)*	*(13%)*
Snuff or snus	*(3%)*	*(3%)*
Chewing Tobacco	*(4%)*	*(4%)*
Pipe	*(7%)*	*(7%)*
Never Regular User	**63%**	**63%**

---

* Unweighted sample sizes (on which the weighted data are based) are shown.

Table 4b: Weighted Sample Distribution
- Demographics by Wave -

	Total Wave 1	Completed Wave 2
(n)* =	13,178	6,469
Region:		
Northeast	17%	17%
Midwest	23%	23%
South	37%	37%
West	23%	23%
Age:		
18-30	26%	26%
31-50	39%	39%
51-75	35%	35%
Gender:		
Male	49%	49%
Female	51%	51%
Race/Ethnicity:		
Hispanic	15%	15%
Non-Hispanic White	68%	68%
Non-Hispanic Black	12%	12%
Non-Hispanic Other	5%	5%
Education:		
Up to High School	44%	44%
Some College	29%	29%
Bachelor's Degree Plus	27%	27%

---

* Unweighted sample sizes (on which the weighted data are based) are shown.

Table 4c: Weighted Rating Distribution
- Purchase Intent Ratings by Wave -

	Total Wave 1	Completed Wave 2
(n)* =	13,178	6,469
Definitely Would Not Purchase ▶ 1	75%	75%
2	3%	3%
3	2%	2%
4	2%	2%
5	3%	3%
6	3%	3%
7	3%	3%
8	3%	3%
9	2%	2%
Definitely Would Purchase ▶ 10	4%	4%
Mean Rating	2.3	2.3

* Unweighted sample sizes (on which the weighted data are based) are shown.

4. ANALYSIS PLAN

4.1 Analytic Approach

The objective of this study was to test the performance of the predictive algorithm that was developed to provide the FDA with projected usage (i.e., with purchase for trial as a proxy) estimates for a tobacco product *before* it is launched. *(For full detail on the methodology see New Tobacco Product "Attractiveness" Study: An Algorithm to Predict Usage of New Tobacco Products Prior to Market Launch.)*

(b) (4)

4.2 Statistical Analyses

(b) (4)

5. STUDY FINDINGS

5.1 Purchase Intent

Respondents were shown Marlboro Special Blend Blue and Black marketing materials and asked to rate their likelihood of purchasing Marlboro Special Blend Blue or Black with the intent to try it on a 10-point scale, where 1 means "definitely would not purchase" and 10 means "definitely would purchase." Weighted ratings of purchase intent and the corresponding 95% confidence intervals *(p=.05)* are shown in Table 5 below for each tobacco status.

Table 5: Weighted Rating Distribution
- Purchase Intent Ratings by Tobacco Status -

	TOTAL	Current Regular Tobacco User	Former Regular Tobacco User	Never Regular Tobacco User
(n)* =	13,178	4,022	4,490	4,666
Definitely Would Not Purchase ▶ 1	73% ± 0.9%	21% ± 2.0%	81% ± 1.4%	86% ± 1.1%
2	3% ± 0.4%	4% ± 0.9%	3% ± 0.6%	3% ± 0.5%
3	2% ± 0.3%	6% ± 1.1%	2% ± 0.4%	2% ± 0.4%
4	2% ± 0.3%	5% ± 0.9%	1% ± 0.4%	1% ± 0.3%
5	4% ± 0.4%	10% ± 1.4%	3% ± 0.5%	2% ± 0.5%
6	3% ± 0.4%	9% ± 1.4%	2% ± 0.5%	2% ± 0.4%
7	3% ± 0.3%	11% ± 1.5%	2% ± 0.5%	1% ± 0.3%
8	3% ± 0.4%	12% ± 1.6%	2% ± 0.5%	1% ± 0.4%
9	2% ± 0.3%	6% ± 1.2%	1% ± 0.4%	<1% ± 0.2%
Definitely Would Purchase ▶ 10	5% ± 0.5%	16% ± 1.8%	3% ± 0.6%	2% ± 0.5%
Mean	2.4 ± .06	5.6 ± .16	1.9 ± .08	1.6 ± .06

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* Unweighted sample sizes (on which the weighted data are based) are shown.

