Are your ratings data lacking insights?

MaxDiff to the Rescue!

(and it's easy)

BRYAN ORME
President
Sawtooth Software

MEGAN PEITZ
Ingenuity Ambassador
Sawtooth Software

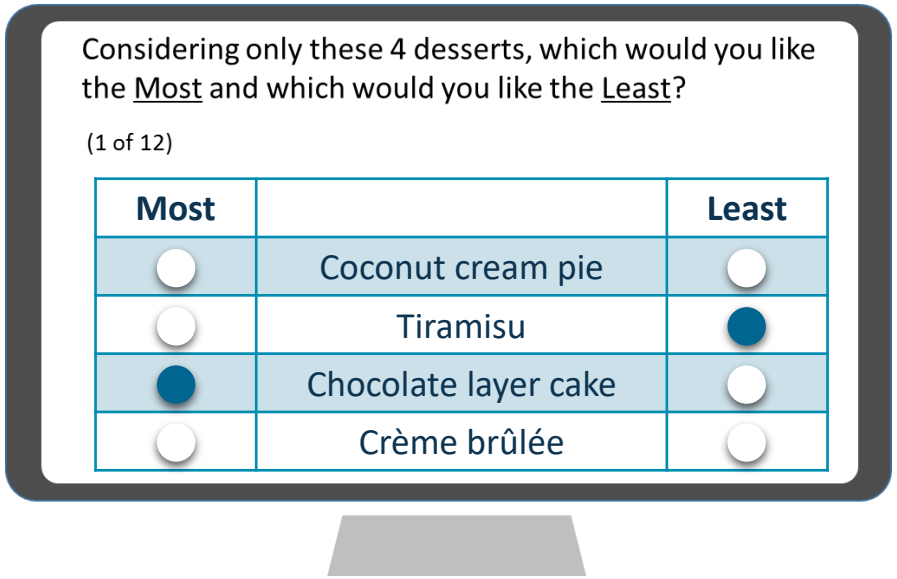
Agenda

- What is MaxDiff (*Best-Worst Scaling*)?
  - Overview
  - Case Studies
- Discover MaxDiff
  - Design
  - Analysis
  - Integration
  - Collaboration

What is MaxDiff?

MaxDiff is…

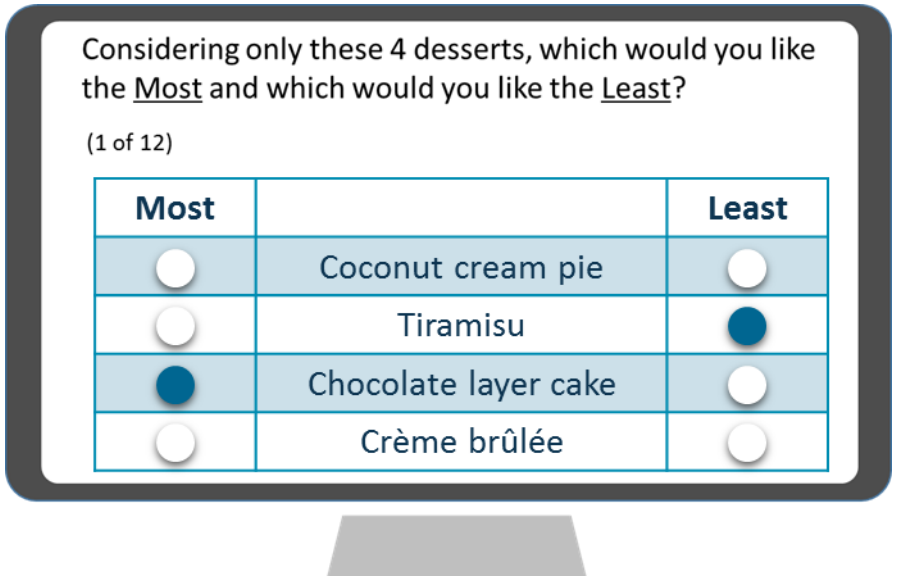
…an approach for measuring consumer preference for a list of items. Items could include messages, benefits, images, product names, claims, brands, features, packaging options, and more!



Rank	Item	Score
1	Hot brownie sundae	7.10
2	Chocolate molten cake	6.82
3	Chocolate layer cake	6.22
4	Italian gelato	6.13
5	New York cheesecake	5.90
…	…	…
20	Tiramisu	1.10

So much information from just two clicks!

- We then know:
  - Chocolate layer cake > Coconut cream pie
  - Chocolate layer cake > Tiramisu
  - Chocolate layer cake > Crème brûlée
- And…
  - Coconut cream pie > Tiramisu
  - Crème brûlée > Tiramisu
- From two “clicks” we learn about 5 of the 6 possible paired comparisons!
  - Coconut cream pie ??? Crème brûlée



And the results are easy to interpret!

- The scores are placed on a 0-100 scale
- A full rank-ordered list but the results are ratio-scaled so a score of a 5 is twice as great as a score of 2.5!
- Obtain individual-level results

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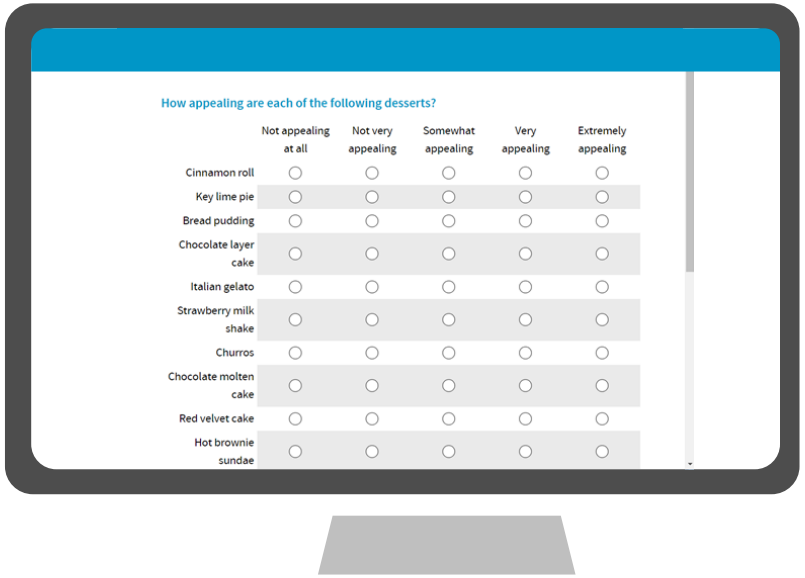
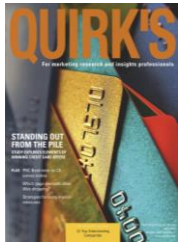
Why do we love it?

- MaxDiff > Ratings Data
  - Greater discrimination among items
  - Greater discrimination between respondents on the item
  - No scale bias
  - Looks great on mobile!



