

## Sequencing the genome of the customer mind by RDE and intervention testing

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### Abstract

This paper presents a new approach to 1:1 marketing allowing for the creation of individual communications with heterogeneous customers. It utilizes Rule Developing Experimentation (RDE, a modified conjoint analysis-based approach) to create a database of messages specific to the product and to segment consumers based on the patterns of individual utilities assigned to the different test elements. The paper introduces a new approach to identify a small subset of classification messages that allows for an actionable and parsimonious classification of any new population into pattern-based segments to achieve better targeting. When this approach is used with a connected set of products, and a large number of foundational studies run, the result is the possibility of sequencing the 'genome of the mind'

Keywords: typing, segmentation, conjoint analysis, experimental design, rule developing experimentation (RDE).

## INTRODUCTION

Businesses frequently create marketing messages targeted to large audiences assuming that consumer groups are homogeneous. Franke and von Hippel (2003) criticises this approach and points out that consumers often have heterogeneous needs. According to Moon (2002), they must be communicated to in the way that is most appropriate and relevant for them. Kreuter *et al.* (2000) argues that one of the most efficient ways to reach the right customers is targeting with effective customized messages on the individual level.

This paper shows how experimental design generates a content-rich database and actionable models utilizing Rule Developing Experimentation (Moskowitz and Gofman, 2007). Creating respondent models at the individual level afforded by RDE reveals the ‘algebra of each customer’s mind’ at a granular level. The approach shows how product features, benefits, emotional guarantees, and even brands drive an individual’s response (interested versus not interested). Simply knowing such information about consumers in general may help to uncover better performing communications. Going beyond such knowledge is important, however. The real benefit comes from using the data to uncover what is important for a new customer or prospect to trigger purchase intent, as well as understanding the information and the tonality of what you should communicate to this particular individual. And, of course, all of this based on empirical data, fine-grained, at the level of the individual, from a yearly or at least a periodically renewed and updated data set, the foundational information.

### **Today’s realities**

The new reality is that everyone is connected. Consumers are multi-tasking as never before, as location, time and form of their lives shift continuously. People are listening to messages on their cell phone while typing replies to e-mails and driving their cars or walking down the street. With so many competing activities vying for their attention, the consumer’s focus evaporates, and perhaps long term becomes structurally and systematically weakened; a world of sound bites, of Google search, of scanning rather than reading. On the other hand, getting customer attention has become easier, because they are always connected - whether searching for friends on Zabasearch.com, driving directions on Google Maps, or downloading a menu for their favorite restaurant on Zagat.com (Zabasearch, 2010; Google Maps, 2010; Zagat.com, 2010).

### **How might you ‘cope’ with these harsh, new realities?**

The old advertising models just does not work anymore, especially for low priced items like food, because there are too many channels and messages offering too many choices. People want to get what they want, not what advertisers want. So, what can companies offer to consumers and how do can they offer it?

There are too many offerings. Companies can’t be everywhere. Consider a medical analogy, such as a ‘magic bullet’ targeted drug designed to go right to the disease epicenter, and then to deliver its payload. To market in the cluttered environment, companies will need to define the message [‘right payload’], the correct consumer [the ‘right mind’] at the moment s/he is most receptive [‘right time’] (Wind *et al.*, 1989; Green and Krieger, 1991).

### **What we hope you will discover**

This paper shows how traditional and new advertising as well as direct sales can follow a new type of knowledge path. The process of discovering that knowledge is similar to how a medical professional takes a patient's family history. First, researchers need to look at previous behavior in order to discover the consumer's propensity to buy. They might examine a person's choices and make new offers based on similar choices by other people (Amazon.com model). Or, they could look at segment membership and offer what might appeal to that group.

Then this group of researchers proposes an additional step, based on the way today's medicine is practiced, scratch tests or blood tests...but of the mind. These methods identify the algebra of a specific person's mind at a granular level for a specific product to tell what 'works' for this consumer. Researchers created a tool based on this algebra in order to determine the proper segment membership to which customer belong, for the specific product or experience being sold ('type his/her mindset') using the Addressable Mind™ Solution (Gofman and Moskowitz, 2010).