5.2 Predictive Accuracy of Model

(b) (4)

Table 6a: Weighted Purchase Intent Ratings and Estimated Purchase Rates

	% Selecting Rating Value	% Estimated to Purchase	95% Confidence Interval
(N) =	202,632,333	202,632,333	202,632,333
Definitely Would Not Purchase ▶ 1	75%	.4%	0.2% - 0.7%
2	3%	1.1%	0.7% - 1.9%
3	2%	2.2%	1.4% - 3.5%
4	2%	3.0%	2.0% - 4.6%
5	3%	4.2%	2.9% - 6.2%
6	3%	6.1%	4.3% - 8.5%
7	3%	10.0%	7.2% - 13.8%
8	3%	13.0%	9.7% - 17.4%
9	2%	17.3%	13.0% - 22.8%
Definitely Would Purchase ▶ 10	4%	20.0%	15.1% - 26.3%
Mean	2.3	2.7	1.9% - 3.8%

As shown in Table 6b, the actual purchase rate (trial) of the new Marlboro Special Blend products was actually *lower* than that predicted by the algorithm in all demographic groups *(see Table 6c)* and all tobacco use groups *(see Table 6d)*. In all cases the observed values fell below the bottom end of the confidence interval.

Table 6b: Model Estimates vs. Actual Weighted Purchase Rates
- By Purchase Intent Rating -

	Model Estimate	95% Confidence Interval	% Actually Purchasing
(N) =	202,632,333	202,632,333	202,632,333
Definitely Would Not Purchase ▶ 1	.4%	0.2% - .07%	0.0%
2	1.1%	0.7% - 1.9%	0.0%
3	2.2%	1.4% - 3.5%	0.3%
4	3.0%	2.0% - 4.6%	0.1%
5	4.2%	2.9% - 6.2%	1.0%
6	6.1%	4.3% - 8.5%	2.0%
7	10.0%	7.2% - 13.8%	5.1%
8	13.0%	9.7% - 17.4%	1.5%
9	17.3%	13.0% - 22.8%	4.0%
Definitely Would Purchase ▶ 10	20.0%	15.1% - 26.3%	3.6%
Mean	2.7	1.9% - 3.8%	0.5

Table 6c: Model Estimates vs. Actual Weighted Purchase Rates
- For Key Demographic Sub-Groups -

	Model Estimate	95% Confidence Interval	Actual
Total	2.7%	1.9% - 3.8%	0.5%
Region:			
Northeast	2.3%	1.7% - 3.4%	0.4%
Midwest	3.2%	2.3% - 4.6%	1.0%
South	2.9%	2.0% - 4.0%	0.5%
West	2.0%	1.6% - 3.2%	0.3%
Age:			
18 – 30	3.3%	2.3% - 4.9%	0.8%
31 – 50	3.3%	2.5% - 4.5%	0.7%
51 – 75	1.5%	1.1% - 2.4%	0.1%
Gender:			
Male	2.9%	2.2% - 4.3%	0.5%
Female	2.4%	1.7% - 3.4%	0.6%
Race/Ethnicity:			
Hispanic	2.1%	1.6% - 3.2%	0.4%
Non-Hispanic White	3.1%	2.2% - 4.3%	0.7%
Non-Hispanic Black	1.7%	1.2% - 2.7%	0.0%
Non-Hispanic Other	1.9%	1.4% - 3.0%	0.3%
Education:			
Up to High School	3.6%	2.6% - 5.0%	0.6%
Some College	2.6%	1.8% - 3.7%	0.6%
4 years of College	1.5%	1.1% - 2.4%	0.3%
More than a Bachelor's degree	1.0%	0.7% - 1.7%	0.4%

Table 6d: Model Estimates vs. Actual Weighted Purchase Rates
- For Key Tobacco Use Groups -