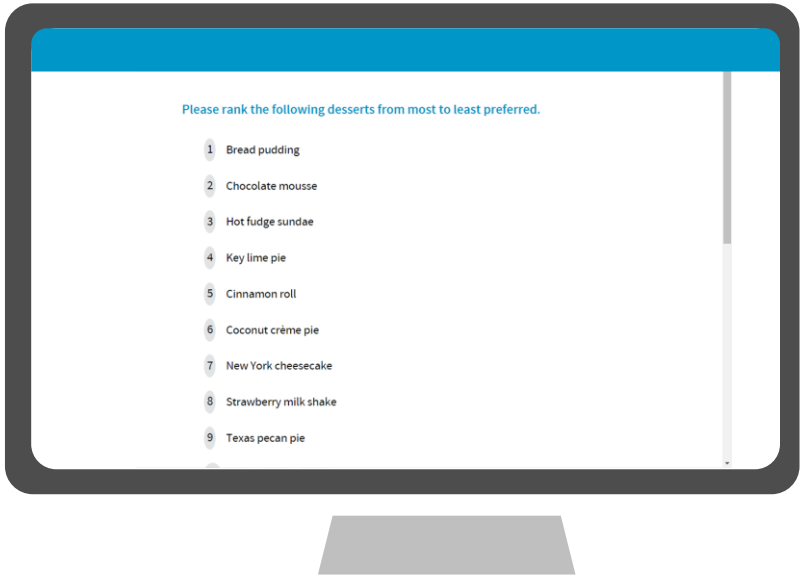


Check out our recent article in the Quirks July Issue!

How Good Is Best-Worst Scaling?

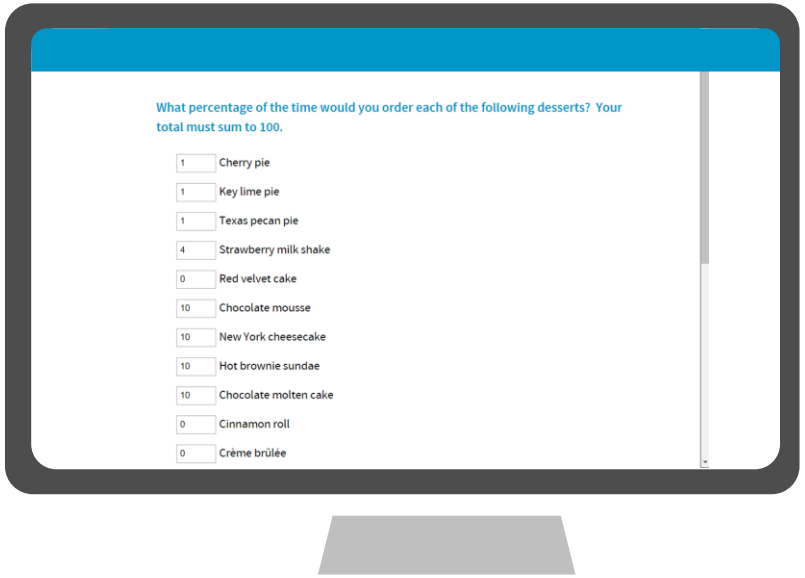
Why do we love it?

- MaxDiff > Ranking Data
  - Ranking is impractical with >10 items
  - Ordinal scale results
  - What do you report? #1 Rank? Top #1/#2?



Why do we love it?

- MaxDiff > Constant-Sum Allocation
  - Constant-Sum is impractical with >10 items
  - Making answers to sum to a particular value is difficult!



MaxDiff exercises tend to be longer

- MaxDiff exercises may take around 3x the amount of time for a respondent to complete versus a rating scale question.

- However, given the issues with rating scales (i.e. scale use bias, straight-lining), having respondents slow down and provide better data seems like a good thing for the conscientious researcher to do.

- Because each respondent provides repeated observations for each item in a MaxDiff, we get a score that tells us how consistent they are, so we know if they are faking it!

www.sawtoothsoftware.com/maxdiff-video

Case Studies

QSR Menu

Challenge

A quick service restaurant (QSR) wanted to ***optimize*** its menu offerings across its many categories by understanding which offerings were most appealing to consumers.

Solution

A mobile **MaxDiff** study was conducted to understand the relative appeal of each menu offering within a specific category.

Outcome

The QSR used the MaxDiff results to determine which items it would offer to customers to drive the most interest across its different categories. The data received from prior ratings research lacked the discrimination and clear insights compared to the MaxDiff data and they are so thrilled with the results that they continue to conduct waves of research.

Hospital Innovation

Challenge

A hospital needed stakeholder feedback to ***prioritize*** the use of new world-class technological innovation.

Solution

A **MaxDiff** exercise was fielded among patients, patient families, nurses, physicians, hospital administrators, researchers, local community representatives to determine how they valued each potential priority.

Outcome

The hospital was able to factor community priorities into planning how this scarce resource could be best utilized in at-risk patient populations.

Website Optimization

Challenge

A startup had +20 ideas of content for their landing page. Some of the content would require more real estate than others. In addition, the lower ***prioritized content*** could show up on subsequent pages.

Solution

A **MaxDiff** exercise was conducted to prioritize the content and find the optimal combination of that content for the landing page.

Outcome

While the most valuable top 10 ideas could not fit on one landing page, a set of 11 ideas, swapping out a top 10, gave them a higher value score. A utility correlation matrix also helped determine which ideas should appear together on the subsequent pages.

Bank Messaging

Challenge

A financial institution wanted to understand which messages would ***reach*** customers while visiting the bank's branch and encourage these customers to consider new offerings.

Solution

A **MaxDiff** study was done to understand the relative appeal of each potential message. Those results were then entered into a **TURF** (Total Unduplicated Reach & Frequency) simulator to ensure the messages would reach consumers.

Outcome

The financial institution was able to introduce messages that targeted different audiences while not cluttering the space with too much marketing.

Clinical Research

Challenge

A clinical research facility was interested in ***prioritizing*** the 30+ possible claims they could make about their new drug for marketing and communication.

Solution

A **MaxDiff** study was done to prioritize these claims and results were also entered into a **TURF** simulator.

Outcome

Three tiers of claims emerged, with four claims very far above the rest of the pack. The client was then able to allocate clinical research funds by trading off the value of the claims and their likelihood of success in clinical studies.

Product Roadmap

Challenge

A software company had ideas for feature development but wanted to understand how its users would ***prioritize*** the roadmap.

Solution

A **MaxDiff** study was done to understand the relative interest in future feature development of the software. A **segmentation** was also done on the MaxDiff results.

Outcome

There were two clear segments of users, each wanting different product features. Thanks to the results, the software company is able to create a roadmap that satisfies both types of users and continues to run this survey annually.

