

Product Development

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– Early-Stage Research/ Product Development –

Qualitative Research

Qualitative research is often used as a first step to obtain a deep understanding of consumer issues, concerns, behaviors, and attitudes relating to your category, or to serve as a forum for generating product/service ideas. This type of in-depth investigation can help you understand how and why existing products are currently being used and explore consumers' wants and needs. (For more on **Qualitative Research**, visit "Research Solutions" in our website.)

- **Concept Screening** – Concept Screening for product/service ideas provides our clients with market level, quantitative feedback to identify the most promising ideas for further development. It is an inexpensive way to assess preliminary ideas generated through qualitative or brainstorming sessions, with the rigor of quantitative metrics.

Strategic Quantitative Research

StrataMark employs various quantitative tools and techniques to uncover critical consumer unmet needs, provide an assessment of the size of the potential market, identify market segments, and determine factors influencing purchase decisions. We work with you to determine your information needs and design research to help you identify opportunities that offer the greatest potential for development. Some examples of our approaches for early-stage product development research include:

- **Consumer Needs Assessment** – A quantitative approach used to compare consumer wants, needs, and expectations to your brand's perceived delivery or performance. This type of research identifies areas where there are opportunities not currently being realized in your market. (For more on **Consumer Needs Assessment**, visit "Areas of Expertise" in our website.)
- **Awareness, Attitude and Usage (AA&U)** – While AA&U's have broad application in market research, for purposes of product development, AA&U research will provide a comprehensive assessment of the marketplace and thorough understanding of the environment in which a new or modified product will be sold. (For more on **Awareness, Attitude, and Usage (AA&U)**, visit "Areas of Expertise" in our website.)
- **Market Segmentation** – Used to identify and profile groups of consumers who might have distinct needs, wants, and behaviors. (For more on **Market Segmentation**, visit "Areas of Expertise" in our website.)

– Middle-Stage Research/ Product Development –

Some of the techniques StrataMark employs to identify differentiating and motivating product or service features, which tend to be more appropriate for middle-stage product development research, include the following:

– Kano Analysis –

Kano modeling and analysis is helpful where product development objectives call for a better understanding of the importance and role of attributes comprising a product or service in order to enhance the overall design, marketing, and promotion.

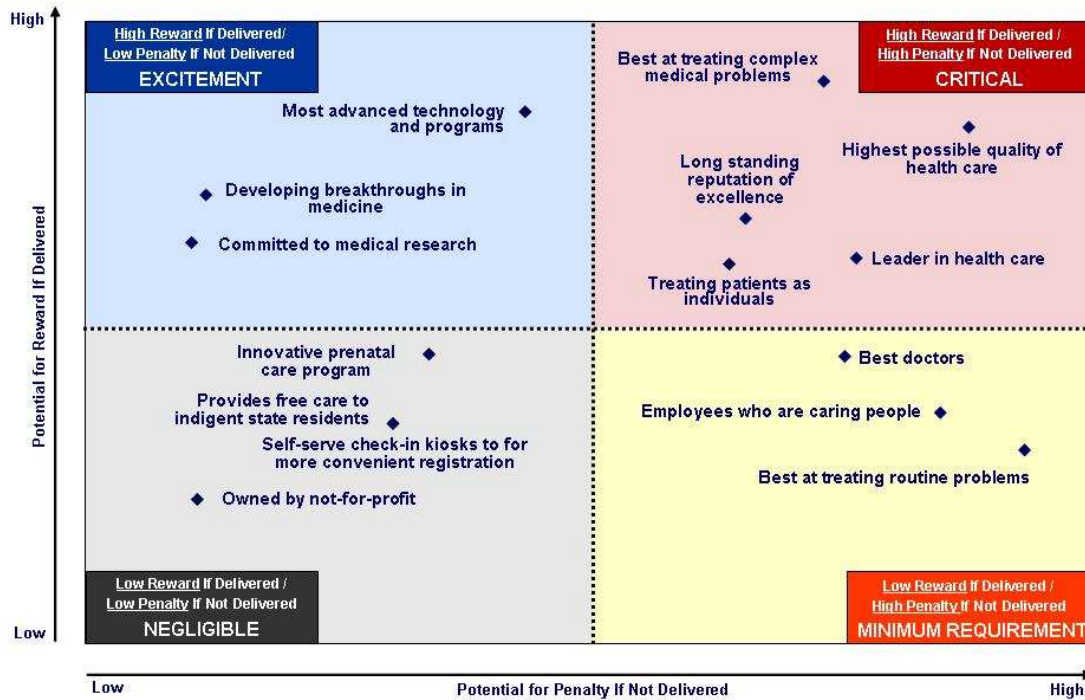
This technique enables a clearer understanding of what product/service features are perceived by the marketplace to be truly innovative and engaging to help set it apart, in contrast to those features which are “non-enhancing” or have negligible impact.

