



Turning Customer Feedback Into Innovation with AI-Powered VOC

Applied Marketing Science: Customer insights for strategic impact

Proven & Systematic

Over 36 years of helping clients and 10,000 customer interviews

Methods, technology, and analysis based on award-winning research conducted at the MIT Sloan School of Management

Leading Expertise

Specialized in providing actionable insights to some of the world's leading companies

Experienced in recruiting and conducting end-to-end domestic and international research with B2B audiences

Partnership

Not just data. A consulting partner that delivers actionable insights linked to recommendations

Easy to work with, accessible and collaborative

Revolutionizing VOC through academic collaboration

Establishing the VOC process

“The Voice of the Customer” by Abbie Griffin and John R. Hauser, Marketing Science, Winter 1993

1993

2019

AMS’s first machine learning model

“Identifying customer needs from user-generated content” by Artem Timoshenko and John R. Hauser, Marketing Science, January 2019

An LLM to identify customer needs

“Can LLMs formulate customer needs?” by Artem Timoshenko, John R. Hauser, and Chengfeng Mao, submitted for publication, 2025

2025



Agenda

- Needs-based innovation
- VOC under pressure
- The AI advantage
- AI-VOC in practice
- Q&A

Innovation is fundamentally about

Solving customer problems

“It takes as much time to solve a bad problem as it does a good problem. And if you’re not working on good problems, you’re really wasting your time.”

Customer needs are NOT

Solutions

- A specific way to address a need, often a product, service, or feature

“Mounted ball bearing with a locking collar.”

Target Values

- A measurable or specific criterion that defines the acceptable performance of a solution

“Takes me < 15 minutes to replace a bearing.”

Opinions

- A subjective judgment, belief, or preference, often influenced by personal experience or brand perception

“[Brand] makes the best ball bearings on the market.”

Need: “Able to get equipment back up fast when a bearing fails.”