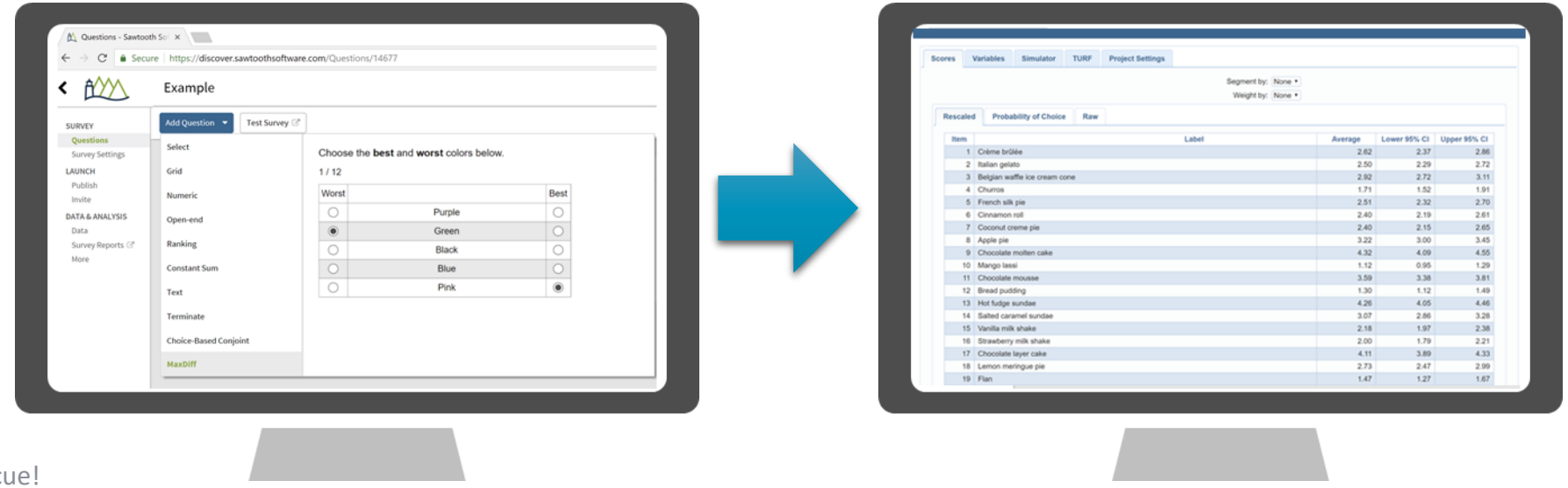
Other Applications

- Political campaign promises
- Capital expenditures planning
- Employee benefits packages
- Brand names
- Package designs
- Coupon/Discount offers
- Etc.

MaxDiff in Discover

What is Discover?

- Discover is Sawtooth Software's web-based survey platform that makes choice analytics easier than ever before!
- Create basic MaxDiff and Choice-Based Conjoint surveys for the web in an easy-to-use interface. Analyze your data and explore the results in a simulator.



For $3,000 a year, your subscription includes:

Features
- Free tech support
- Free upgrades
- Free hosting
- Unlimited surveys
- Unlimited questions per survey

Question Types
- MaxDiff *(30 items)*
- Choice-Based Conjoint *(8 attributes, 15 levels per attribute)*
- Select
- Grid
- Numeric
- Constant Sum
- Drag & Drop
- Open-End
- Text
- Terminate

Programming
- Skip patterns
- Script Logic/Data Piping
- Survey Styles
- Randomize Responses
- HTML
- JavaScript
- CSS

Analysis
- Bayesian estimation *(individual-level utilities)*
- Online Simulator Tool

Step 1 - Develop item list and possible prohibitions

Bread pudding
Cherry pie
Chocolate layer cake
Chocolate molten cake
Chocolate mousse
Churros
Cinnamon roll
Coconut crème pie
Crème brûlée
French silk pie
Hot brownie sundae
Hot fudge sundae
Italian gelato
Key lime pie
New York cheesecake
Peach cobbler
Red velvet cake
Strawberry milk shake
Texas pecan pie
Tiramisu

Prohibitions example

1. Clean eating areas (floors, tables, and chairs)
2. Clean bathrooms
3. Has health food items on the menu
4. Typical wait time is about 5 minutes in line
5. Typical wait time is about 15 minutes in line
6. Prices are very reasonable
7. Your order is always completed correctly
8. Has a play area for children
9. Food tastes wonderful
10. Restaurant gives generously to charities

Step 2 – Choose the # of items and # of sets

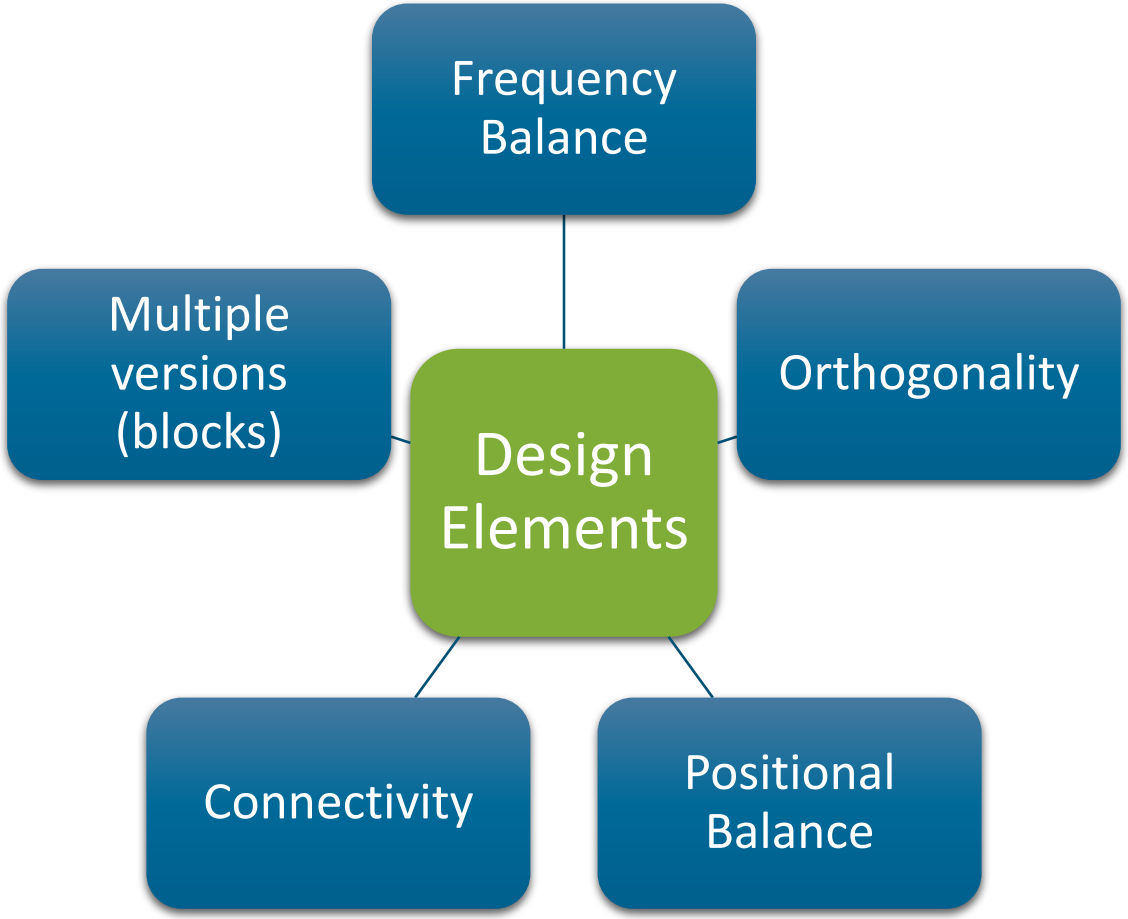
- Number of items
  - 3 to 5 items per set
  - Don’t show more than half of the total items in a set
  - More than 5 items per set is detrimental