	Model Estimate	95% Confidence Interval	Actual
Total	2.7%	1.9% - 3.8%	0.5%
Tobacco Status:			
Current Regular Tobacco User	11.8%	9.0% - 15.6%	2.2%
Plan to continue tobacco use (81%)	*12.4%*	*9.3% - 16.1%*	*2.2%*
Plan to quit use of all tobacco (19%)	*9.0%*	*7.5% - 13.5%*	*2.2%*
Former Regular Tobacco User	1.5%	0.8% - 3.0%	0.3%
Never Regular Tobacco User	0.4%	0.2% - 0.7%	0.1%

While the model consistently over-predicted trial in all categories, it did accurately predict that Current Regular Tobacco Users are significantly more likely than Former Regular Tobacco Users and Never Regular Tobacco Users to purchase Marlboro Special Blend with the intent of trying it. The difference between modeled projections for two Current Regular Tobacco User sub-groups – Users who plan to continue tobacco use and those who plan to quit (a difference of 3.4%) – is *de minimus (p=0.34)* and, indeed, actual purchase rates for the two groups are identical (2.2%).

5.3 Algorithm Validation

(b) (4)

19

(b) (4)

Table 7: Logistic Regression Results for Key Sub-groups
- From "Algorithm Development" Study -

Model Inputs:	Parameter/ Coefficient	Std. Err.	Wald Chi-Square	pr > ChiSq
Intercept	-6.4986	0.3319	383.2863	<.0001
Raw Rating Score (1-10)	0.3367	0.0315	114.5716	<.0001
Current Regular Tobacco User	1.7425	0.3509	24.662	<.0001
Current Regular Tobacco User Age 18-30	0.843	0.2718	9.6185	0.0019
Current Regular Tobacco User Age 31-50	0.5153	0.228	5.1084	0.0238
Former Regular Tobacco User Age 18-30	1.6292	0.5775	7.9578	0.0048
Former Regular Tobacco User Age 31-50	1.9444	0.4161	21.8334	<.0001

As a reminder, the new model (like the original) is a survey-weighted logistic regression model using "likelihood to purchase" ratings from Wave 1 and actual incidence of purchase for trial from Wave 2 to predict incidence of purchase for trial from likelihood ratings. Main effects and interactions are included to account for different patterns of usage by various groups* resulting in different predictive relationships between ratings and actual behavior.

The results of the modeling are as follows:

(1) Respondent tobacco status and all available demographics were considered in the model, but no "new" variables proved to contribute significantly in predicting purchase for trial behavior

(2) Rating scores and tobacco status contribute significantly in this model, as they did in the original model

(3) Unlike in the first model, age effects are non-significant, but this is believed to be due to the small number of respondents who purchased the product (n=58)

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* Tobacco usage status, age, race/ethnicity, gender, education level, and region sub-groups

(b) (4)

The result of this analysis suggested a "dampening" effect that lowered trial rates across all demographic and tobacco status sub-groups, as evidenced by the fact that the model consistently over-predicted trial in a similar magnitude for all groups. External factors were then explored to understand possible differences in the product launch environment that might have contributed to the lower-than-projected trial rates in this Validation study. Three key environmental differences have been identified as contributing to an overall dampening effect, all directly related to the products tested:

1) These products received lower levels of marketing support/promotion than those in the Algorithm Development study

2) They were distributed to stores more slowly (as measured by % CIV Selling) than the products in the Algorithm Development study, particularly for the 100s style

3) The products were actually *discontinued for a short time and re-launched* with new branding (i.e., new name/new packaging) during the fielding of the second wave of this study

5.4 Implications

Data from this study support continued use of the model inputs (the demographic and tobacco status groups) and coefficients associated with each sub-group. Notably, however, this study highlights a key limitation when using survey data to predict product purchase for trial – specifically, the challenge of trying to *predict* purchase for trial prior to product launch when external factors (e.g., product availability and distribution patterns) are unknown.

