

# Scale Development For Breakfast Cereals Using The Kelly Repertory Grid Technique

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## ABSTRACT


*Consumer research is a key component of retail strategy and a major facilitator in the formation of a competitive advantage (Devlin, Birtwistle & Macedo, 2003). A sophisticated research approach that contributes a meaningful understanding of the dynamics of consumer's perceptual orientations is of particular value to retailers (Mitchell, 2001). Gaining knowledge of the attributes consumers value and use to discriminate between products and why those attributes are important can generate a sustainable competitive advantage for retailers (Mitchell & Harris, 2005). Consumer perceptions of product attributes are crucial factors in the choice of food products. A focus on the subjective entities of a product as perceived by consumers is a major determining factor in the success of many product marketing strategies (Kupiec & Revell, 2001).*

*One method that has been utilized to identify product attributes is the Kelly repertory grid method (Kelly, 1955). This method has also been used in previous studies for the recognition of food product attributes (Thomson & McEwan, 1988). The repertory grid technique (RGT) has been adopted in consumer research for examining consumers' perceptions of products and services (Marsden & Littler, 2000).*

*The following research project intends to help retailers understand grocery shoppers' perceptions of breakfast cereals. The objective of the research is two-fold. First, to determine which attributes consumers perceive differences between breakfast cereals. Second, to generate a survey to measure the underlying constructs comprising breakfast cereals using the Kelly Repertory Grid Technique*

**Keywords:** Kelly Repertory Grid; Repertory Grid Technique; (RGT)

## PROBLEM STATEMENT

etailers need to determine the important attributes consumers' value in the products they sell. Understanding consumer behavior and identifying important product attributes can help retailers influence merchandise selection. For this research, the identification of important attributes that consumers value for breakfast cereal will be determined.

The research plan involved two major steps:

- (1) The identification of breakfast cereal attributes by conducting interviews with 5 consumers.
- (2) The development of a survey using the Kelly Repertory Grid to measure breakfast cereal attributes.

## METHODOLOGICAL FRAMEWORK

The repertory grid technique was developed by Kelly as part of his Personal Construct Theory (1957) and proposed to analyze how people look at and evaluate the world around them (Rocchi & Stefani, 2005). The repertory grid technique (RGT) was developed to elicit the various constructs that people use to describe the "elements" (i.e. objects) the researcher is interested in (Fransella, Bell & Bannister, 2003).

RGT chooses a set of elements which are consistent with the objectives of the study and targeted constructs (i.e. product) to be elicited from research participants (Stewart & Stewart, 1981). RGT methodology utilizes personal interviews with consumers to elicit the content and hierarchical structure of the subjective meanings in the form of bipolar constructs that are attached to a set of elements (Dalton & Dunnett, 1992).

## **METHODOLOGY**

The preliminary process of identifying breakfast cereal attributes was based on five in-depth interviews with breakfast cereal consumers. Individual interviews to identify which breakfast cereal attributes (or constructs) consumers use to differentiate products took place at each participant's work place during their lunch hour. The researcher did not know any of the participants (interviewees) as the individuals were selected by friends of the researcher. Interviewees were pre-screened to determine if they were familiar with a variety of breakfast cereals as per instructions from the researcher.

Each interviewee was asked to list 15 breakfast cereals with which they are familiar. From this list of familiar products, three breakfast cereals at a time were randomly selected and presented to the interviewee on an index card. The interviewees were asked to consider the characteristics or attributes of the breakfast cereals and to indicate what two cereal products they thought were similar. A participant would then indicate common features for the chosen pair of similar breakfast cereals and the differences between these two and the remaining breakfast cereal. In this way, each attribute and its two poles were identified, the first being defined as an emergent pole (similarity between the two) and the second one being an implicit pole (difference between the two and the third item) (Kupiec & Revel, 2001). The procedure was repeated five times for each of the five participants. No breakfast cereal was presented more than once for evaluation by the interviewee. A copy of each interview can be found in Appendix A.

## **CONTENT ANALYSIS**

The transcript of each interview is provided in Appendix A. From these transcripts, a qualitative analysis of the answers was performed.