- Number of sets*

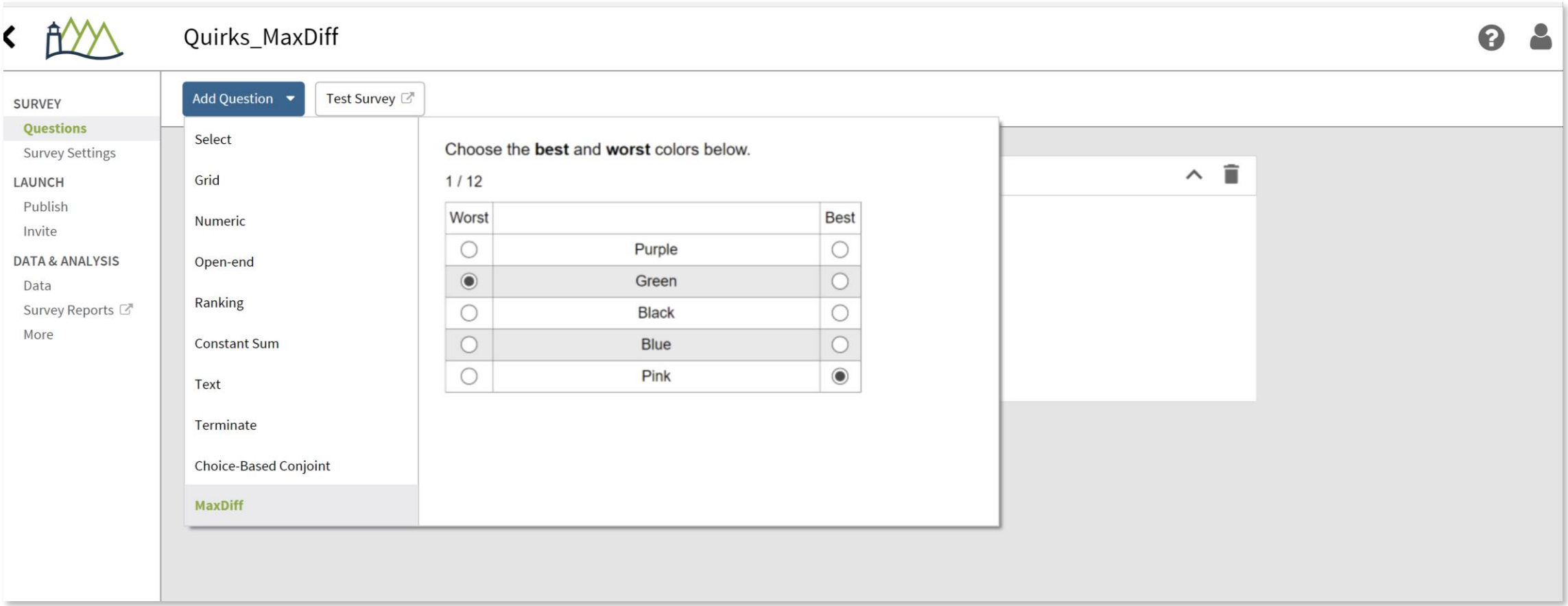
$$\frac{\text{\# tasks X \# items per task}}{\text{Total \# items}} \geq 3 \qquad \frac{?? \times 4}{10} \geq 3$$

**If the number of items is large, showing each item at least 3 times can results in a long survey (i.e. 50 items means 30 sets), therefore, other approaches (i.e. Bandit, Sparse) may be better*

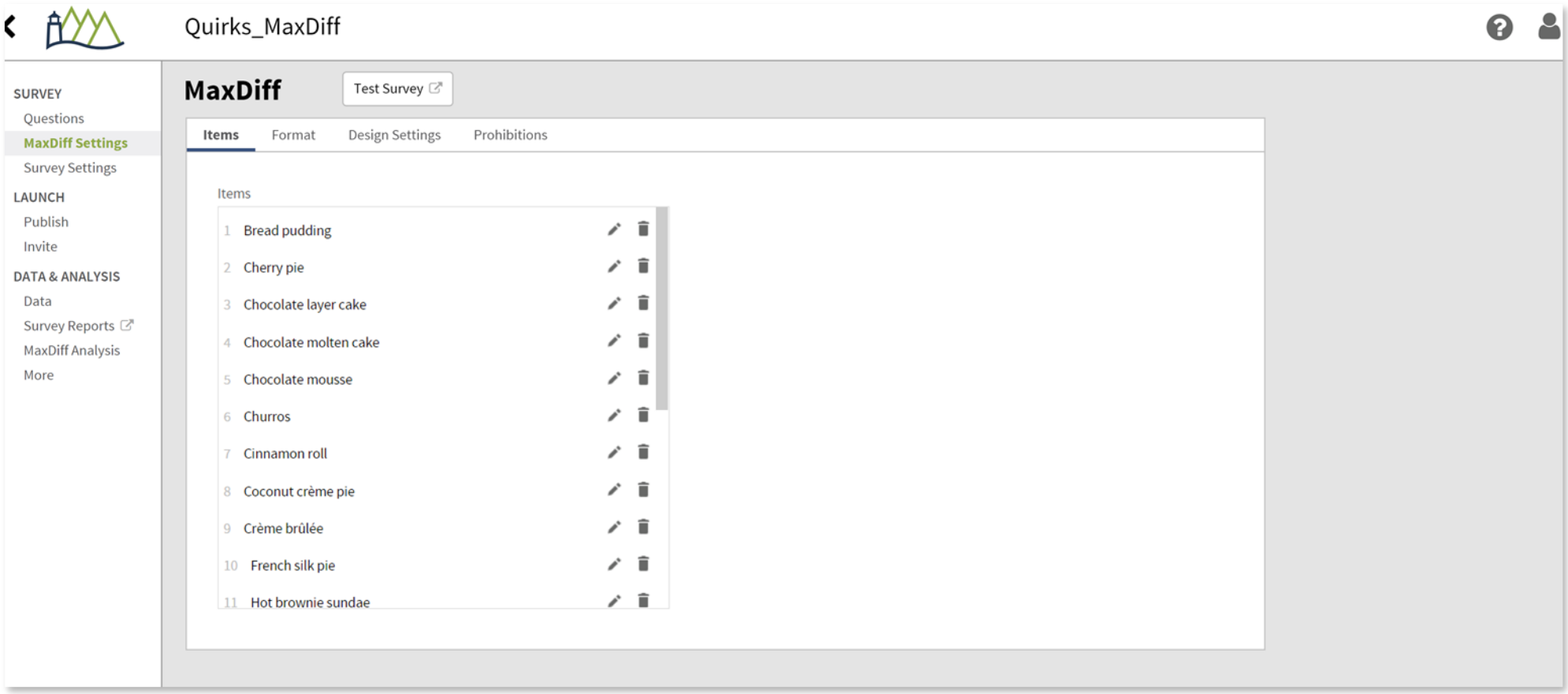
What makes a good design?