### **Today's Advertising Paradigm**

Retailers and manufacturers craft traditional advertising messages targeted to large audiences. These are based on simple customer classification descriptors and the consumer's individual, recorded purchasing history. That is how media is bought. When targeting their audience, advertisers develop a strategy, which assumes (hopes for) group homogeneity; men want "Y", women want "X". The result is lots of messages without regard to 'true/effective' messages and motivators 'that really work' for each customer (see Figure 1) (Gofman and Moskowitz, 2010). See Figure 1 in the Appendix.

### **THE ADDRESSABLE MINDS™ SOLUTION**

The notion of 1:1 communication based upon the needs of the consumer is not new, nor is it limited to marketing. Nutritionists, for example, recognize that people have different needs, and that people must to be communicated to in the way that is most appropriate (Gillies and Krue, 2007; Kolasa, 2005).

Moving to marketing, the same type of issue and opportunity – selling the needs and the benefits of a product or service- is encountered. Experimental design can help to address this problem. The Addressable Mind™ Solution (Figure 2) begins by providing retailers/manufacturers with the IdeaMap.Net® Foundation Database (Moskowitz and Gofman, 2005, 2007). This conjoint-based RDE approach provides a database specific to the product. Once the database is developed, consumers are segmented on the basis of the pattern of individual utilities assigned to the different test elements (Moskowitz et. al, 2001). Finally, discriminant function analysis creates a short (2-4 questions) 'typing tool'. The software classifies any new population into segments. However, whereas the segments may look the same as those in traditional panels, the customers' mindsets are different. With those mindset data in hand, marketers can use the best messages for each segment, and tailor the message, targeting it and making it relevant, for any product or service, unique to that particular manufacturer and retailer. See Figure 2 in the Appendix

## **The Four Steps Using the Medical Model of ‘Scratch’ or ‘Blood Test’ of the Mind – Followed by Targeted Payload**

1. Step 1 - For each product, identify what ‘works’ by using experimental design (RDE) of ideas as well as customized features, messaging, and tonality;
2. Step 2 – Identify mind-set segments, what works for each segment (messages, tonalities);
3. Step 3 – Create easy to use mechanism to type people; should be done in a minute or less;
4. Step 4 – Expand the scope to industrial-strength, apply to many food products that are sold, to many people, as a way to ensure optimal messages and, perhaps, even experience for each person.

### **Step 1. Identify what ‘works’**

To perform an analysis of design/selling messages for a new chocolate product, create elements using simple stand-alone phrases of different types, features and benefits. Then, mix and match these elements according to an RDE experimental design into vignettes or concepts and test them among consumers (see Figure 3 and Moskowitz, Porretta & Silcher, 2005). The following analysis identifies ‘what works’ for total panel and for conventional groups (e.g., users of...; genders; ages) using conventional, ordinary least squares regression modeling. See Figure 3 in the Appendix

With 36 elements in the study for chocolate, the researcher can ‘slice and dice’ the results many ways. Each individual generates a model showing the relation between the presence/absence of the 36 test elements, and the rating of interest or craving in the chocolate. The bottom line is that these individual models can be aggregated, to generate results for the total panel, for any key subgroup such as gender, and so forth. Furthermore, the segmentation reveals four key mind-sets. It is important to note that these individuals may not even be aware that they are strongly attracted to certain messages, but they are, based upon the conjoint experiment. The distinction between self-explicated importance based on ratings of ‘what’s important to me’ and derived importance from test stimuli approximating mini advertisements is key here. With RDE, the elements fight among each other to drive interest, much as what happens in the store, and in media.