Kano is also an excellent choice when low brand/product awareness – which precludes consumers from being able to assess brand/product performance within a category – means that other methods of obtaining derived importance cannot be used.

Please see analysis reporting examples included in this document.

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Kano Analysis Summary Matrix



NOTE: Fictional brand and data.

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How Kano Classifies Attributes

- Direct questions are asked to assess and then classify product or service attributes with respect to the following taxonomy:

MINIMUM REQUIREMENT Attributes

Increasing the performance of these attributes provides diminishing returns in terms of satisfaction or appeal, however the absence of or poor performance on these attributes results in extreme dissatisfaction. A simple example of a Minimum Requirement attribute would be that a restaurant must be clean. (Also called “Must-Have” or “Basic” attributes).

CRITICAL Attributes

Attributes that increase or decrease satisfaction or appeal. These are linear in the sense that if the quality of performance on the attribute is improved, there is a proportionate *increase* in satisfaction, and likewise there is a proportional *decrease* in satisfaction as performance weakens. Examples of these are cell phone reception clarity or automobile fuel economy. (Also called “Linear”, “One-Dimensional”, or “Performance” attributes).

EXCITEMENT Attributes

Attributes that, when provided, generate disproportionately high levels of enthusiasm. Their absence however does not lead to dissatisfaction – it just fails to tip the scale in the favor of that particular product. An example of this might be a restaurant tucking fresh bread and a thank you note from the server into a customer’s take-home container of leftovers. Kano asserts that consumers are more engaged when these “Excitement” features are present and satisfaction increases exponentially as their functionality increases. (Also called “Attractive” or “Bonus” attributes).

NEGLIGIBLE Attributes

Those attributes that consumers value least compared to all others examined; thus their fulfillment has no substantive impact on satisfaction. (Also called “Indifferent” attributes).



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– MaxDiff Analysis –

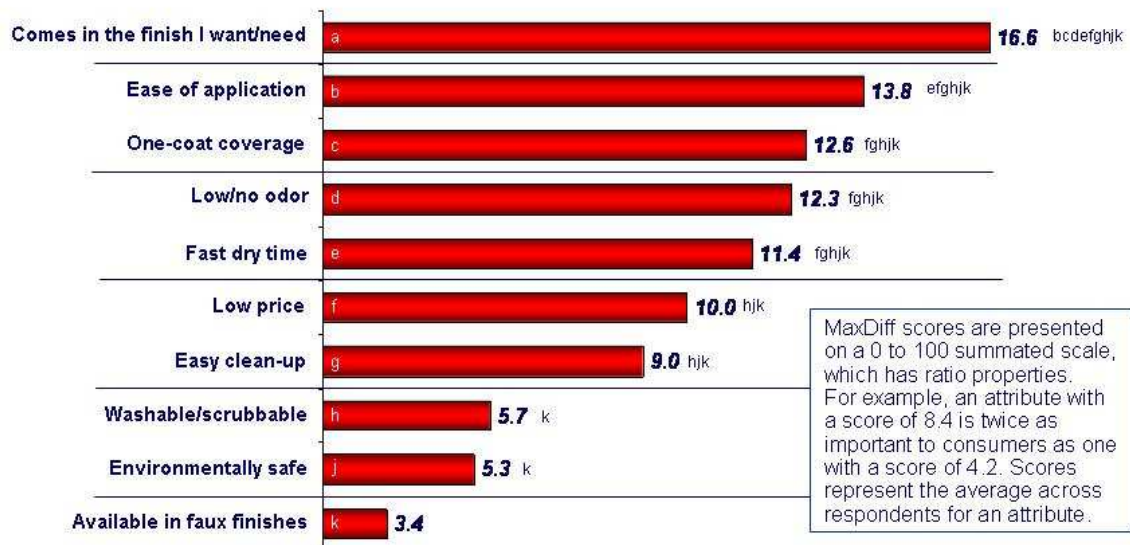
Maximum-Difference Scaling (MaxDiff) is a method of deriving attribute or feature importance in order to better understand and prioritize their role in development of products/services. MaxDiff employs a conjoint-like choice design and produces higher quality data than attribute ratings or ranking exercises.