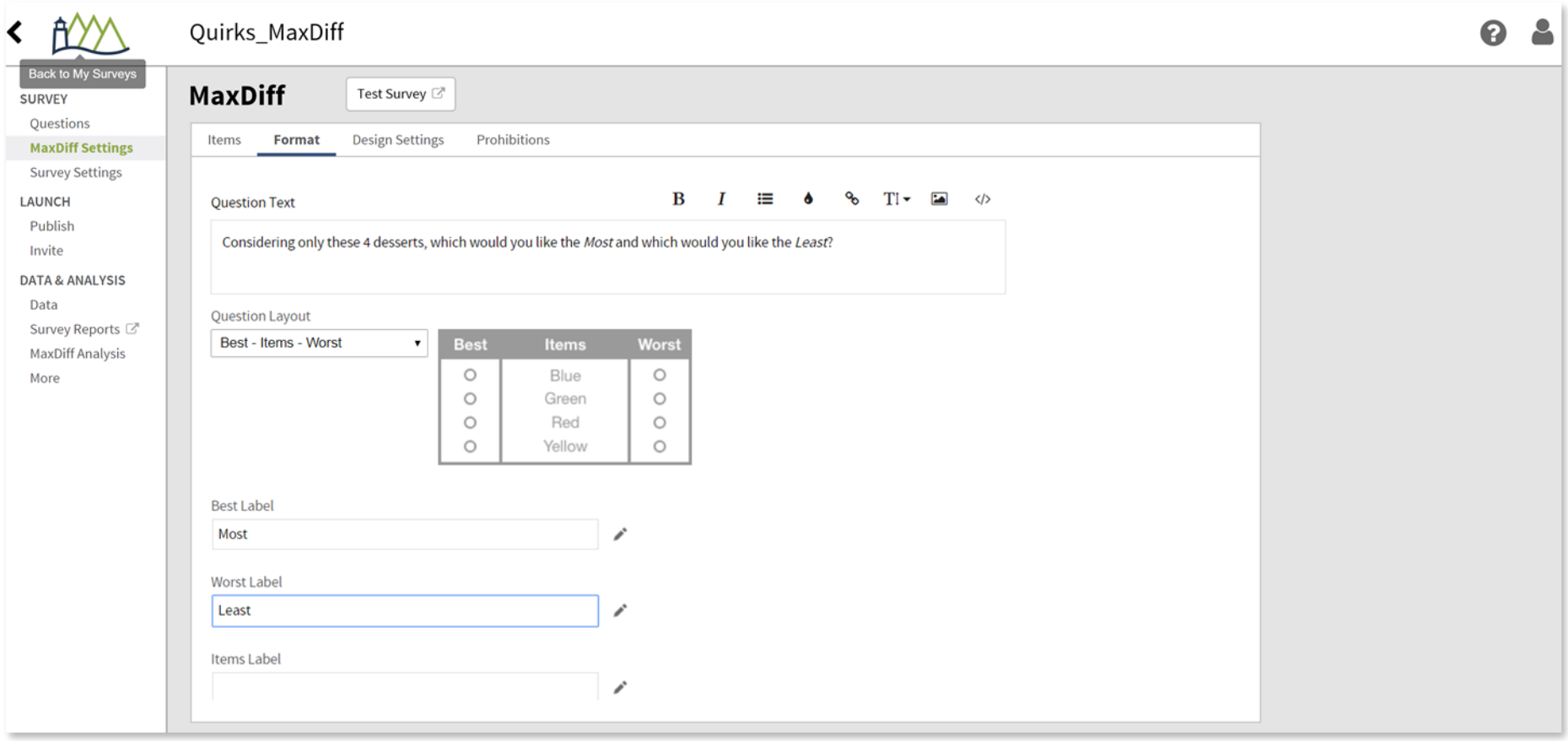
Using Discover MaxDiff



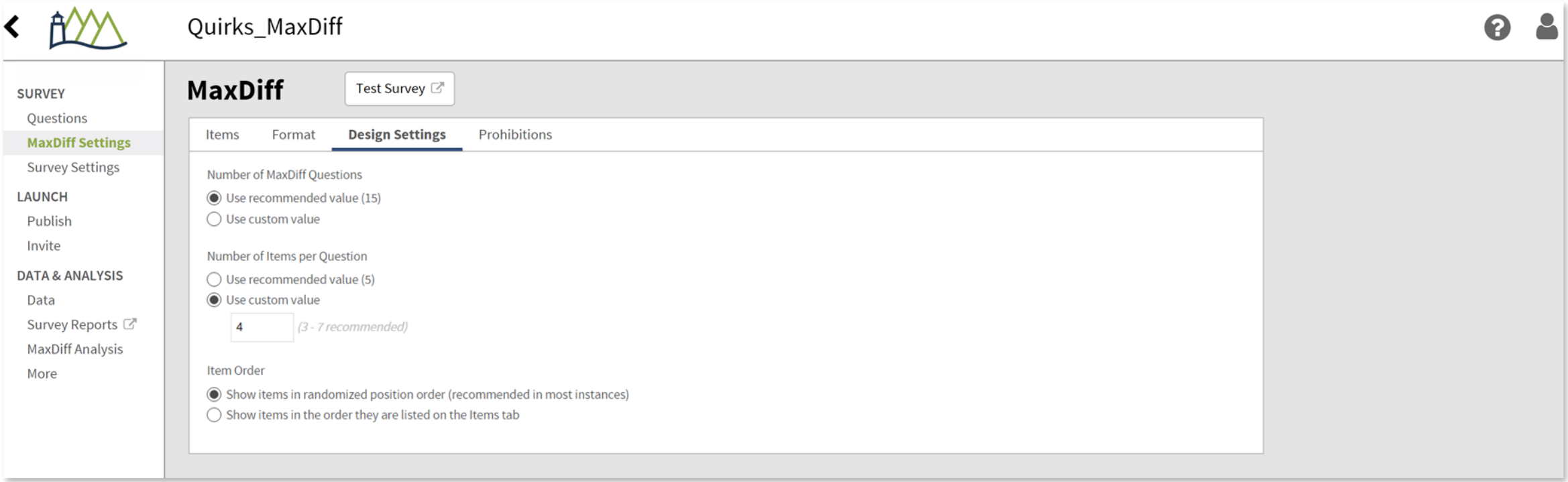
Paste your list of items



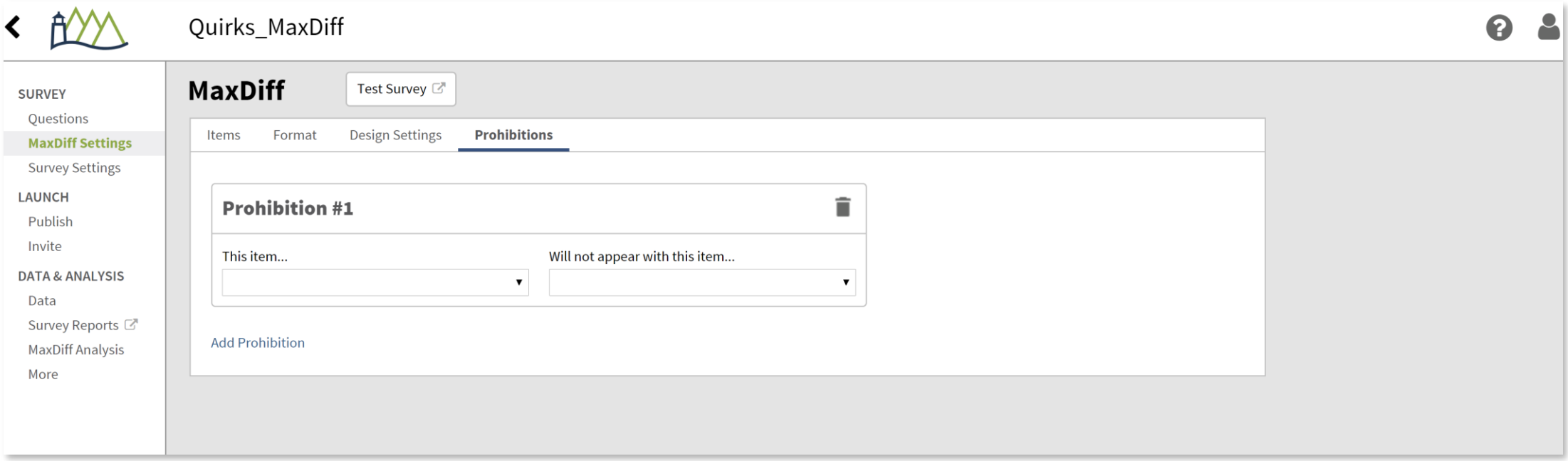