### **Step 2. Identify mind-set segments**

The approach then creates new ‘mind-set segments’ using the data to determine where the ‘gold is’. The segmentation is run using *k*-means clustering (Systat, 2007). The segments may be defined by a variety of statistical criteria. The easiest distance measures to use are Euclidean distance or the pattern-based distance metric (*I-R*) where *R* = the Pearson correlation coefficient between the utility functions of a pair of respondents. The second distance measure, (*I-R*), was used here.

In the interest of brevity, look at the winning elements for the first mind-set, which this group of researchers call health seekers, based upon the elements which do best (see Table 1, column marked S1 and Table 2, column marked S2). These individuals are interested in product

qualities which help them maintain their health or improve it in some way through their consumption of healthy product additives. Segment 1 consumers, one distinct target population, respond to selling messages dealing with disease prevention - cancer, heart disease, osteoporosis, among others.

The second mindset segment is concerned with both taste and product convenience. They crave a product that is delicious, pleasurable and healthy but also a quick and easy snack (see Table 2). This second segment must be sold to with different messages. When the correct and strong messages are used, appropriate for each segment, the respondents will have been served up with the targeted, relevant messaging for their respective mindsets.

### **Step 3. Create easy to use mechanism to type people**

How can these addressable segments be found among current and prospective customers? Today's conventional approaches create a metaphor and paint a word picture about people. The metaphor is created and done in focus groups, or by experts, and so forth. And through the metaphor it becomes possible to get a better sense of the people in the segment.

Data miners do things a different way. They try to understand the segments and predict membership by so-called 'family history', information that tells about previous behavior, predicting the mind at a granular level from previous actions.

For new products are these methods real? Can the researcher understand the mind of a person for a new product by looking at previous behavior, or by looking at segment membership in a larger study of lifestyles and attitudes? Are these approaches truly effective? See Table 1 and Table 2 in the Appendix

One reasoned answer is no - hardly effective for new products. These traditional methods are just not sufficiently specific, granular or cost effective. Neither are they appropriate for low cost items with low involvement. The methods are retrospective, assigning consumers into segments based upon data mined from cumulative focus groups.

Now, move in a different direction. The researcher may discover the customer's mind-set segment directly through an interactive 'scratch test' of the mind. In the Consumer Typing Method, the critical messages to type the consumers mind are selected, using the discriminant function based on the elements that drive segment membership (e.g., Tables 1 and 2).

The scratch test of the mind is performed once for each prospect or customer. Testing can be conducted in-person, on-line, via phone or through data base mining. A 45-second scratch test can determine the DNA of customer mind, which complements and augments conventional data mining, which looks at previous behavior, 'family history'. Typing is a 'scratch test' or 'blood test' of the mind on specific, topic-related issue, with the objective of determining what messaging 'triggers' customer. Results can be used in conjunction with the database just established.

Figure 4 shows an example of such a short interactive typing test. Within 30 seconds, the customer can rate the four elements (taken from the original foundational study for chocolate), and be assigned to one of the four segments. See Figure 4 in the Appendix

When researchers know segment membership (mental DNA), then they know what to say, what experience to provide ... for that segment. The individual consumer becomes an Addressable Mind™.

Mindset segmentation allows potentially far better business returns on the knowledge investment. Traditional forms of segmentation (behavioral segmentation: product usage; brand

loyalty; attitudes, psychographic segmentation: social class; lifestyle and personality types, etc.) may divide people into like-minded groups in general, but they are not typically designed to divide people into such like-minded groups for the specific product being sold, e.g., chocolate. These segments may seem homogenous but consumer minds are not. The segments have mindsets that are heterogeneous. Rather than communicating a message that is either irrelevant to the total panel, or perhaps relevant but not to the segment, the researcher knows what elements to use for each segment. The researcher also knows what elements to avoid for a segment, discovering what elements might appeal to some segments without risk of irritating any of the segments (i.e., your insurance policy). Finally, the researcher knows the segment to which the prospective customer probably belongs, without having to violate privacy, without having to track previous behavior, and without having to buy additional information.

#### **Step 4. Ramp up to industrial strength**

How can researchers ramp up to a large-scale use of the typing method? They could type, for example, prospects on *many* products in a store loyalty program ahead of time using the technique to find these addressable segments among current and prospective customers (see Figure 5).