Results suggest that the Algorithm Development model may be viewed as a predictor of *maximum* new product purchase for trial. As evidenced by study findings reported here, actual purchase for trial rates may be significantly lower than those predicted.

6. SURVEY INSTRUMENTS

Product Usage Survey
- Final Screener (Wave 1) –

Thank you for visiting our survey site to answer a few qualifying questions. This survey is strictly for research purposes only. It is our policy to keep all survey responses anonymous.

All questions on each screen must be answered before you move to the next screen, so please be sure you have answered every question before trying to move forward. On the next few screens you will be asked a few questions to see if you qualify for this study. If you qualify, the survey itself should take less than 5 minutes to complete.

PROGRAMMER: INSERT STANDARD INSTRUCTION SCREEN
FIELD OPS: RECRUIT RESPONDENTS FROM eRewards PANEL; HAVE RECRUITERS DRAW SAMPLE…
  3) **ACCORDING TO MINIMUM PURCHASE AGE IN STATE (SEE S7 INSTRUCTIONS)**
  4) **ACCORDING TO QUOTA (SEE FINAL PAGE OF SURVEY)**

In this survey we are interested in the opinions of people who have been, or are, regular users of certain products, as well as people who have never used them.

S1a. Would you consider yourself to be – or to have been at any time in the past – a "regular user" of any of the following products? We leave it to you to define regular use.

Select "yes" or "no" for each row.

	Yes I am – or was – a regular user	No, have never been a regular user
Beer or malt-based beverages?	○	○
Bottled water (still or carbonated)?	○	○
Nutritional supplements/vitamins?	○	○
Tobacco products?	○	○

PROGRAMMER:
  2) **DISPLAY ROWS IN RANDOM ORDER**

S1b.   Focusing only on the present, how would you <u>currently</u> describe yourself, relative to each of the following categories?

Select one response for each row.

	Current Non-user	Current Occasional User	Current Regular User
Beer or malt-based beverages?	O	O	O
Bottled water (still or carbonated)?	O	O	O
Nutritional supplements/vitamins?	O	O	O
Tobacco products?	O	O	O

PROGRAMMER:
   3) DISPLAY ONLY ROWS ANSWERED AS "Yes" IN S1a, IN SAME ORDER AS IN S1a

CLASSIFY AS:
A) <u>Current Regular Tobacco User</u>: S1b "Tobacco product" IS "Infrequent" or "Regular" (col 2 or 3)
B) <u>Former Regular Tobacco User</u>:   S1b "Tobacco product" IS "Non-user" <u>AND</u> S1a "Tobacco product" IS "Yes"
C) <u>Non Regular Tobacco User</u>: S1a "Tobacco product" IS "No"

S2.   What is your current age?

_____ Years

PROGRAMMER:
   3. RANGE IS 10-99
   4. IF < 18 OR IF > 75, TERMINATE NOW

S3.   What is your gender?

Male	O
Female	O

S4.   What is the highest grade you have completed in school? *(Select one)*

High school or less	○
Some college or technical/vocational training	○
Four years of college (Bachelor's degree)	○
More than Bachelor's degree	○

S5a.   Do you consider yourself to be of Hispanic, Latino, or Spanish origin?

Yes	○
No	○

S5b.   What do you consider to be your race? *(Select all that apply)*

White	❐
African American / Black	❐
Asian	❐
Other	❐

PROGRAMMER:
   2. DISPLAY S5a AND S5b ON SAME SCREEN

S6.   Which of the following best describes your total <u>household</u> income?

Under $25,000	○
$25,000 to $49,999	○
$50,000 to $74,999	○
$75,000 to $99,999	○
$100,000 or more	○

S7.   In what state do you currently reside?