The MaxDiff technique is robust, straightforward to apply, engaging to respondents and yields highly relevant, interpretable scores. As a result, in recent years MaxDiff has grown to become a widely accepted technique among those utilized to determine attribute importance.

**Interior Paint Attribute Importance
(Choice-Based Derived)**



Max-Diff Score*



NOTE: A letter next to a score indicates it is significantly higher than the corresponding score at the 90% confidence level.



* Average number of points given in a 100-point allocation to indicate interest level in each concept.

NOTE: Fictional brand and data.

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– Conjoint Analysis –

Over the years, Conjoint Analysis has been a widely-used method for product or concept development. With traditional conjoint, sets of product configurations are presented to respondents, who rate each based on appeal or rank them in terms of preference.

Conjoint modeling determines the degree to which each attribute contributes to overall preference or appeal, and optimal levels within all features evaluated are identified. A market simulator is developed to allow “what-if” scenarios to be conducted in testing appeal for various product configurations being considered.

Importance of Attributes & Levels (Utilities*)

Total Category Shoppers



In addition to importance of utility levels, overall importance for each attribute is shown here as well.

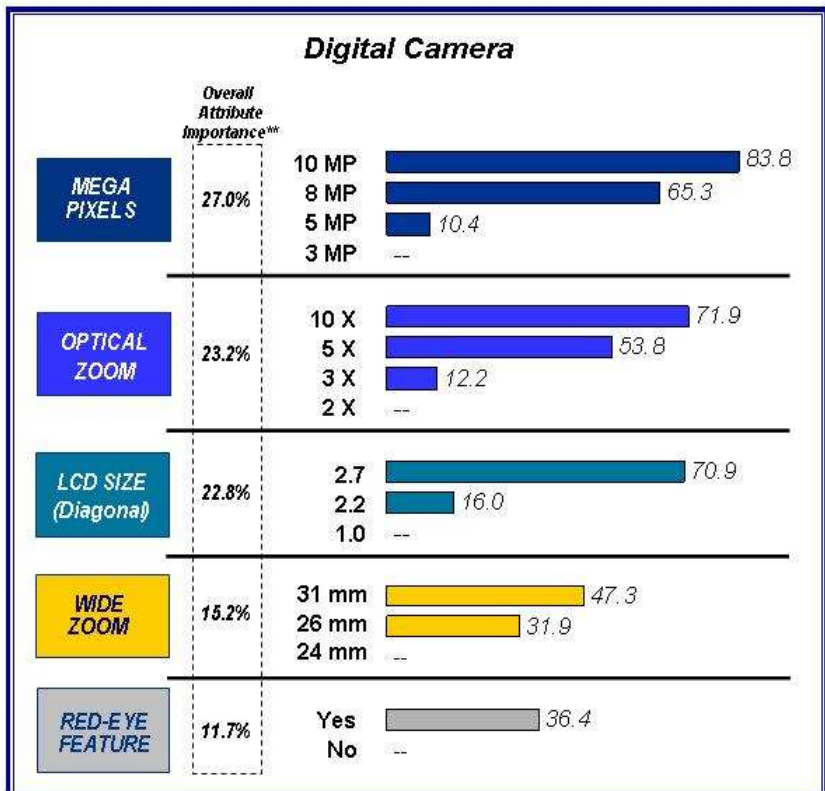
Regarding attribute importance overall, the pixels feature is the most important to category shoppers (27.0%), followed by optical zoom and LCD size which reside together on a tier just below. Red-eye has some appeal, but is least important among the five features studied.

