

## Introduction

Consumer product testing involves asking respondents a wide range of questions, which help product researchers to understand consumers reactions and opinions, in order to develop the ideal offering.

Although these questions are fundamental, they have the potential to overwhelm and reduce survey engagement, therefore alternative approaches to questionnaire development are key.

Gamification introduces game-like elements into research[1], and has been found to increase engagement during usage and attitude studies by as much as 50%, by reducing straight-lining [2].

## Objectives

This study investigates the role of gamification in the sensory evaluation of products. Product testing is generally considered engaging, as consumers enjoy assessing products, however this study explored whether gamification techniques could provide any additional learnings or opportunities to improve data quality and insight generated during product research.

## Method

150 consumers completed a product test, assessing two different cereal bars in a central location. During the assessment, respondents either completed a typical product testing survey or a gamified version, during which they were required to rate key sensory characteristics and opinions of both products. To ensure comparability between surveys, respondent cells were balanced for key demographics; age, gender and SEG.

Each consumer assessed the unbranded products in a fully rotated order, and completed a computerized ballot of key product measures which included liking ratings, exactly right and open ended questions, agreement statements and check all that apply (CATA) lists. The gamified and typical surveys asked the same questions, however the gamified version involved more interactive alternatives to standard questioning, as shown in Table 1.

## The Sample

n=150 (n=75 per cell)  
Users of cereal bars, no allergies, not having participated in market research in the past 6 months, non-rejectors of brand tested

Quotas balanced per cell:  
50% Male / 50% Female  
56% ABC1 / 44% C2DE  
35% 18-32 / 33% 33-46 / 32% 47-60

**Table 1 - How do typical and gamified ballots compare?**

### Typical Ballot - Agreement Statement Grid

Thinking about this product, please indicate how much you agree or disagree with each of the following statements below.

This product...	Strongly disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Strongly agree
is modern	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is distinctive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is tasty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is wholesome	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is fulfilling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is satisfying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is filling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is nourishing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is healthy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
makes you feel upbeat and healthy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is natural	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is delicious	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is feminine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Typical Ballot - Rating Scales

What is your opinion of the overall appearance of this cereal bar?

Dislike it a lot  1  2  3  4  5  6  7  8  9  10 Like it a lot

### Just About Right Scales

Product 1 of 2. Product code is: B23

How would you describe the colour of this cereal bar?

Far too dark  
 A little too dark  
 Exactly right  
 A little too pale  
 Far too pale

### Check All That Apply (CATA) Lists

- Product 1 of 2. Product code is: B23
- Which of these words would you use to describe the cereal bar you have just tried?
- Nutty
  - Dry
  - Soft
  - Sweet
  - Chalky
  - Chewy
  - Chocolatey
  - Strange
  - Crunchy
  - Powdery
  - Sticky
  - Gritty

See online survey demos at the MMR booth (T1)

### Gamified Ballot - Dealer Question (click & drag)

Product 1 of 2. Product code is: W65

Thinking about this product, please indicate how much you agree or disagree with each of the following statements below.

Please drag the cards from the pile at the bottom of the screen.

This product...

Strongly disagree Slightly disagree Neither agree nor disagree Slightly agree Strongly agree

is modern is fueling

is delicious

### Gamified Ballot - Colored Rating Scales

Product 1 of 2. Product code is: B23

What is your opinion of the overall appearance of this cereal bar?

Dislike it a lot  1  2  3  4  5  6  7  8  9  10 Like it a lot

### Exactly Right Dealer

For this question you'll see each of the statements one at a time. Please drag them onto the scale below to describe the strength of peanut and cocoa/chocolate flavour. You can drop each one onto any part of the line, and can put statements on top of each other. You can also move the statements once you've placed them.

Far too little Far too much

Amount of cocoa/chocolate

### Grouper Tasks

How similar is this cereal bar to other cereal bars you already eat?