[SHOW POP UP LIST OF STATES]

PROGRAMMER:
   3. **IF STATE IS ALABAMA, ALASKA, NEW JERSEY OR UTAH AND S2= 18, TERMINATE NOW (minimum age for tobacco purchase in these states is 19)**
   2. **IF STATE IS MASSACHUSETTS, TERMINATE AT END OF SCREENER**

S8. Earlier you indicated that you [currently use tobacco products./have used tobacco products on a "regular basis" in the past, but that you no longer do.] Which of the following types of tobacco products [do you currently use/did you use regularly]? *(Select all that apply)*

Cigarette	❏
Cigar/cigarillos	❏
Pipe	❏
Chewing tobacco	❏
Snuff or snus	❏

PROGRAMMER:
   4. **ASK IF CLASSIFIED AS "Current" or "Former" Regular Tobacco User**
   5. **IF S1b "Tobacco product" IS "Infrequent" OR "Regular," USE FIRST TEXT IN BRACKETS, ELSE USE 2ND TEXT**
   6. **CHECK QUOTAS, BUT DO NOT TERMINATE ANY RESPONDENT OF ELIGIBLE AGE WHO SELECTS ROW 4 OR 5 (Chewing tobacco, snuff or snus) IN S8**

You have qualified for our survey, and we'd like to invite you to participate. The survey will require less than five minutes to complete, and we ask for your undivided attention once you begin it. If you do not have five minutes right now, please click "stop," and return any time during the next 24 hours when you have an <u>uninterrupted</u> five minutes.

Product Usage Survey / Algorithm Validation
– Final Survey (Wave I) –

1a. Earlier you indicated that you used to use tobacco products on a "regular basis," but that you no longer do. When did you <u>stop</u> using the following types of tobacco products?
Select one column for each product shown below.

	Less than 6 months ago	6 months to 1 year ago	Over 1, but less than 2 years ago	Over 2, but less than 5 years ago	More than 5 years ago
Cigarette	o	o	o	o	o
Cigar/cigarillos	o	o	o	o	o
Pipe	o	o	o	o	o
Chewing tobacco	o	o	o	o	o
Snuff or snus	o	o	o	o	o

PROGRAMMER:
3. **ASK IF CLASSIFIED AS "Former" Regular Tobacco User**
4. **SHOW ONLY PRODUCTS SELECTED IN S8**

1b. Earlier you indicated that you currently use the following tobacco products. About how long have you been using each of these products? *Select one column for each product shown below.*

	Less than 6 months	6 months to 1 year	Over 1, but less than 2 years	Over 2, but less than 5 years	More than 5 years
Cigarette	o	o	o	o	o
Cigar/cigarillos	o	o	o	o	o
Pipe	o	o	o	o	o
Chewing tobacco	o	o	o	o	o
Snuff or snus	o	o	o	o	o

PROGRAMMER:
3. **ASK IF CLASSIFIED AS "Current" Regular Tobacco User**
4. **SHOW ONLY PRODUCTS SELECTED IN S8**

2.   Now please think ahead to nine months from now. Based on your experience, product preferences, and personal goals, do you expect that you will be using the following types of products nine months from now?

Select "yes" or "no" for each row.

	Yes	No
Cigarette	○	○
Cigar/cigarillos	○	○
Pipe	○	○
Chewing tobacco	○	○
Snuff or snus	○	○

The final section of this survey focuses on a new tobacco product. Please note that everyone is asked all of the questions in this survey, regardless of the products they currently use or their in-going expectations about future use.

Please take your time and read the information closely so that you will be able to answer the questions that follow.

Please carefully read the profile below. Take as much time as you need.

[PLACEHOLDER for Marlboro Special Blend product graphic]

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3.   Assuming the product were available today, how likely would you be to purchase this Marlboro Special Blend product in order to try it?

Definitely Would Not Purchase it (to Try) ↓								Definitely Would Purchase It (to Try) ↓	
1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○

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Earlier you indicated that you do not currently use tobacco products. Please note that the goal of this survey is only to assess how interesting the new tobacco product is to people from many different backgrounds, and it is **not** intended to encourage you or anyone else to start using tobacco products.

- Individuals should consider the conclusions of the U.S. Surgeon General, the Centers for Disease control, and other public health and medical officials when making decisions regarding smoking.