##### **Ramping up 1 – the database**

Using experimental design of messages (RDE), systematically vary the ‘design-relevant’ as well as the selling-relevant’ messages for a food. And then acquire responses from hundreds of customers for each database (300-500 will suffice). Use current messaging, competitor message, as well as new messages *to identify what works*. Using the pattern of individual ‘utilities’, create segments with homogenous mind-sets identifying 3-5 phrases that assign a person to a mind-set segment. This will lead to a *knowledge warehouse* by creating several databases, one database per product (Moskowitz et. al, 2002).

##### **Ramping up 2 – the scratch test**

Assign customers to segments by interactive scratch test. Do it efficiently, only once for each product for each prospect, but run several of these scratch tests in one session (see Figure 6). These tests determine the DNA of customer mind. It only requires 30-45 seconds per each product or about 15-20 minutes on the Internet, well within the standard times for an interview to last (MacElroy, 2002). The method complements and augments conventional data mining, which only looks at previous behavior or ‘family history’. Typing adds a scratch test of the mind on specific, topic-related issue. The objective of typing is to determine what messaging ‘triggers’ prospect to be used together with the knowledge bases just established. When the researcher knows segment membership (mental DNA), s/he will know what to do, what experience to provide for particular product and particular segment. The person becomes an Addressable Mind™. See Figure 6 in the Appendix

##### **Ramping up 3 – interact:**

In the final step, the marketer interacts with the customer and provides what ‘wins’. When engaging a prospect who is in their loyalty program (in any form - personal, by mail, on an

ATM, on a website), all they need to know is address, gender, age - nothing more. They simply go to their database, identify the consumer's address, and look up their mental DNA for the 30 or so product areas. They go to the Knowledge Warehouse developed above to identify 'what works specifically for this segment'. Make that prospect feel 'the product itself knows me!' Combine the general rules from the segments found in the research along with customer age/gender, using the Knowledge Warehouse to tailor nature of interaction with current needs.

### **IN SUMMARY: WHAT IS THE REAL VALUE OF DATABASES WITH ADDRESSABLE MINDS™?**

For those 300-500 people who allow their data to be used to create each database, researchers will learn how each group of respondents profiles a topic area – e.g., food/beverage/eating situation. By segmenting the data, analysts will learn what to say to the separate segments. It is both academic research and knowledge building.

But what happens when researchers profoundly know the mental DNA (as well as age, gender, and simply the email or social network) address for 25-30 products for *each person in* their loyalty program? The results are people reachable by mail / email / phone. The segmentation gives the researcher/marketer the *who* - targeted, specific people. The mind-typing gives them the *what* - relevant information. Whether 2,000 or 20,000,000 people are studied, the approach generates a new level of selling, enhanced by granular, topic-specific knowledge, coupled with the particular segment membership and thus sensitivities of the individual. And, of course, all without violating privacy regulations.

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**APPENDIX**

**Figures and tables with captions**

Figure 1: The conventional approach to messaging, based upon geo-demographics or other purchasable information about the customer prospect. (Source: Gofman and Moskowitz, 2010.)