Specify your question text, labels and layout



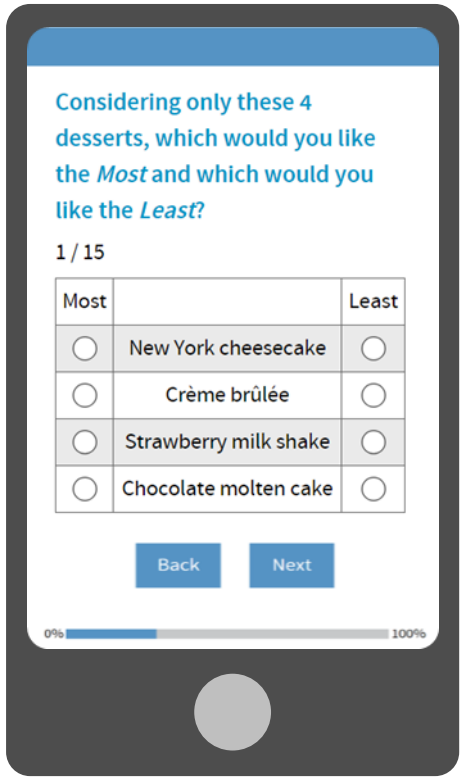
Specify how many items per set and # of sets

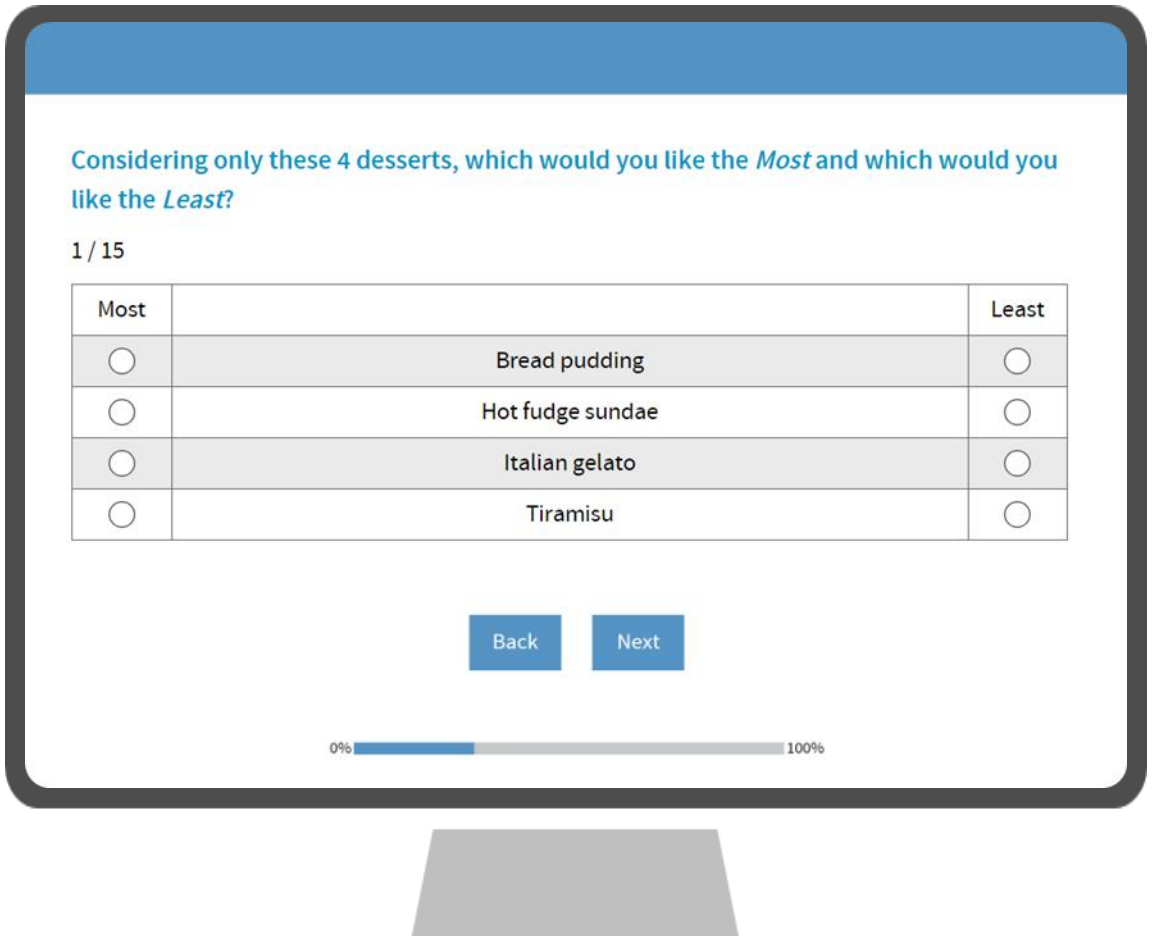


Add prohibitions (if applicable)