- The best course of action for tobacco users concerned about their health is to quit. Adults who continue to use tobacco products should consider the reductions of risks for serious diseases associated with moving from cigarettes to the use of smoke-free tobacco or nicotine products.

- Minors should never use tobacco products and adults who do not use or have quit using tobacco products should not start.

- Adults who smoke should avoid exposing minors to secondhand smoke, and adult smokers should comply with rules and regulations designed to respect the rights of other adults.

PROGRAMMER:
2. **DISPLAY IF CLASSIFIED AS Never Regular Tobacco User OR AS Former Regular Tobacco User**

THANK YOU SCREEN

Product Usage Survey
- Final Screener (Wave 2) –

Thank you for visiting our survey site. This survey is strictly for research purposes only. It is our policy to keep all survey responses anonymous.

All questions on each screen must be answered before you move to the next screen, so please be sure you have answered every question before trying to move forward.

PROGRAMMER: INSERT STANDARD INSTRUCTION SCREEN
FIELD OPS: ALL RESPONDENTS SHOULD BE FROM eRewards PANEL – ONLY RESPONDENTS WHO COMPLETED THE SURVEY IN EARLY 2011 ARE ELIGIBLE FOR SCREENING

[NOTE: Q0 DESCRIPTORS WILL NOT BE RE-ASKED IN WAVE II, SO FOR DUE-DILIGENCE WE ARE ASKING RESPONDENTS TO VALIDATE THAT THEY ARE THE PERSON WHO ANSWERED IN WAVE I]

S0.   We are trying to re-contact individuals who completed one of our surveys through eRewards/Research Now in February or March 2011.

Someone connected with this e-mail address completed the survey, and at that time indicated that **[he/she]** was:

- A **[S2]** year old **[S3]**
- **[S5a "Yes" = Of/"No" = Not of]** Hispanic, Latino, or Spanish origin
- Who completed **[S4 with lower-case first letter]**

Are you this person?

Yes	○
No	○

PROGRAMMER:
1. **e.g.: A 53 year old male**
       Of Hispanic, Latino, or Spanish origin
       Who completed some college or technical/vocational training
2. **REPLACE "he/she" WITH "he" IF S3 IS "male," AND WITH "she" IF S3 IS "female"**
3. **IF S0 IS "No, TERMINATE NOW**

[NOTE: S1 IS IDENTICAL TO THE QUESTION IN WAVE I; ASKED TO CAPTURE CHANGES IN CLASSIFICATION WHICH MAY BE A NECESSARY INPUT TO THE MODEL]

S1.   Focusing only on the present, how would you <u>currently</u> describe yourself, relative to each of the following categories?   We leave it to you to define regular use.

Note that your answers to this question do not need to match those in the prior survey – we are asking this question again because we recognize that your status may have changed since then. Please select one response for each row.

	Current Non-user	Current Occasional User	Current Regular User
Beer or malt-based beverages?	o	o	o
Bottled water (still or carbonated)?	o	o	o
Nutritional supplements/vitamins?	o	o	o
Tobacco products?	o	o	o

PROGRAMMER:
   1) DISPLAY ROWS IN RANDOM ORDER

CLASSIFY AS:
A) <u>Current Tobacco User</u>: S1b "Tobacco product" IS "Occasional" or "Regular" (col 2 or 3)
B) <u>Current Non Tobacco User</u>:   S1b "Tobacco product" IS "Non-user"

[NOTE: S2 "purchase for personal use" LANGUAGE MIRRORS WAVE I "LIKELIHOOD" SCALE; NECESSARY MODEL INPUT. NOTE THAT WE ASK THIS QUESTION OF ALL RESPONDENTS; "NON-USER" IS REALLY "NON-REGULAR" USER, AND COULD HAVE PURCHASED FOR SHORT-TERM OR SINGLE PERSONAL USE]

S2.   When, if ever, was the most recent time that you purchased the following products for personal use (either regular *or* occasional use)? *Select one column for each product shown below.*