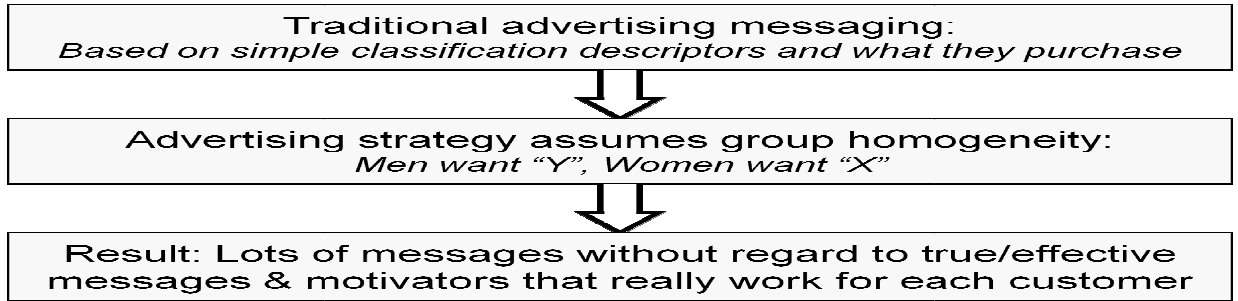


Figure 2: The Addressable Minds™ solution. Individuals are classified based on the pattern of their responses to messages (Source: Gofman and Moskowitz, 2010).

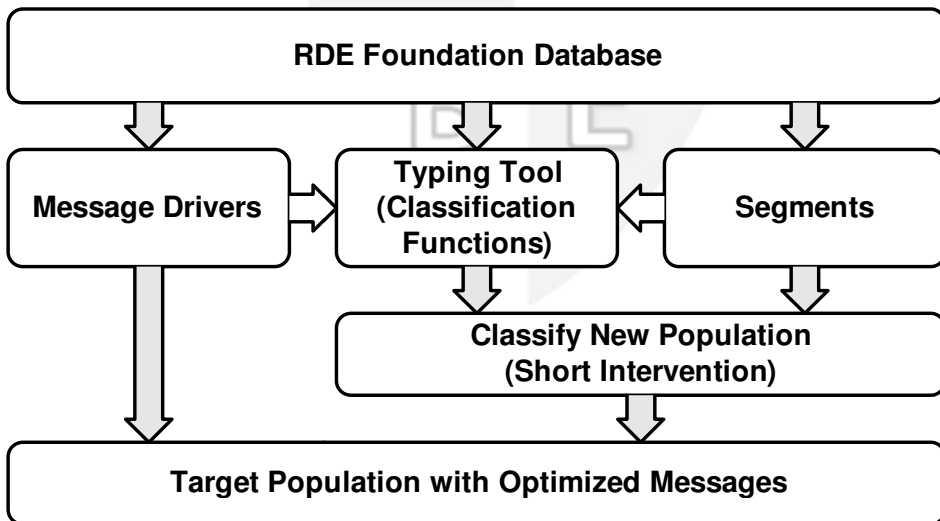


Figure 3: An example of a test concept, comprising one or no 'element' from each silo or variable. The combinations are created by experimental design, using a partial profile. Every respondent evaluates a unique set of concepts, reducing bias. (Source: Moskowitz Jacobs, Inc.)



**Table 1: Performance of key elements for the mind-set Segment 1 (S1-S4 are segments 1 to 4; T - Total Panel). (Source: Moskowitz Jacobs, Inc.)**

		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
Base Size	47	2	3	47	5
Constant	5	1	2	9	3
Contains essential omega-3 fatty acids, which may reduce your risk of heart disease	1	2	3	6	
People who eat a chocolate bar once a week get twice the antioxidants than those who don't		1			
Full of antioxidants and phytonutrients that help you maintain a healthy heart	3	0		11	
Provides essential vitamins your body needs, including B <sub>1</sub> , B <sub>2</sub> , D, and E		0		5	
With soy isoflavones ... shown to moderate symptoms of menopause and decrease bone loss	10	6	25	13	
Made with plant sterol esters ... clinically proven to lower cholesterol	8	5	22	11	
Lowfat ... with only 2 grams of fat per serving		5	1		1
As part of a low fat, low cholesterol diet, may reduce the risk of some forms of cancer		4	1	3	
With the same antioxidant action as a	2	3	3	8	7