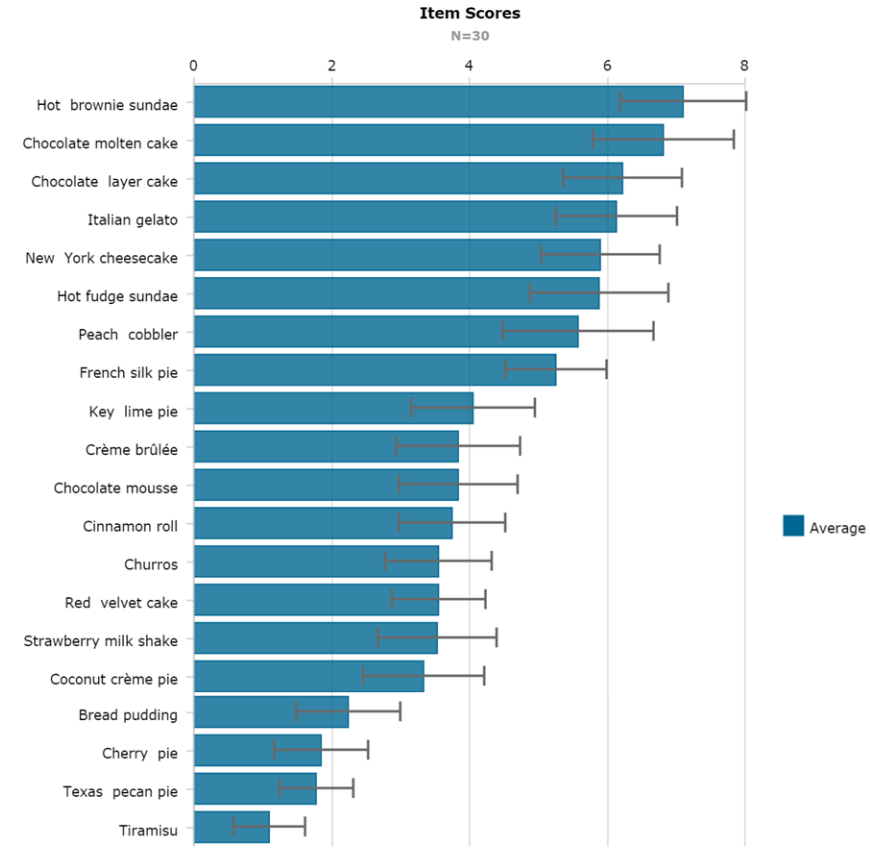
Preview your exercise





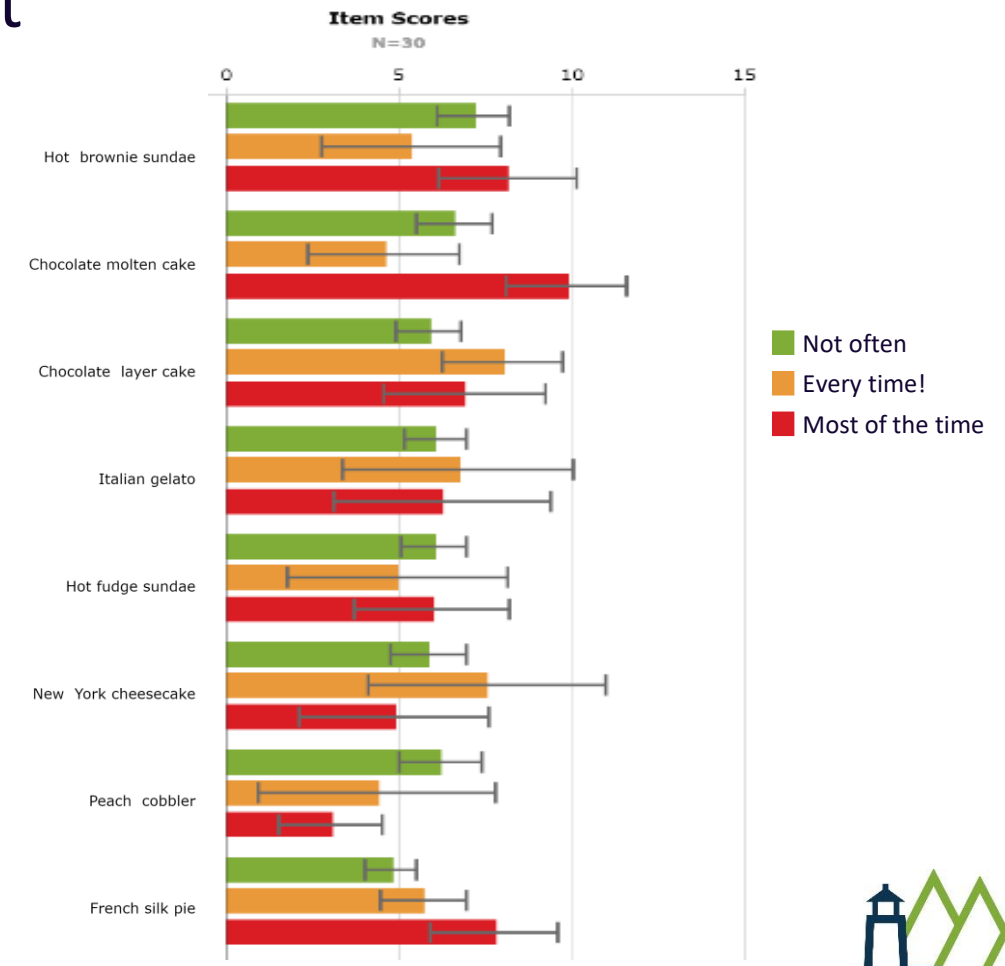
Analyze your data

- Discover has an automatic built in estimation tool to create individual-level scores using Bayesian analysis
  - You get an easy-to-read report that you can open in Excel
  - The scores are placed on an easy-to-interpret 0-100 scale
  - Ratio-scaled data, so a score of a 10 is twice as great as a score of a 5!