Utility scores characterize the desirability of the various levels within any given attribute.* The higher the utility for a given level of an attribute, the more important that level is, relative to the other levels within that attribute.

Analyzing these results, practical thresholds are evident – pixels of 8MP or greater and optical zoom of 5X or greater.

There is also a particularly strong preference for an LCD size of 2.7, as compared to the smaller sizes evaluated.

Additionally, wide zoom of 26 mm and 31 mm are favored over 24 mm.



* Utilities have been scaled so that the least preferred level within each attribute is set to zero (-).
 ** Reflects relative importance of each attribute/feature in choice of digital camera. More details on the calculation of attribute importance are provided in the appendix to this report.

NOTE: Fictional brand and data.

– Discrete Choice Modeling –

Discrete Choice presents consumers with choice tasks that are more similar to an actual purchase occasion. This approach is considered more realistic in that respondents are asked to select the product concept they would be most likely to buy among a set of alternatives presented to them (instead of rating or ranking).

An additional advantage of discrete choice is that it allows for more complex statistical modeling (e.g., interactions can be accommodated), resulting in a better representation of the data and the overall purchase dynamic for predicting outcomes.

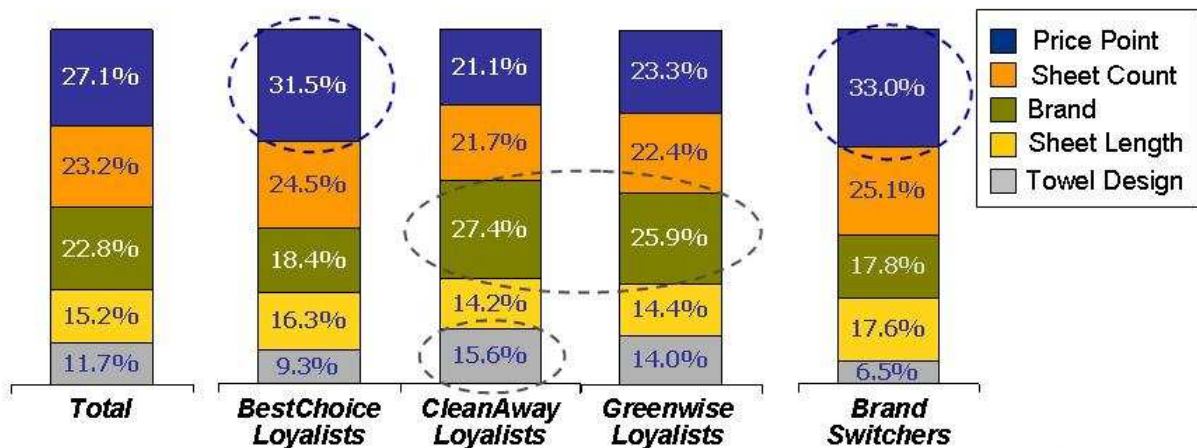
Importance of Attributes -- Share of Importance*



Total and Key Buyer Segments

- Relative importance is determined by the range of utility scores for a given attribute or feature, and reflects how much difference each attribute will make to the total utility of a product.* Price has the greatest impact on paper towel choice among *Total Category Shoppers*, followed closely by sheet count, brand name, and more distantly by sheet length and towel design.
- Comparing across key buyer segments, price is more important to *BestChoice Loyalists* and *Switchers*, while brand name tends to be a stronger driver among *CleanAway* and *Greenwise Loyalist* segments. Also, though not a strong driver, note that *CleanAway Loyalists* tend to value towel design (quilting) more so than the other buyer segments.