The triadic sorting process identified five groups of product attributes related to:

- (1) taste
- (2) packaging
- (3) texture
- (4) ingredients (health)
- (5) consumer segments-kids or adults

### **(1) Taste**

Regarding taste, some of the responses provided were:

- "more exciting/more flavorful"*
- "plain- not much flavor"*
- "flavorful"*
- "plain/need to add fruit or sugar"*
- "taste comparable"*
- "different taste from other 2"*
- "they both taste good"*
- "don't like"*
- "good taste-lots sugar"*
- "healthy-bland taste"*

**(2) Packaging**

Regarding packaging, some of the responses provided were:

*“normal box size”*  
*“box always seems huge”*  
*“fun boxes-exciting graphics”*  
*“pretty plain box”*  
*“busy package”*  
*“plain package”*  
*“packaging similar”*  
*“packaging-green fields and berries”*  
*“more adult looking package”*  
*“packaging geared toward children”*  
*“don’t like packaging”*  
*“nice cartoon characters”*

**(3) Texture**

Regarding texture, some of the responses provided were:

*“crunchy”*  
*“not as crunchy as brands”*  
*“grainy texture”*  
*“smooth texture”*  
*“texture”*  
*“not much texture”*  
*“good & crunchy”*  
*“too hard”*  
*“not too chewy”*  
*“very crunchy”*

**(4) Ingredients (health)**

Regarding ingredients(health), some of the responses provided were:

*“lots of raisins”*  
*“not as much raisins as brands”*  
*“higher calories & sugars but worth it”*  
*“healthier-less sugar & calories”*  
*“sugar cereals (kid’s target)”*  
*“healthier kid cereal”*  
*“sugar,sugar,sugar”*  
*“sweet, but healthy”*  
*“healthy”*  
*not healthy”*

**(5) Consumer segments-kids or adults**

Regarding consumer segments, some of the responses provided were:

*“don’t like but kids do”*  
*“more of a cereal for the whole family”*  
*“adult targets”*  
*“kid’s target”*  
*“kids”*  
*“adults”*

“whole family likes”  
“only adult cereal”  
“kids like taste”  
“kids won’t eat-taste”  
“kid’s cereal”  
“adult cereal”

## **RGT SURVEY**

In order to measure consumer perceptions of each of the underlying constructs of breakfast cereal from the RGT, a survey was developed and is presented in Appendix B. Prior to sending out the survey to the targeted sample, it will be pre-tested.

## **CONCLUSIONS**

The results of this study indicate the importance of attributes such as taste, packaging, texture, ingredients (health) and consumer segments for breakfast cereals. Manufacturers and retailers of national and private brands need to be aware of the importance of these five attributes and gather feedback from consumers regarding the evaluation of each attribute for each breakfast cereal.

Manufacturers and retailers need to be cognizant of the demographic profile of the targeted segment for each brand of cereal as kids and adults have different preferences. Most breakfast cereals are categorized by retailers as either kid, adult or all family. The package selection and design, texture, flavor profile and ingredients must be consistent with the preferences of the targeted consumer segment.

Future research should have participants rank each of the five attributes to determine the order of importance. It would be interesting to find out the consistency of responses among the various participants and if the importance of each attribute varies by target segment. Future research should also determine the primary decision maker for kid’s cereal as parents and children will have different preferences.

## **AUTHOR INFORMATION**

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**APPENDIX A**

Transcript for each interview:

**Researcher:** Hi, I'm Mike Pepe. Thank You for participating in this research. The reason that I came to your work place today is to assess your perceptions of various breakfast cereals. The research process will not last more than 45 minutes.

**Researcher:** The first question that I have for you is "Do you regularly purchase or consume a variety of breakfast cereals?"

Responses:       interview #1: yes  
                          interview #2: yes I do  
                          interview #3: yup  
                          interview #4: yes  
                          interview #5:yes, I eat a variety

**Researcher:** "Please list on a sheet of paper 15 breakfast cereals that you are familiar with and can evaluate". Each participant listed their 15 cereals on a sheet of paper they had at their desk. In hindsight, I wish I provided each with paper and a pencil to record their thoughts.