Please group the following cereal bar brands, with more similar ones together and more different ones apart. You can put as many bars together as you like and please provide a reason for your grouping in the box underneath each group. Move the cards into groups by dragging the cards from the pile at the bottom of the screen.

ndkca® Cinnamon Garden of Eatin'® nutella® Alpen

Why did you group these brands together? Why did you group these brands together? Why did you group these brands together?

## Findings

Comparing the results of the product test, gamification was not found to impact consumer ratings on any key product measures (Table 2)

For all metrics, Cereal Bar A outperformed Cereal Bar B in both survey approaches.

**Table 2: Comparison of overall opinion, flavor intensity and naturalness**

Typical Survey		Gamified Survey	
Cereal bar A: 7.7	Cereal bar B: 5.5	Cereal bar A: 7.9	Cereal bar B: 5.3
Overall opinion			
Too little: Cereal bar A 9%, Cereal bar B 14%	Too much: Cereal bar A 25%, Cereal bar B 49%	Too little: Cereal bar A 11%, Cereal bar B 16%	Too much: Cereal bar A 30%, Cereal bar B 48%
Flavour Intensity			
Consider the cereal bar to be natural: Cereal bar A 45%, Cereal bar B 39%			

Although it delivered the same results on key product measures, gamification was found to provide additional depth and robustness to product testing.

For example, by incorporating a time challenge element to open ended like and dislike questions, directionally more dislike terms were provided by consumers, without impacting overall opinion ratings (Table 3), thus adding clarity and direction for product optimization.

**Table 3: Gamification provided additional depth in open ended like and dislike questions**

	Typical Survey	Gamified Survey Timed challenge (30 seconds)
Average word count describing likes	7.6	7.4
Average word count describing dislikes	5.7	7.0

In addition, we found that gamification provided additional category learnings. When asking consumers which brands they associate with the product, typical CATA results can be mapped highlighting the brands closest to the product (Figure 1a). However, a gamified grouper task that allowed consumers to group the brands and products themselves, led to more insightful descriptive reasonings for groupings on the product fit and wider category (Figure 1b).