12 Rolls/Pack, Perforated, 1-Ply Paper Towel Product:



NOTE: Fictional brands and data.



* Chart reflects relative importance of each attribute/feature in choice of paper towel product. More details on the calculation of attribute importance are provided in the appendix to this report.

Base: Total Respondents (815); BestChoice (202); CleanAway (185); Greenwise (176); Brand Switchers (155)



Simulation Results – Share of Preference*

Optimal Product Configurations

- > The simulator provided with this report is using conjoint utilities to gauge potential market appeal for product configurations. The conjoint utilities are estimated at the respondent level using Hierarchical Bayesian analysis, and each respondent's share of preference is assigned to the product configuration garnering that respondent's highest total utility. The model has been calibrated utilizing actual market share information and other external effects, as detailed in the appendix to this report.*
- > This section of the report displays summary results for several requested simulations, though the simulator allows management to easily test any other desired product configurations within the parameters of the model. The requested simulations assume both the "future" new *CleanAway* and *Greenwise* configurations anticipated, and evaluate results with twelve different potential responses regarding "future" *BestChoice* product configurations.
- > Of the twelve *BestChoice* profiles evaluated, the three shown below consistently rank in the top five across *Total Category Shoppers* and in each of the key buyer segments, with **BC#3** consistently achieving the highest share of preference among these three profiles:

	Optimal BestChoice Configurations		
	BC #3	BC #9	BC #7
Price	\$12.39	\$12.39	\$12.99
Sheet Count	90	90	85
Sheet Length	14-inch	12.5-inch	12.5-inch
Towel Design	Not Quilted	Not Quilted	Quilted

An example of simulation results for Total Shoppers appears on the following page. Simulation results for key buyer segments are not shown in the example.



* NOTE: Please see appendix to this report for details relating to the computation and calibration of simulated share results.

BC = BestChoice

NOTE: Fictional brands and data.

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Simulation Results – Share of Preference

Total Category Shoppers -- 12 Rolls/Pack, Perforated, 1-Ply Paper Towel Product

= Top 5 BestChoice Outcomes Among Total Shoppers

BC = BestChoice

		BestChoice OPTIONS							
	Future CleanAway	Future Greenwise	BC #1	BC #2	BC #3	BC #4	BC #5	BC #6	
Price	\$14.49	\$13.49	\$12.99	\$12.79	\$12.39	\$12.39	\$12.99	\$12.99	
Sheet Count	85	90	90	85	90	75	75	80	
Sheet Length	14-inch	12.5-inch	14-inch	14-inch	14-inch	14-inch	14-inch	12.5-inch	
Towel Design	Quilted	Not Quilted	Not Quilted	Not Quilted	Not Quilted	Not Quilted	Quilted	Quilted	
BestChoice SHARE OF PREFERENCE >>			23%	26%	35%	25%	21%	28%	
CleanAway SHARE OF PREFERENCE >>			31%	28%	22%	29%	32%	26%	
Greenwise SHARE OF PREFERENCE >>			46%	46%	43%	46%	47%	46%	

		BestChoice OPTIONS -- continued							
	Future CleanAway	Future Greenwise	BC #7	BC #8	BC #9	BC #10	BC #11	BC #12	
Price	\$13.99	\$13.49	\$12.99	\$12.79	\$12.39	\$12.99	\$12.99	\$12.39	
Sheet Count	85	90	85	95	90	95	90	85	
Sheet Length	14-inch	12.5-inch	12.5-inch	12.5-inch	12.5-inch	11-inch	11-inch	11-inch	
Towel Design	Quilted	Not Quilted	Quilted	Not Quilted	Not Quilted	Not Quilted	Quilted	Quilted	
BestChoice SHARE OF PREFERENCE >>			32%	28%	33%	19%	21%	22%	
CleanAway SHARE OF PREFERENCE >>			22%	27%	22%	35%	33%	32%	
Greenwise SHARE OF PREFERENCE >>			46%	45%	45%	46%	46%	46%	

Ranked in the top five across Total Shoppers and in each of the key buyer segments.