Responses:       interview #1: I can list more than 15  
                          Researcher: list the first 15 that come to mind  
  
                          interview #2: do I have to like them?  
                          Researcher: no, just need to be familiar with them  
  
                          interview #3: respondent wrote the 15 without questions  
  
                          interview #4: respondent wrote the 15 without questions  
  
                          interview #5: do I wrote the 15 or do you need it typed?  
                          Researcher: writing on a sheet of paper is fine

**Researcher:** "Thank you for the list of 15 cereal items. I am going to take a few moments and randomly group this list in sets of 3 cereal items. This will result in 5 groups of 3 cereals. I will write each group on an index card and ask for your thoughts."

**Researcher:** "From this list of 3 cereal items, how are 2 of them alike but different from the third? Please write this on your sheet of paper and state why the 2 are alike but different from the third. Express this in a bi-polar or opposite manner. For example, if I presented to you three colors: yellow, pink & black, you may say that the colors yellow & pink are similar because they are bright colors and they differ from black because it is a dark color. Secondly, you may say that yellow & pink are alike because they remind you of Easter and they are different from black because black reminds you of Halloween. Try your best to think of as many bi-polar comparisons as possible. At least three will be good with more better. Do you have any questions regarding what I am asking?" To my surprise all five participants were clear on the directions and none needed further clarification.

The process was repeated 5 times so all 15 breakfast cereal items from the participants list were evaluated. This resulted in 5 triads for each participant.

**Researcher:** Thank you for your time in participating in this study.

**Interview #1**

15 cereals identified by participant:

Kellogg's Raisin Bran	Post Honey Bunches of Oats w/almonds
Post Raisin Bran	Lucky Charms

Private label Raisin Bran	Frosted Mini Wheats
Kellogg’s Corn Flakes	Froot Loops
Private label Corn Flakes	Grape Nuts
Kellogg’s Rice Krispies	Coco Krispies
Private label Crispy Rice	Life
Golden Grahams	

**Card #1**-Life, Post Honey Bunches of Oats w/almonds, Kellogg’s Corn Flakes

Similar

**Life & Post Honey Bunches of Oats w/almonds**

- more exciting/more flavorful
- normal box size
- can eat right out of box
- Higher calories & sugars but worth it

Different

**Kellogg’s Corn Flakes**

- plain-not much flavor
- box always seems huge
- not flavorful to eat plain-need to add something
- healthier-less sugar & calories

**Card #2**-Private label Corn Flakes, Grape Nuts, Private label Crispy Rice

Similar

**Private label Corn Flakes & Grape Nuts**

- target:older
- healthy/specific benefit

Different

**Private label Crispy Rice**

- younger target
- fun to eat

**Card #3**-Golden Grahams, Froot Loops & Kellogg’s Rice Krispies

Similar

**Golden Grahams & Froot Loops**

- sugar cereals (kids target)
- flavorful
- fun boxes-exciting graphics
- Froot Loops has a bird (don’t know name)
- no icon for Golden Grahams

Different

**Kellogg’s Rice Krispies**

- healthier kid cereal
- plain/need to add fruit or sugar
- pretty plain box(aside from snap.crackle, & pop
- use of icons who are identifiable

**Card #4**-Lucky Charms, Coco Krispies & Frosted Mini Wheats

Similar

**Lucky Charms & Coco Krispies**

- kid target
- sugar,sugar,sugar
- busy package
- use of icons on package

Different

**Frosted Mini Wheats**

- older target
- sweet, but healthy
- plain package
- no icon

**Card #5**-Kellogg’s Raisin Bran, Post Raisin Bran & Private Label Raisin Bran

Similar

**Kellogg’s Raisin Bran & Post Raisin Bran**

- packaging similar-purple &heart/sun
- taste comparable
- crunchy
- lots of raisins

Different

**Private Label Raisin Bran**

- packaging-green fields and berries
- different taste from other 2
- not as crunchy as brands
- not as much raisins as brands

**Interview #2**

15 cereals identified by participant:

Total	Frosted Mini Wheats
Honey Bunches of Oats	Honey Nut Cheerios
Cinnamon Toast Crunch	Frosted Flakes
Fruity Pebbles	Grape Nuts
Lucky Charms	Trix
Corn Chex	Captain Crunch

Banana Nut Crunch  
Special K

Cheerios

**Card #1**-Total,Honey Bunches of Oats & Cinnamon Toast Crunch

Similar

Different

**Total & Honey Bunches of Oats**

**Cinnamon Toast Crunch**

-they both taste good  
-more adult looking packaging

-don't like  
-packaging geared toward children

**Card #2**-Fruity Pebbles, Lucky Charms, & Corn Chex

Similar

Different

**Fruity Pebbles & Lucky Charms**

**Corn Chex**

-what the kids like

-what they won't eat

**Card #3**-Banana Nut Crunch, Special K & Frosted Mini Wheats

Similar

Different

**Banana Nut Crunch & Special K**

**Frosted Mini Wheats**

-adult looking packaging

-could be more of a family cereal  
-everyone in the house eats it

**Card #4**-Honey Nut Cheerios, Frosted Flakes & Grape Nuts

Similar

Different

**Honey Nut Cheerios & Frosted Flakes**

**Grape Nuts**

-both taste good  
-kids will eat

-don't like taste  
-don't like packaging

**Card #5**-Trix, Captain Crunch & Cheerios

Similar

Different

**Trix & Captain Crunch**

**Cheerios**

-don't like but kids do

-more of a cereal for the whole family

**Interview #3**

15 cereals identified by participant:

Life  
Lucky Charms  
Raisin Bran  
Honey Nut Cheerios  
Cheerios  
Shredded Wheat  
Trix  
Total

Captain Crunch  
Smorz  
Private Label Magic Stars  
Confruity Crisp  
Cookie Crisp  
Crispix  
Chex

**Card #1**-Lucky Charms, Confruity Crisp & Cookie Crisp

Similar

Different

**Lucky Charms & Confruity Crisp**

**Cookie Crisp**

-colorful  
-lots of flavor

-no color added  
-not much flavor

**Card #2**-Cheerios, Magic Stars & Chex

Similar

Different

**Cheerios & Magic Stars**

**Chex**

-same pieces  
-same sizes  
-grainy texture

-different pieces  
-different sizes  
-smooth texture



**Card #3**-Raisin Bran, Captain Crunch & Crispix

Similar

**Raisin Bran & Captain Crunch**

- healthy
- adult targets

Different

**Crispix**

- not healthy
- kids target

**Card #4**-Trix, Smorz & Life

Similar

**Trix & Smorz**

- kids
- sugar added
- excitement

Different

**Life**

- adults
- no sugar
- plain

**Card #5**-Honey Nut Cheerios, Shredded Wheat & Total

Similar

**Honey Nut Cheerios & Shredded Wheat**

- healthy
- adults
- texture

Different

**Total**

- not healthy
- kids
- not much texture

**Interview #4**

15 cereals identified by participant:

- Fiber 1
- Rice Krispies
- Kellogg's Raisin Bran
- Cranberry Almond Crunch
- Froot Loops
- Cheerios
- Trix
- Great Grains

- Cinnamon Toast Crunch
- Blueberry Morning
- Banana Nut Crunch
- Frosted Flakes
- Corn Flakes
- Lucky Charms
- Honey Nut Cheerios

**Card #1**-Fiber 1, Great Grains & Honey Nut Cheerios

Similar

**Fiber 1 & Great Grains**

- good taste-lots sugar
- whole family likes
- always on sale
- good package

Different

**Fiber 1**

- healthy-bland taste
- only adult cereal
- need more sales
- basic package

**Card #2**-Lucky Charms, Trix & Cinnamon Toast Crunch

Similar

**Lucky Charms & Trix**

- kids like taste
- average amount sugar
- milk not too sweet after cereal eaten
- nice cartoon characters

Different

**Cinnamon Toast Crunch**

- kids won't eat-taste
- too much sugar
- milk not sweet after cereal eaten
- no cartoon characters

