When Bigger Sample Size Isn't Better

Presenters:

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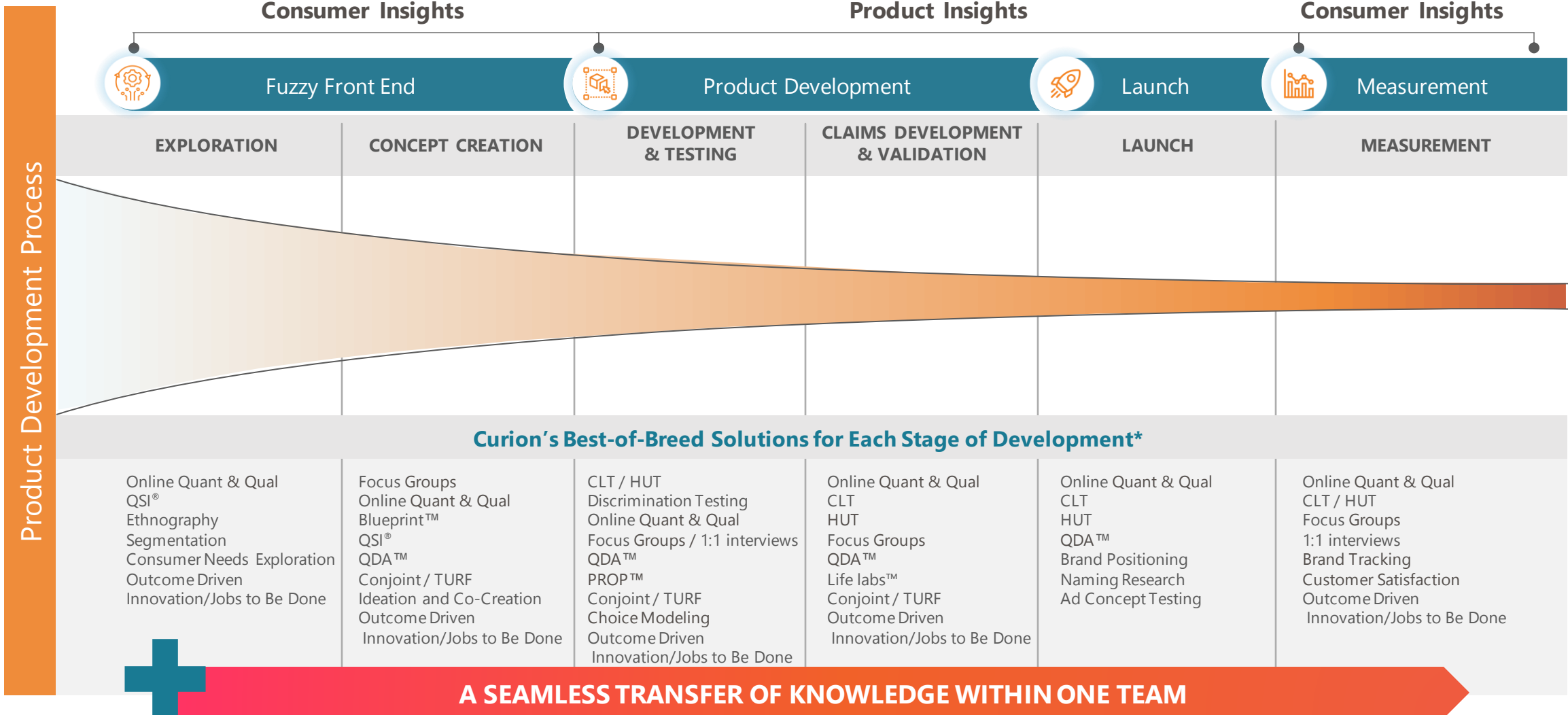
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Who is Curion

Curion is a product and package consumer insights firm focused on driving impact for your business. We get to know your consumers by testing concepts and products from innovation to launch, seamlessly transferring knowledge within one team. As your trusted partners, we apply fresh thinking, with a range of proven methodologies, to ensure only products of quality and differentiation are introduced to the market and provide repeatable delight.