Explore your results

- See values for the sample, or by segment
- Weight your data
- Merge in external data
- Show 95% confidence intervals



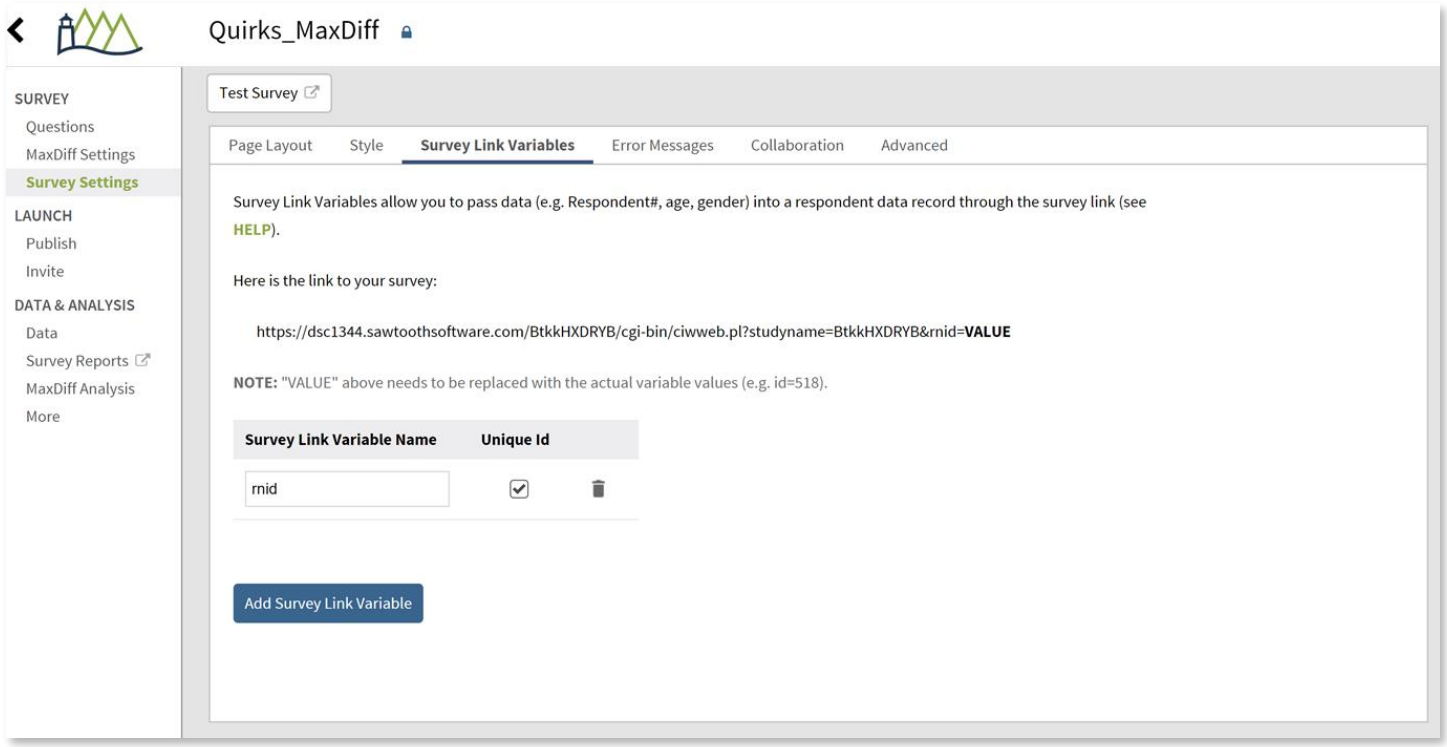
Coming soon!

- TURF Analysis (**T**otal **U**nduplicated **R**each & **F**requency)
  - "If we can only offer three desserts, which three should we offer so that as many people as possible have at least one dessert that they like?"

- Conduct simulations, projecting "market choices"
  - "If we offered just these three desserts, how many respondents would prefer the peach cobbler?"

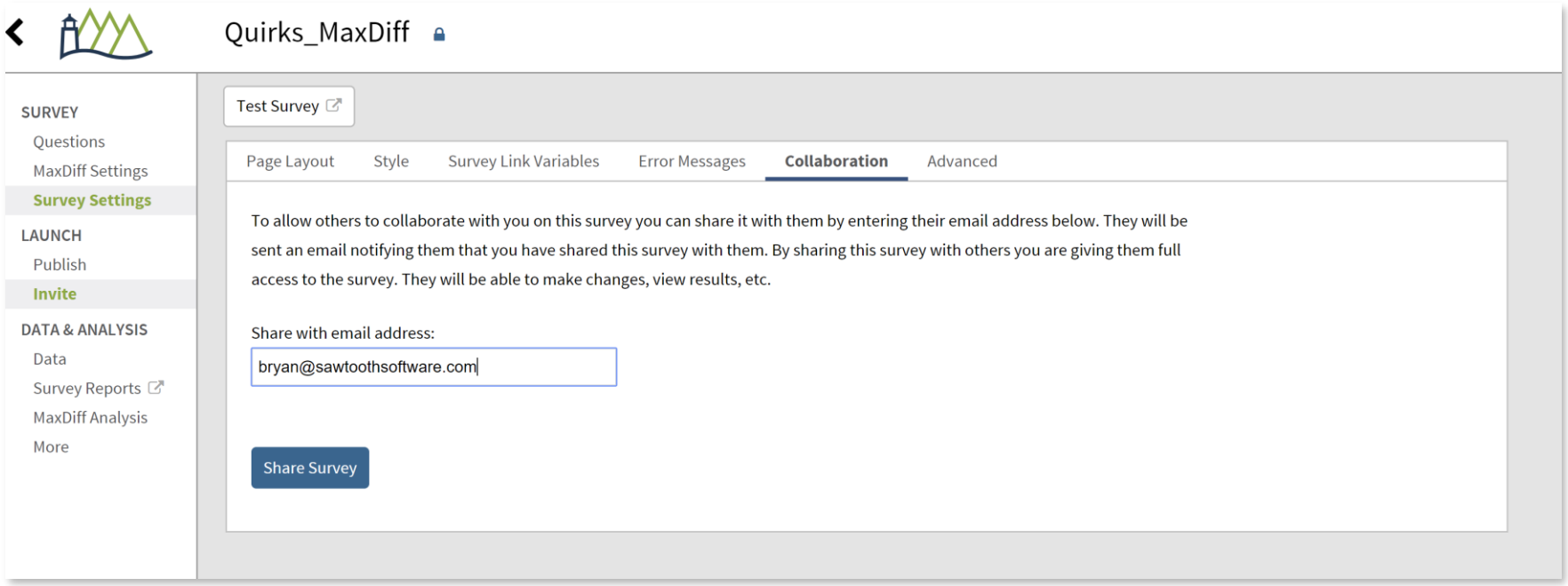
Integration

- Working with a panel company? Using another survey software tool? Use Discover's survey link variables to pass data into a respondent's record.



Collaboration

- Share your survey with others by entering their email address. They will be able to make changes, view results, etc.



Start using Discover today!

- Email sales@sawtoothsoftware.com to get set up right away!

- We will follow up in an email with a link to the recording and additional details

Want to learn more?

- Join us at one of our in-person workshops!
  - July 16-20 in Park City, UT
  - Sept 19-20 in Rotterdam, Netherlands
  - October 8-11 in San Diego, CA
  - November in Sydney, Australia
- Check out our free webinar series
  - http://sawtoothsoftware.com/training/webinars
- Sign up for our Research Rockstar e-course on MaxDiff
  - Coming soon!

Questions?

BRYAN ORME
bryan@sawtoothsoftware.com
P: 801.477.4700
@bryankorme

MEGAN PEITZ
megan@sawtoothsoftware.com
M: 586.291.9879
@MeganPeitz
@SawtoothSoft

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