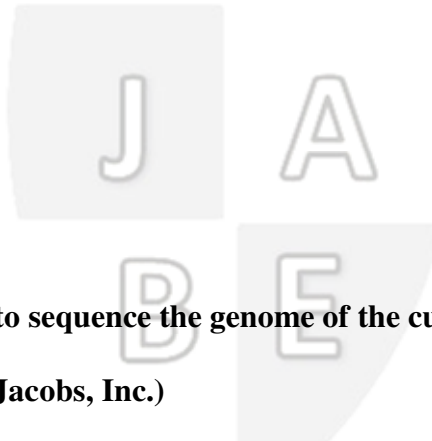
cup of green tea					
The indulgent flavor of rich, dark chocolate with added caramel and nuts		2	9	1	31
Contains soy protein ... clinically proven to reduce the risk of heart disease	9	2	29	9	
Provides essential minerals for heart health, including potassium and magnesium		1		5	

**Table 2: Key elements for Segment 2**  
(Source: Moskowitz Jacobs, Inc.)

		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
<i>Base Size</i>	47	2	3	47	5
<i>Constant</i>	5	1	2	9	3
The delicious classic ... pure milk chocolate	4		0	7	2
Such pleasure ... knowing you're eating something healthy				2	
A quick and easy snack		4			

**Figure 4: Example of the 30-second typing tool, which assigns a customer or prospect to one of four segments based upon the pattern of responses, and the use of the original foundational data. (Source: Moskowitz Jacobs, Inc.)**

<b>Calms you down...just what you need when you're feeling stressed</b>	<b>6</b>
<b>The delicious classic – pure milk chocolate</b>	<b>3</b>
<b>As part of a low fat, low cholesterol diet, chocolate reduce risk of some forms of cancer</b>	<b>2</b>
<b>With the same antioxidant action as a cup of green tea</b>	<b>8</b>



**Figure 5: Schematic to sequence the genome of the customer mind on many product areas (Source: Moskowitz Jacobs, Inc.)**

**Focused on one food item, e.g., chocolate**

- Created a knowledge database
- Identified what ‘works’ – **Empirically**
- Discovered mind-set segments for the product
- Typed a prospect and say the right thing
- Or used it for innovation

**‘Industrial strength’ Typing ahead of time**

- E.g., 20-30 knowledge bases for foods, beverages
- Some dealing with product
- Some dealing with nature/style of eating situation
- Then type people ‘*en masse*’ – across **all** these knowledge bases

**Figure 6: Example of an 'industrial strength' typing tool used to sequence the genome of the mind to six products. There can be up to 30-40 such products in an extended typing exercise. (Source: Moskowitz Jacobs, Inc.)**

<p>Product: Chocolate</p> <p>Rate each phrase for on the 1-9 scale 1=not at all interested ...9=extremely interested</p> <p>Text element #1 <input type="text"/></p> <p>Text element #2 <input type="text"/></p> <p>Text element #3 <input type="text"/></p>	<p>Product: Vegetable</p> <p>Rate each phrase for on the 1-9 scale 1=not at all interested ...9=extremely interested</p> <p>Text element #1 <input type="text"/></p> <p>Text element #2 <input type="text"/></p> <p>Text element #3 <input type="text"/></p>	<p>Product: Dairy</p> <p>Rate each phrase for on the 1-9 scale 1=not at all interested ...9=extremely interested</p> <p>Text element #1 <input type="text"/></p> <p>Text element #2 <input type="text"/></p> <p>Text element #3 <input type="text"/></p>
<p>Product: Red Wine</p> <p>Rate each phrase for on the 1-9 scale 1=not at all interested ...9=extremely interested</p> <p>Text element #1 <input type="text"/></p> <p>Text element #2 <input type="text"/></p> <p>Text element #3 <input type="text"/></p>	<p>Product: Meats</p> <p>Rate each phrase for on the 1-9 scale 1=not at all interested ...9=extremely interested</p> <p>Text element #1 <input type="text"/></p> <p>Text element #2 <input type="text"/></p> <p>Text element #3 <input type="text"/></p>	<p>Product: Fast Food</p> <p>Rate each phrase for on the 1-9 scale 1=not at all interested ...9=extremely interested</p> <p>Text element #1 <input type="text"/></p> <p>Text element #2 <input type="text"/></p> <p>Text element #3 <input type="text"/></p>