**Card #3**-Rice Krispies, Kellogg's Raisin Bran & Cheerios

Similar

**Rice Krispies & Kellogg's Raisin Bran**

- kids cereal
- not very healthy
- good taste
- can get in many sizes
- no other brand

Different

**Cheerios**

- adult cereal
- too healthy
- tastes too healthy
- my store has only 1 size
- can buy Post raisin bran

**Card #4**-Corn Flakes, Froot Loops & Banana Nut Crunch

Similar

**Corn Flakes & Froot Loops**

- good taste
- good & crunchy
- whole family eats
- always on sale

Different

**Banana Nut Crunch**

- tried once-never again-terrible taste
- too hard
- nobody likes after trying
- never seen sale

**Card #5**-Blueberry Morning, Cranberry Almond Crunch & Frosted Flakes

Similar

**Blueberry Morning**

**&Cranberry Almond Crunch**

- both by Post
- adult cereal
- average sugar
- not too chewy
- expensive

Different

**Frosted Flakes**

- I think Kellogg's
- kids cereal
- much sugar
- very crunchy
- pretty cheap

**Interview #5**

15 cereals identified by participant:

- Lucky Charms
- Great Grains
- Cranberry Almond Crunch
- Blueberry Morning
- Maple Pecan Crunch
- Frosted Flakes
- Corn Flakes
- Corn Chex

- Peanut Butter Crunch
- Kix
- Rice Krispies
- Froot Loops
- Cookie Crisp
- Frosted Mini Wheats
- Honey Bunches of Oats

**Card #1**-Great Grains, Honey Bunches of Oats & Kix

Similar

**Great Grains & Honey Bunches of Oats**

- adults
- flakes
- more ingredients

Different

**Kix**

- kids
- round
- less ingredients

**Card #2**-Cranberry Almond Crunch, Maple Pecan Crunch & Froot Loops

Similar

**Cranberry Almond Crunch & Maple Pecan Crunch**

- natural
- nuts
- less corn syrup

Different

**Froot Loops**

- artificial
- no nuts
- more corn syrup

**Card #3**-Frosted Flakes, Cookie Crisp & Blueberry Morning

Similar

**Frosted Flakes & Cookie Crisp**

- more sugar
- no fruit
- kids

Different

**Blueberry Morning**

- less sugar
- fruit
- adults

**Card #4**-Lucky Charms, Frosted Mini Wheats & Corn Flakes

Similar

**Lucky Charms & Frosted Mini Wheats**

- more sugar

Different

**Corn Flakes**

- less sugar

-kids  
-fun

-adults  
-not fun

**Card #5**-Rice Krispies, Corn Chex & Peanut Butter Crunch

Similar

**Rice Krispies & Corn Chex**

-less sugar  
-add fruit  
-party food

Different

**Peanut Butter Crunch**

-more sugar  
- don't add fruit  
-not party food

**APPENDIX B**

**Breakfast Cereal Opinion Survey**

You are being asked to participate in a survey to determine your perceptions of the breakfast cereal you just tasted. Participation in this survey is voluntary and confidentially is assured. No individual data will be reported.

THANK YOU!

**1) Perceptions of Breakfast Cereal**

Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
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The following questions pertain to the breakfast cereal you just sampled. Please indicate the extent of your agreement or disagreement with each statement by **circling** a number 1 to 5.

- |    |  |   |   |   |   |   |
|----|--|---|---|---|---|---|
| 1. | This cereal has a good taste.                        | 1 | 2 | 3 | 4 | 5 |
| 2. | Other adults would like the taste of this cereal.    | 1 | 2 | 3 | 4 | 5 |
| 3. | School children would like the taste of this cereal. | 1 | 2 | 3 | 4 | 5 |
| 4. | The packaging for this cereal is very good.          | 1 | 2 | 3 | 4 | 5 |
| 5. | This cereal has a nice texture.                      | 1 | 2 | 3 | 4 | 5 |
| 6. | This cereal is healthy for you.                      | 1 | 2 | 3 | 4 | 5 |
| 7. | I like the ingredients of this cereal.               | 1 | 2 | 3 | 4 | 5 |
| 8. | I would purchase this product for my children.       | 1 | 2 | 3 | 4 | 5 |