NOTE: Please see appendix to this report for details relating to the computation and calibration of these simulated share results.

Base: Total Shoppers (815)

NOTE: Fictional brands and data.

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END

– Latter-Stage Research/ Product Development –

Latter-stage product development research will often include concept testing, especially if the concept has not been previously evaluated in a truly final and complete form.

In some circumstances, this work may be accompanied by line extension/ optimization research to determine impact of one or more new line offerings. Once the product or service is launched, additional research can be helpful to get early feedback from end-users, and/or to track such performance over time.

More on of the above-mentioned research follows:

– Concept Testing –

Concept Testing is the process of evaluating consumer response to concepts prior to launching a new product, line extension, or marketing campaign.

Concepts can go through more than one round of testing should the initial evaluation indicate a need for important modifications. Moreover, at times it can be desirable to test a larger number of concepts in a first round, followed by testing a reduced set of concepts in a second assessment.

In terms of research design, a monadic approach -- where matched samples of respondents evaluate only one concept -- ensures an unbiased, clean read on market acceptance for the concept.

However, depending on specific research needs and if many concepts are to be tested (e.g., Concept Screening), protomonadic, sequential monadic, or side-by-side survey designs can be used with success. (For more on **Concept Screening**, see “Early-Stage Research” under “Product Development”.)

Concept Testing will help ascertain the strengths and weaknesses of a concept as well as identify and/or affirm the key selling points to communicate in messaging.

Please see analysis reporting example included in this document.

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Concept Scoring Summary



Note: Arrows denote concepts that emerge as being relatively strong contenders.

	Total (1815) %	Control (380) B %	Inverted Sprayer (354) F %	Ready Zap (356) G %	Handy Wand (353) H %	Angled Wand (372) J %
Purchase Intent (Definitely/ Probably Would Buy)						
Pre (Unpriced)	54	35	55 BH	71 BFH	40	77 BFg
Post (Priced)	58	51	57 H	75 BFHJ	49	62 BH
Product Value						
Overall (Very Good)	20	21	19	26 F	21	26 F
Diagnostics						
Overall Liking (Extremely Well)	9	9	9	14 BFHj	8	10
Uniqueness (Extremely)	17	17	22 b	19	17	30 BFGH
Ease of Use (Very Easy)	18	16	18 H	18 H	12	23 BfH
Ease of Understanding (Very Easy)	54	52 H	56 HJ	55 Hi	42	48

Note: All scales are 5-point.

Letter(s) below the % indicates it is significantly higher than the corresponding % of the lettered column:

Uppercase letter = different at a 95% confidence level; Lowercase letter = different at a 90% confidence level.



To facilitate identification of higher and lower performers, cells have been shaded to indicate maximum, minimum, and near maximum row values:



Shading indicates maximum value for row.

Shading indicates value is within 10% of maximum value for row.

Shading indicates minimum value for row.

NOTE: Fictional brand and data.

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– Product Line Extensions/ Optimization –