	Some time this year between March 1, 2011 and today)	Some time in 2010 or in January or February 2011	Some time before 2010 (and NOT since then)	Have not purchased any of this product for personal use
Beer or malt-based beverages?	○	○	○	○
Bottled water (still or carbonated)?	○	○	○	○
Nutritional supplements/vitamins?	○	○	○	○
Tobacco products?	○	○	○	○

PROGRAMMER:
    5. **IF "Tobacco products" IS COL 2, 3, OR 4 (Some time in Jan/Feb 2011 or earlier), TERMINATE NOW**

"You have qualified for our survey, and we'd like to invite you to participate. The survey will require less than five minutes to complete, and we ask for your undivided attention once you begin it. If you do not have five minutes right now, please click "stop," and return any time during the next 24 hours when you have an underlined uninterrupted five minutes."

Product Usage Survey

– Final Survey (Wave II) –

[NOTE: THE ONLY RESPONDENTS ENTERING THE SURVEY ARE THOSE WHO PURCHASED TOBACCO <u>IN SOME FORM</u> OVER THE PAST 9 MONTHS. Q1 AND Q2 IDENTIFY THOSE WHO PURCHASED CIGARETTES IN THE PAST 9 MONTHS.]

1.   Which of the following types of tobacco products have you <u>ever</u> purchased for personal use (either regular *or* occasional use)? *(Select all that apply)*

Cigarette	❒
Cigar/cigarillos	❒
Pipe	❒
Chewing tobacco	❒
Snuff or snus	❒
Dissolvable tobacco	❒

PROGRAMMER:
   1. ASK ALL

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2.   When, if ever, was the <u>most recent time that you purchased</u> the following types of tobacco products for personal use? *Select one column for each product shown below.*

	Some time this year between March 1, 2011 and today)	Some time in 2010 or in January or February 2011	Some time <u>before</u> 2010 (and NOT since then)	Have not purchased any of this type of tobacco for personal use
Cigarette	o	o	o	o
Cigar/cigarillos	o	o	o	o
Pipe	o	o	o	o
Chewing tobacco	o	o	o	o
Snuff or snus	o	o	o	o
Dissolvable tobacco	o	o	o	o

PROGRAMMER:
   3. SHOW ONLY PRODUCTS SELECTED IN 1
   4. IF "Cigarette" IS COL 2, 3, OR 4 (Some time in Jan/Feb 2011 or earlier), SKIP TO FINAL "WARNING" SCREEN (POST Q6) AND CHECK LOGIC FOR DISPLAY

Please keep in mind a timeframe that goes back roughly nine months to March 2011.

3. [Even though you no longer use cigarettes,] Which of the following cigarette brands have you <u>purchased</u> for personal use <u>in the past nine months</u> (since March, 2011)? *Select "yes" or "no" for each row.*

Have you purchased…	Yes	No
American Spirit?	○	○
Basic?	○	○
Benson and Hedges (B&H)?	○	○
Camel?	○	○
Capri?	○	○
Carlton?	○	○
Doral?	○	○
Dunhill?	○	○
Eclipse?	○	○
GPC?	○	○
Kent?	○	○
Kool?	○	○
Lucky Strike?	○	○
Marlboro?	○	○
Merit?	○	○
Misty Slims?	○	○
Newport?	○	○
Pall Mall?	○	○
Parliament?	○	○
Salem?	○	○
USA Gold?	○	○
Vantage?	○	○
Virginia Slims?	○	○
Winston?	○	○

PROGRAMMER:
3. **ASK IF Q2 "Cigarette" IS COL 1 (PAST 9 MONTHS)**
4. **INSERT TEXT THAT IS IN BRACKETS IF CURRENTLY CLASSIFIED AS "Current Non Tobacco User"**

4. [Again, even though you no longer use cigarettes,] Which of the following Marlboro cigarette products have you <u>purchased</u> for personal use <u>in the past nine months</u> (since March 1, 2011)?