Insights Delivered at Every Stage

Product Development Process

Consumer Insights		Product Insights		Consumer Insights	
Fuzzy Front End		**Product Development**		**Launch**	**Measurement**
EXPLORATION	CONCEPT CREATION	DEVELOPMENT & TESTING	CLAIMS DEVELOPMENT & VALIDATION	LAUNCH	MEASUREMENT

Curion's Best-of-Breed Solutions for Each Stage of Development*

EXPLORATION	CONCEPT CREATION	DEVELOPMENT & TESTING	CLAIMS DEVELOPMENT & VALIDATION	LAUNCH	MEASUREMENT
Online Quant & Qual	Focus Groups	CLT / HUT	Online Quant & Qual	Online Quant & Qual	Online Quant & Qual
QSI®	Online Quant & Qual	Discrimination Testing	CLT	CLT	CLT / HUT
Ethnography	Blueprint™	Online Quant & Qual	HUT	HUT	Focus Groups
Segmentation	QSI®	Focus Groups / 1:1 interviews	Focus Groups	QDA™	1:1 interviews
Consumer Needs Exploration	QDA™	QDA™	QDA™	Brand Positioning	Brand Tracking
Outcome Driven	Conjoint / TURF	PROP™	Life labs™	Naming Research	Customer Satisfaction
Innovation/Jobs to Be Done	Ideation and Co-Creation	Conjoint / TURF	Conjoint / TURF	Ad Concept Testing	Outcome Driven
	Outcome Driven	Choice Modeling	Outcome Driven		Innovation/Jobs to Be Done
	Innovation/Jobs to Be Done	Outcome Driven	Innovation/Jobs to Be Done		
		Innovation/Jobs to Be Done			

A SEAMLESS TRANSFER OF KNOWLEDGE WITHIN ONE TEAM

curion | **ZAXBY'S**
Consumer Insights. Delivered.

What Makes Curion Different?

Curion is the market leader for 30+ years in consumer testing and a disruptor in product insights, delivering best-in-class, innovative research that drives real-world consumer acceptance and purchase

" Incredible understanding of our needs, great partnership with our teams during this hybrid experiencing, and excellent reporting. Personable, always able to get in contact and collaborate."

L'Oreal

Proprietary Methodologies

Executing market-leading and innovative methods, that are now recognized as the industry standard globally. Recently launched the Curion Score, a data-driven, proprietary benchmarking offering that clients need & only Curion can provide

Tech-enabled Workflows

Employing a tech-enabled approach that taps into broad set of capabilities and solutions to carve out unique insight strategies to maximize each brand's budget with their goals

A Holistic Consumer Research Approach

We don't believe in half-told stories. Our methodologies provide real-time results from early front end, to launch, Curion provides a suite of solutions to understand your product's comprehensive narrative.

Nationwide Network of Consumer Centers

Operates state-of-the-art consumer centers that are among the largest and most technologically advanced, facilitating efficient, localized and effective study execution spanning over 65 countries.

Proprietary Recruiting & Panels at Scale

Manages robust, proprietary database with 150K+ consumers across all Curion markets with built-in demographics to easily target, screen and verify a brands' desired audience for studies. Utilize a proprietary tool (SPOT) to pull a very targeted list of consumers to more accurately & efficiently recruit for studies.

World Class Talent

Comprised of 45+ with Masters degrees, 20+ PhD's, 20+ in house recruiters and over 40+ published academic articles, Curion's expert staff engage directly with clients to address brands' needs and drive research success

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ZAXBY'S

Historical State

A History: Test Target N=300

- A number that leadership had been comfortable using to inform changes to the core menu

- Driven by:

    - Perception that N=300 would be substantial enough to be reflective of the U.S. population

    - Familiarity with larger N sizes, for online survey research

    - Historical precedence

Impact on Budgets and Number of Products Tested

N=300 is resource intensive: time, people, product and dollars.

All of these factors limited the number of products Zaxby's was able to test in a year, at a time that the business was growing.

Catalyst for Change

Business changed within the past 24-36 months and there was a need to reassess Zaxby's processes so that test plans and strategy could scale up with the business.

Needed to approve secondary vendors and validate alternate specifications to assure supply within a shortened timeline, when extensive market testing was not feasible.

Executive leadership was open to taking the risk.

Current Investment

- **8-10** of Zaxby's Culinary Staff

- **3-5** of Curion Kitchen Staff

- **3-5** Curion Non-Kitchen Facility Staff (Front desk, servers, etc.)

- **12 Hours/Day** per 150 consumers (assuming 60-minute sessions)

- Total number of personnel hours = **240h/150** consumers

For a typical N=300 study:

- 2 Days in field =480h

- + additional hours for equipment load-in and culinary prep

Grand Total ~ 500h+ hours for an N=300 study

How can Curion help Zaxby's assess their sample size to balance risk and reward?