**Figure 1: Gamification provides greater insight**

Figure 1a. Typical survey CATA map

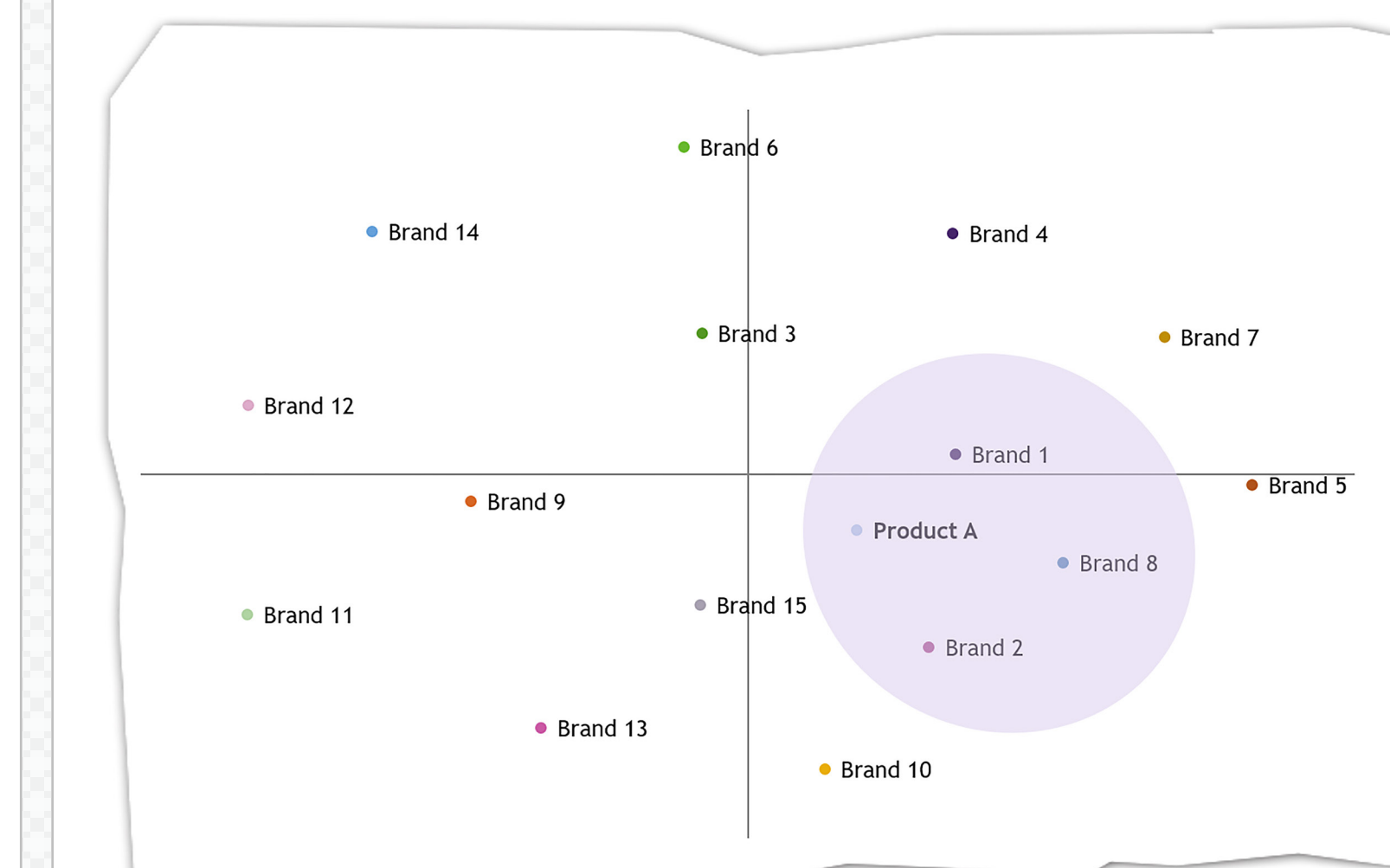
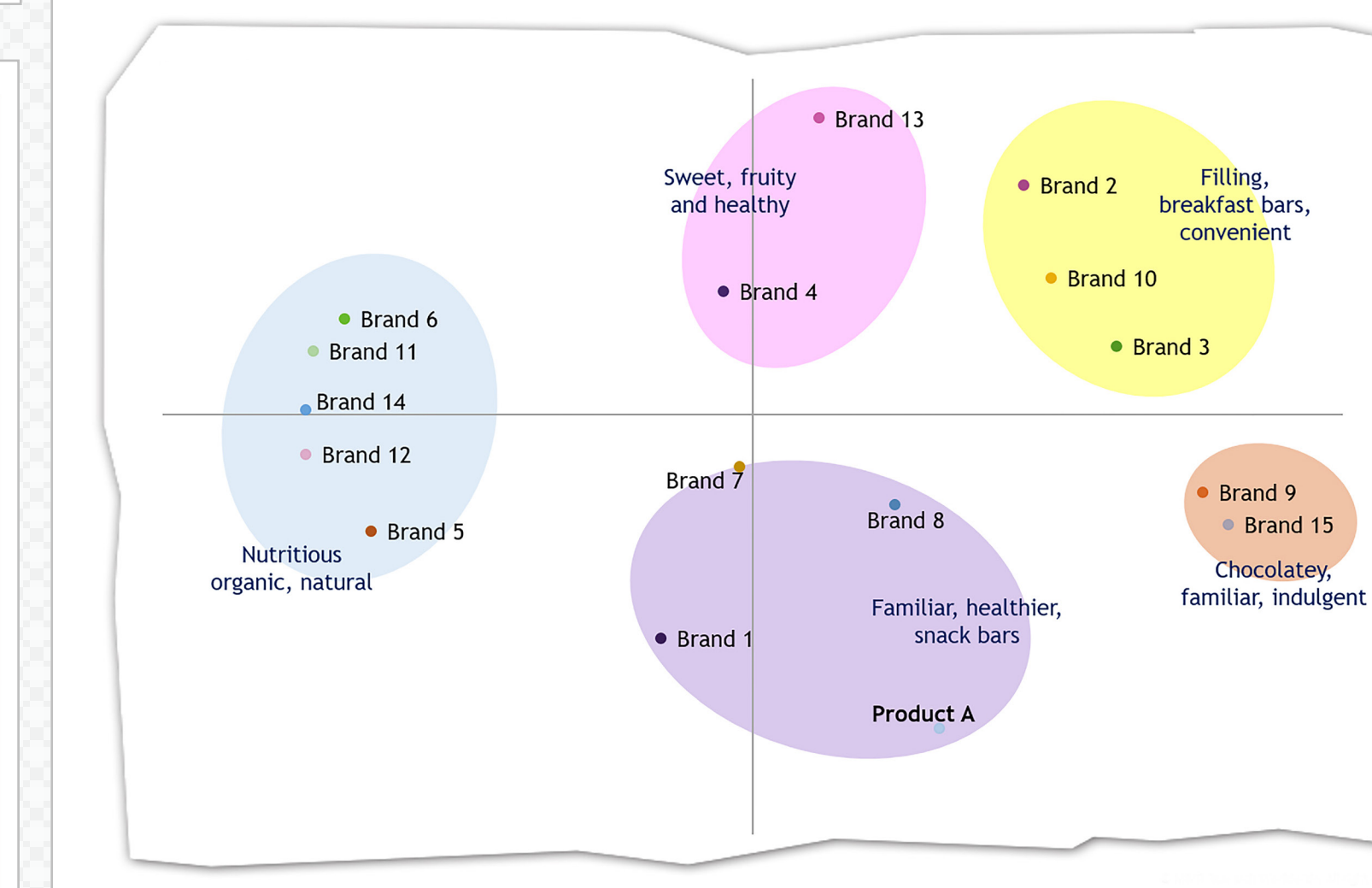
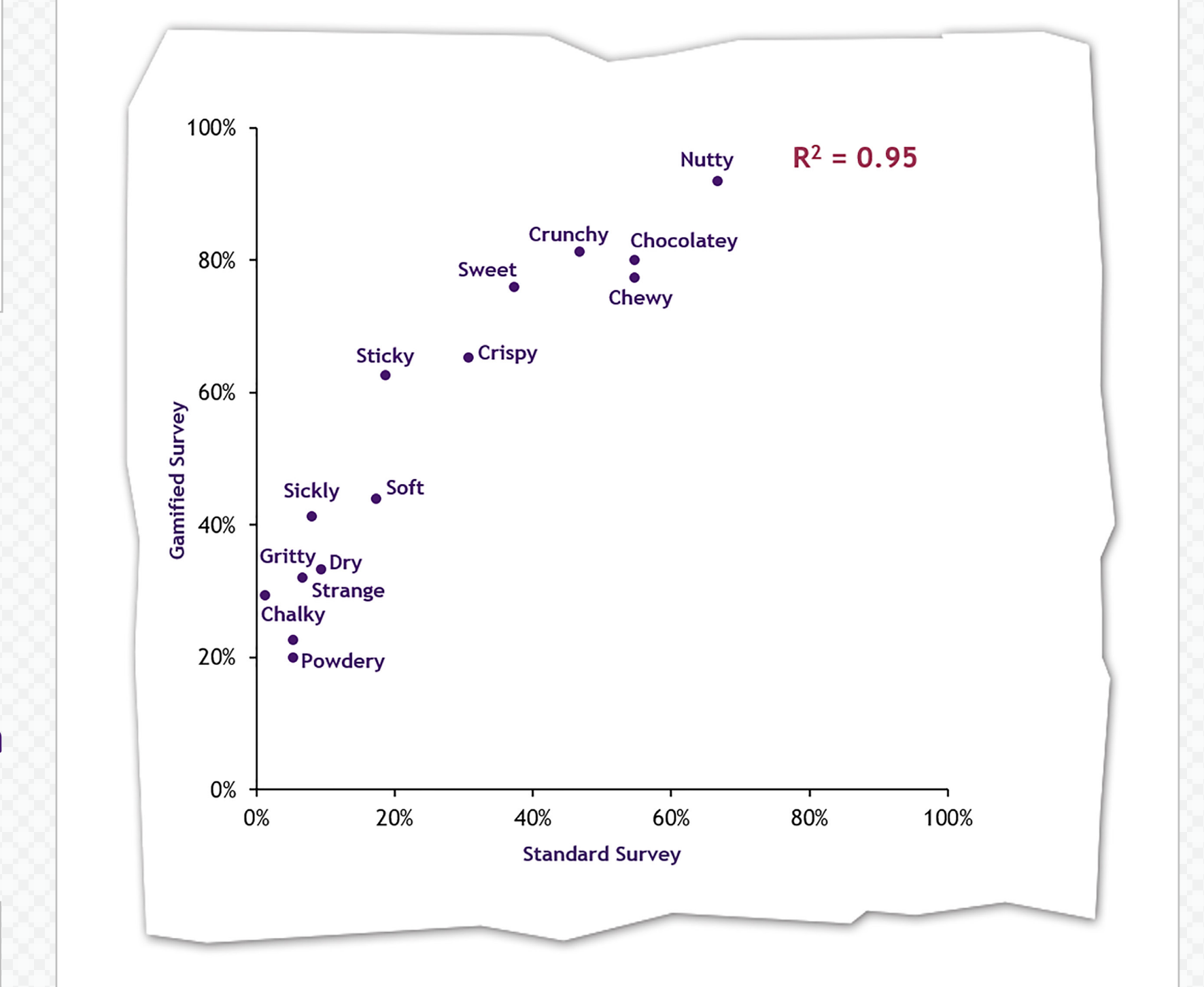