Select "yes" or "no" for each of the following Marlboro products.

In the past 9 months, have you purchased Marlboro…	Yes	No
Red Pack (Full Flavor)	○	○
Red Label (Medium)	○	○
Gold Pack (formerly Lights)	○	○
Silver Pack (formerly Ultra Lights)	○	○
Blend No. 27	○	○
Virginia Blend	○	○
Special Blend Red	○	○
Special Blend Gold	○	○
Special Blend Blue or Black	○	○
Menthol	○	○
Menthol Blue Pack (formerly Milds)	○	○
Menthol Gold Pack (formerly Lights)	○	○
Menthol Silver Pack (formerly Ultra Lights)	○	○
Menthol Blend No. 54	○	○
Menthol Smooth	○	○

PROGRAMMER:
5. **ASK IF Q3 "Marlboro" IS "Yes"**
6. **INSERT TEXT THAT IS IN BRACKETS IF CURRENTLY CLASSIFIED AS "Current Non Tobacco User"**
7. **DISPLAY MESSAGE IF NO ROW IS "Yes" "Earlier you indicated that you have purchased a Marlboro cigarette product in the past nine months. Please review your answers to this question, selecting the Marlboro product that you purchased, or click the "Back" button to revise your earlier answer.**

5. Which, if any, of the following types of Marlboro cigarette products do you <u>currently</u> purchase on an occasional *or* on a regular basis?

Select "yes" or "no" for each of the following Marlboro products.

Do you currently purchase Marlboro …	Yes	No	
Red Pack (Full Flavor)	o	o	1
Red Label (Medium)	o	o	2
Gold Pack (formerly Lights)	o	o	3
Silver Pack (formerly Ultra Lights)	o	o	4
Blend No. 27	o	o	5
Virginia Blend	o	o	6
Special Blend Red	o	o	7
Special Blend Gold	o	o	8
Special Blend Blue or Black	o	o	9
Menthol	o	o	10
Menthol Blue Pack (formerly Milds)	o	o	11
Menthol Gold Pack (formerly Lights)	o	o	12
Menthol Silver Pack (formerly Ultra Lights)	o	o	13
Menthol Blend No. 54	o	o	14
Menthol Smooth	o	o	15

PROGRAMMER:
4. **ASK IF "Current Tobacco User" <u>AND</u> Q3 "Marlboro" IS "Yes"**
5. **DISPLAY ONLY ROWS SELECTED AS "Yes" IN Q4**

6.	Please think back to the point in time just before you started using Marlboro Special Blend Blue or Black. Relative to that point in time would you say that you use Marlboro Special Blend Blue or Black…
	Select one row.

In place of some or all of your use of the tobacco products you used at that time (<u>no</u> net increase in tobacco use)	O
In addition to your use of the tobacco products you used at that time (leading to some increase in tobacco use)	O

PROGRAMMER:
   2. ASK IF CLASSIFIED AS "Current Tobacco User" AND Q5 "Marlboro Spec. Blend Blue or Black" (ROW 9) IS "Yes"

Earlier you indicated that you do not currently use tobacco products. Please note that the goal of this survey is only to understand use of tobacco product among people from many different backgrounds, and it is **not** intended to encourage you or anyone else to start using tobacco products.

- Individuals should consider the conclusions of the U.S. Surgeon General, the Centers for Disease control, and other public health and medical officials when making decisions regarding smoking.

- The best course of action for tobacco users concerned about their health is to quit. Adults who continue to use tobacco products should consider the reductions of risks for serious diseases associated with moving from cigarettes to the use of smoke-free tobacco or nicotine products.

- Minors should never use tobacco products and adults who do not use or have quit using tobacco products should not start.

- Adults who smoke should avoid exposing minors to secondhand smoke, and adult smokers should comply with rules and regulations designed to respect the rights of other adults.

PROGRAMMER:
   1. DISPLAY IF CLASSIFIED AS "Current Non Tobacco User"

THANK YOU SCREEN