Balancing the Practical vs Statistical Significance

Sample Size:

Too Small – Might miss important and impactful differences, results may not be repeatable, might have poor representation

Too Large – Too sensitive, finding differences that are not practically important or not meaningful to the consumer. Can be highly resource intensive for both time and money

Product Role:

Core/Signature products – Sample differences are likely smaller and most likely a desire for a higher level of sensitivity

LTO's – Short time in market, largest concern is general consumer interest

Data Mining

- Pulled data from historical studies where N=300 was completed for Core products

- Ran simulations, modeling how scores for key performance indicators would have been impacted, if sample size had been reduced

- Pulled randomized groupings from the data of N=100, 150, 200, and 250

[Minute] Magnitudes of Difference

- As sample size went up, the detectable difference went down

- Simulated results from additional sample sizes delivered the same conclusions for N=150+

- Meaning: Zaxby's return on investment becomes smaller and smaller despite increasing costs

Action Standard 95% Confidence Interval

Sample	Lower Confidence Interval	Upper Confidence Interval	Width
N=100	-0.061	0.095	0.16
N=150	-0.047	0.080	0.13
N=200	-0.038	0.072	0.11
N=250	-0.033	0.066	0.10
N=300	-0.028	0.062	0.09

90% Confidence Interval

Sample	Lower Confidence Interval	Upper Confidence Interval	Width
N=100	-0.044	0.077	0.12
N=150	-0.033	0.066	0.10
N=200	-0.026	0.060	0.09
N=250	-0.022	0.055	0.08
N=300	-0.018	0.052	0.07

Distribution of Difference by Sample Size
9-Point Hedonic Test VS Control

-15.00% -10.00% -5.00% 0.00% 5.00% 10.00% 15.00%

N=100   N=150   N=200   N=250   N=300
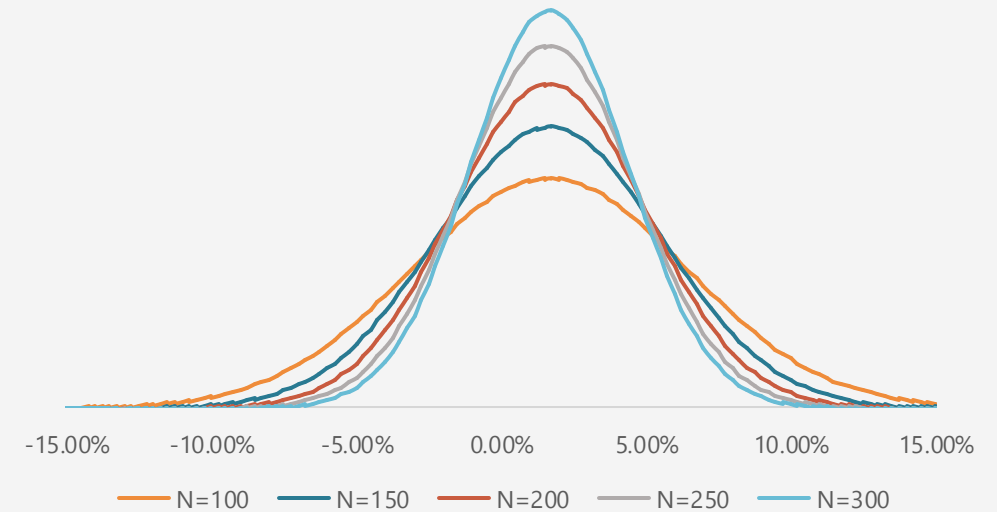
Curion's Recommendation

- Recommended to pivot to N=200 for High Risk/Core Products

- While N=150 also resulted in similar findings, N=200 would allow for large enough sample sizes for additional data cuts of interest in final data

- Reduction from N=300 to N=200 will save Zaxby's 100 manhours, ~$25,000 in testing fees, as well as money on ingredients

Zaxby's Leadership Team Decision
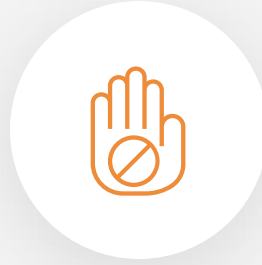
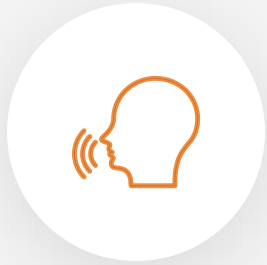**Stop:**
Testing with N=300, in a single location

Start:
Testing with N=200, splitting the sample size across two markets, to increase representation

Continue:
Continuing to differentiate sample size based on the role of the product in the menu, Core VS LTO. LTO's will remain at an N=100
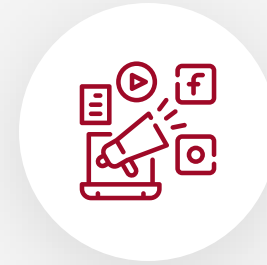
Key Takeaways

Voice of the Customer

Cost-Effective Methodology

Research With a Strong Business Impact

Q & A

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THANK YOU!

CONSISTENTLY CREATE ENCORE EXPERIENCES THAT ENRICH LIVES ONE PERSON AT A TIME.