Figure 1b. Gamified survey grouper task map



Gamifying CATA lists also seemed to add robustness to this research. A Dealer exercise of key attributes being dealt by the consumer in to 'yes' or 'no' boxes forced consumers to acknowledge the presence of all characteristics, without impacting the overall assessment (Figure 2). The strong correlation between the typical and gamified surveys highlights the consistency in approach, however over double the number of responses (512 for CATA, 1147 for Dealer, p<0.001) were given by consumers during the Dealer exercise. This option provided further confidence to product developers on the presence or absence of key product characteristics.

**Figure 2: Correlation plot of standard CATA and gamified dealer for product attributes**



As well as providing more detailed, robust data, gamification also led consumers to provide more positive feedback after completing the gamified survey. Although there was no significant differences in self-reported engagement ratings (which is to be expected given the monadic design and that product testing is fundamentally engaging overall), consumers who took part in the gamified survey commented on their enjoyment of the process, highlighting how interesting, varied and fun it was to complete. This is crucial for market research to ensure consumers stay engaged and are willing to participate in future surveys.

## Conclusions

Gamification can increase the robustness of consumer responses through forcing answers in a fun and engaging way. It can entice and prompt consumers to give more detail than typical questioning, either by adding challenges or diversifying the task as well as generating more positive reactions towards the survey experience as a whole - inspiring consumers to participate in more and varied market research surveys.

1) Malinoff, B. Puleston, J. (2011) How far is too far: Traditional, flash and gamification interfaces, and implications for the future of market research online survey design. ESOMAR 3D Digital Dimensions  
2) Ewing, T. (2012) Where gamification came from and why it could be here to stay. Quirks Marketing Research Review, pp.30