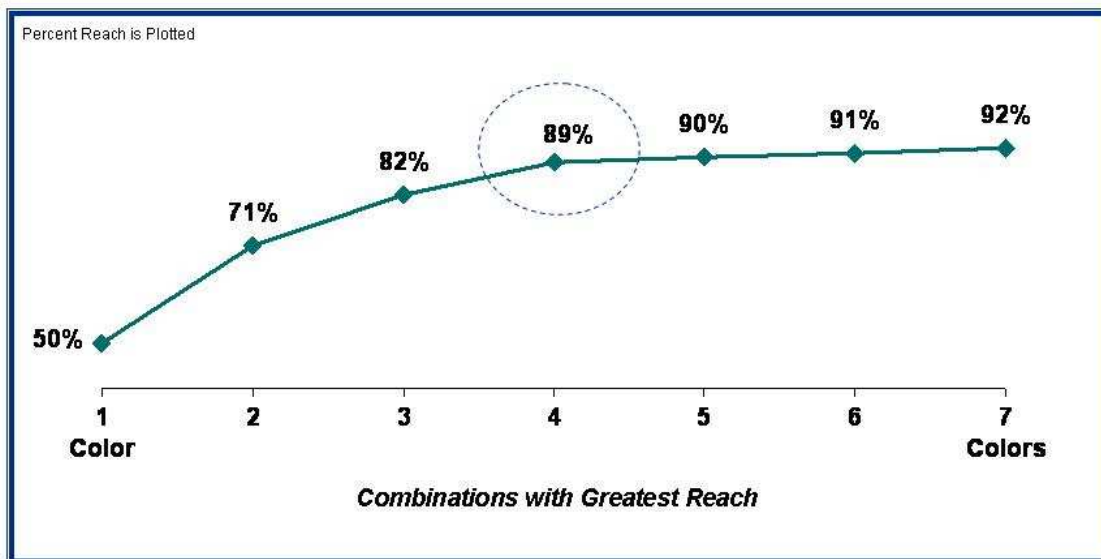
When seeking to determine, extend, or consolidate product line offerings (e.g., flavors of iced-tea, patterns of paper towels, etc.), marketers want to identify the subset of product-line offerings that will maximize overall consumer interest.

TURF (Total Unduplicated Reach and Frequency) enables identification of a line-up which maximizes consumer reach and sales potential while minimizing cost. Note that when the purchase frequency component is excluded (quite often), this technique is simply referred to as Coverage Analysis or Reach Analysis.

**Max Incremental Gain In Reach
MP3 Player Color Options**



- Results suggest that four colors be offered to consumers in this product line, as there is only a slight incremental gain in reach when offering five or more colors. Offering four colors will “reach” (i.e., satisfy) 89% of likely MP3 Player buyers. Offering more than four colors does very little to reach additional consumers in the target market.



Base: Total Likely MP3 Player Buyers

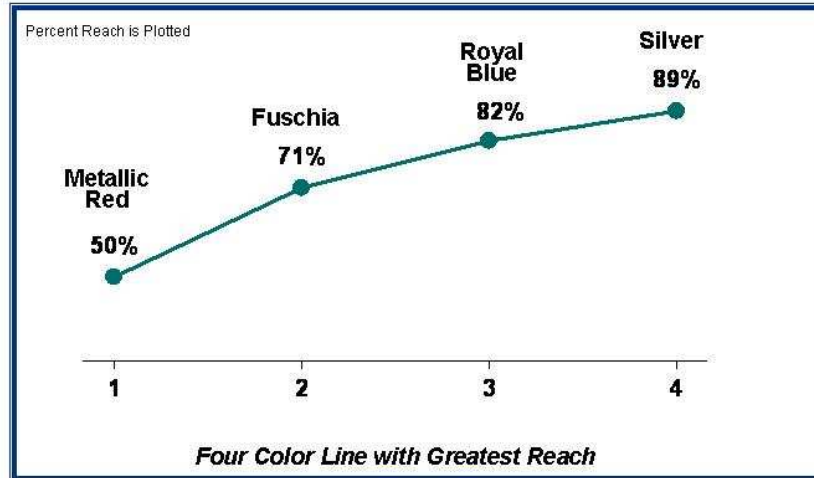


NOTE: Fictional brand and data.

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Reach Build For Best Four Color Line

- If the line of MP3 Players is to be offered in four colors, the top combination of colors is shown below.
- This is the set of colors which satisfies the most consumers, in that at least one of the colors is desirable to each of the fully 89% of consumers "reached" by this four-color combination.



Base: Total Likely MP3 Player Buyers



NOTE: Fictional brand and data.

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Top 10 Total Reach -- Four Color Lines

- Several other combinations of four colors provide nearly as optimal a solution as the top combination. The top combination is shown here in first row of the table, followed by the other near-optimal combinations.

Top 10 Reach Combinations of 4 Colors				
Combination of 4 Colors (By Row)				Reach (%)
Metallic Red	Fuschia	Royal Blue	Silver	89.3
Metallic Red	Cherry Red	Royal Blue	Silver	85.3
Metallic Red	Fuschia	Pale Pink	White	82.6
Fuschia	Pale Pink	Metallic Red	Lime Green	81.1
Metallic Red	Fuschia	Teal	Pale Pink	80.0
Fuschia	Metallic Red	Silver	Graphite	75.3
Metallic Red	Pale Pink	Cherry Red	Teal	72.1
Pale Pink	Metallic Red	Royal Purple	White	71.0
Metallic Red	Pale Pink	Graphite	Lime Green	65.2
Cherry Red	Teal	Royal Purple	Sunflower Yellow	63.2

Base: Total Likely MP3 Player Buyers



NOTE: Fictional brand and data.

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– Brand Performance and Tracking –

In order to monitor brand adoption, and/or important changes in the category (e.g., impact of a new competitor), companies will often implement a research study to “track” marketplace behaviors, perceptions, and attitudes over time.

To avoid introducing bias into the results, key survey questions must be both worded and ordered in specific ways. Going forward, consistency in defining the study’s sampling frame and utilizing the same data collection approach for each wave of research are also important determinants of data quality and accuracy.

Market Share
Among Current Trucking Customers



Base: Current Trucking Leasers

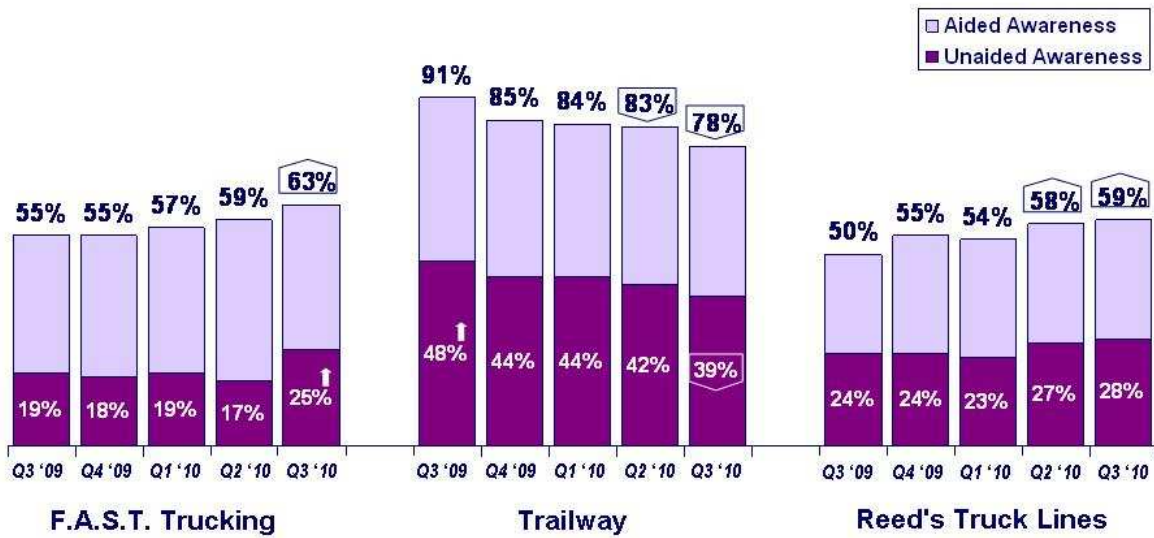
□ □ Significantly higher/lower than the same period in the prior year, at the 90% confidence level.



NOTE: Fictional brands and data.

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Total Brand Awareness Among Total Respondents



Base: Total Respondents

↑↓ Significantly higher/lower than the previous quarter at the 90% confidence level.
◻◻ Significantly higher/lower than the same period in the prior year, at the 90% confidence level.



NOTE: Fictional brands and data.