Customer Needs

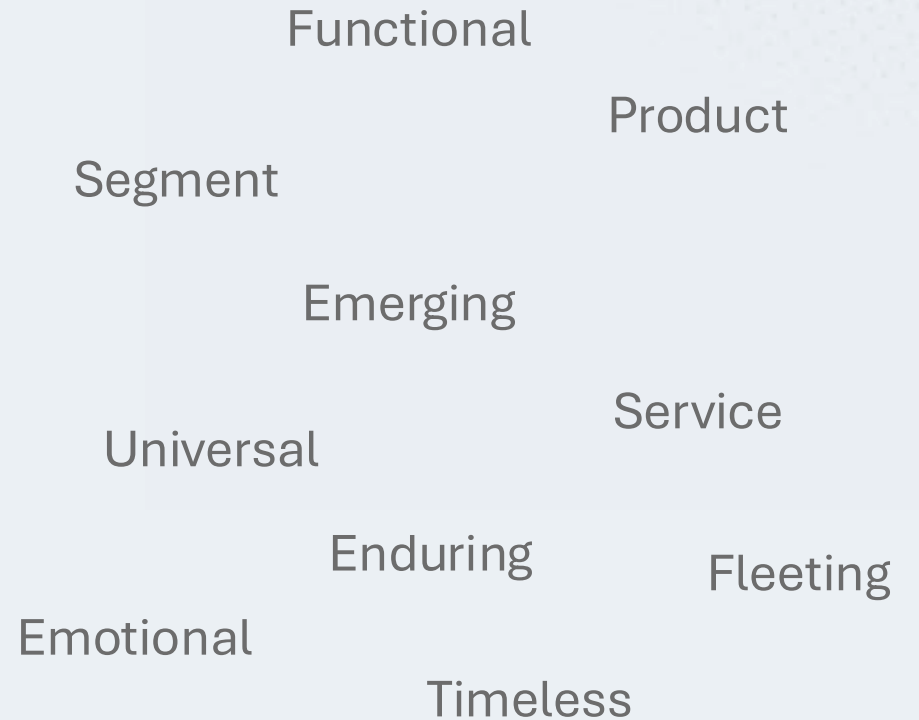


The levers that represent **sources of customer value**

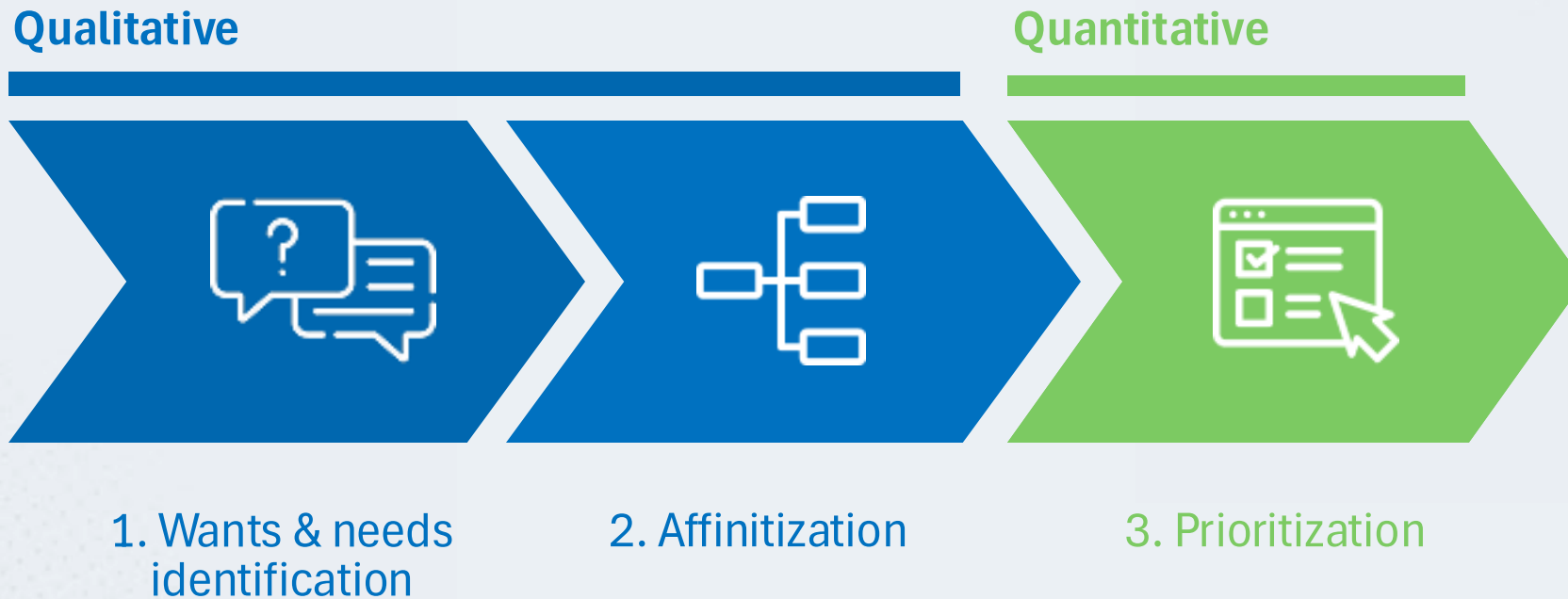


Occur when a customer seeks a benefit that a product or service could deliver

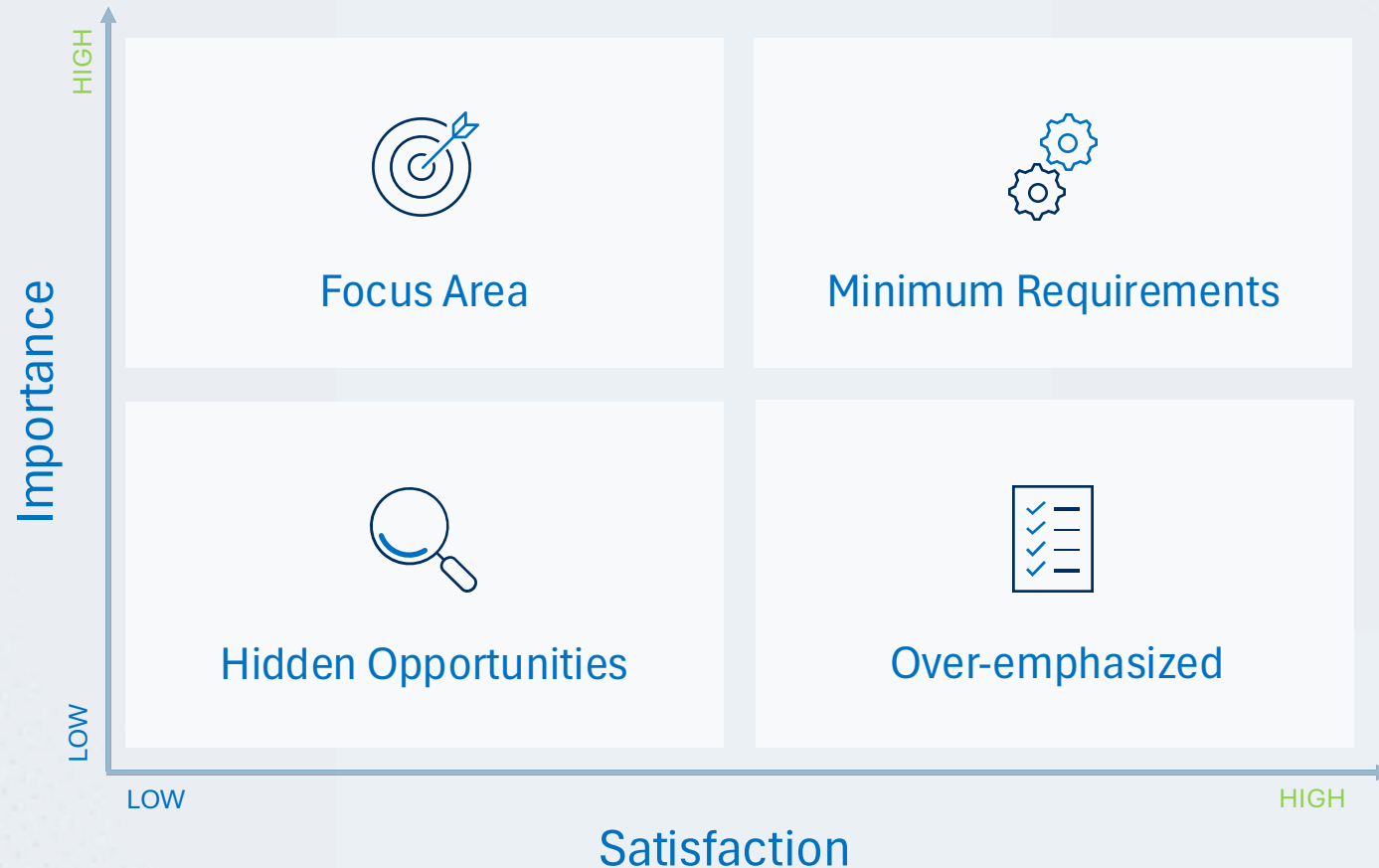
There are many types of customer needs, including but not limited to:



The Traditional VOC Process



The **market opportunity matrix** allows teams to pinpoint the most important unmet needs to solve for



Why VOC is under pressure

- R&D and innovation teams face growing pressure to uncover unmet customer needs faster, with greater accuracy, and at lower cost
- But traditional VOC approaches can be:
 - **Time-consuming:** months-long cycles from research to actionable insights
 - **Resource-heavy:** dedicated teams for interviews, analysis, and reporting
 - **Vulnerable to human bias:** can miss what matters most

Poll Question: What is your team's biggest challenge when using customer feedback for innovation and R&D?

The signals are everywhere

90%

Of enterprise data is unstructured; reviews, transcripts, calls, forums, growing 4x faster than structured data

265B

Customer service calls per year globally, each containing potential unmet needs

87%

Of enterprises have adopted AI, yet most are still in early stages of scaling it for customer insight

• Sources: Informatica 2025, McKinsey State of AI 2025, Second Talent Enterprise AI Report 2026

The nature of insight finding has changed

The challenge is no longer simply summarizing what customers say. It's:

Finding WHERE

Customers are talking about your products and category across dozens of channels, but data is scattered and easy to miss

Identifying WHAT

The real, underlying needs are buried, and traditional methods can't keep up with the volume or velocity

Where are your customers talking?

Product reviews: Amazon, distributor sites, industry marketplaces

Reddit & online forums: Subreddits, trade communities, Q&A sites

YouTube comments: Product demos, how-tos, unboxings

Social media: LinkedIn, X/Twitter, Facebook groups

Call center transcripts: Inbound support and service calls

Chatbot transcripts: Automated support and live chat logs

Customer feedback & complaints: CRM notes, warranty claims, field reports

Survey open ends: NPS or CSAT verbatims, post-purchase surveys

Poll Question: What best describes the type of customer input your innovation team receives?



The new challenge with VOC:

Due to the explosion of available data, identifying customer needs has become time-consuming and overwhelming

Why many teams still miss the need

1. They confuse solutions, opinions, target values, or high-level themes for the true underlying need
2. It's challenging to spot and formulate needs; it takes training

The cost of the status quo

Without a better approach, teams face:

- **Missed unmet needs:** critical insights buried in volumes of unstructured feedback
- **Slower innovation cycles:** months of manual analysis while competitors move faster
- **Opinion over evidence:** teams debate instead of acting with data-backed confidence





Today's question:

What if purpose-built AI
combined with VOC
expertise could change the
game?

Poll Question: Where would you most value AI assistance in your innovation workflow?



2025: In collaboration with academic experts, AMS has developed

The only fine-tuned LLM designed specifically to identify and formulate customer needs



Artem Timoshenko
Northwestern Kellogg



John Hauser
MIT Sloan



Chengfeng Mao
MIT Sloan

Why not use ChatGPT to identify & formulate needs?



Overly generic

Returns only high-level needs, target value or solution, missing the critical details that actually drive innovation.



Hallucination risks

Can fabricate information your customers never said, leading teams in the wrong direction.



Privacy concerns

Your proprietary data enters public platforms and is no longer exclusively yours.

A purpose-built VOC LLM



Fine-tuning the LLM

The LLM was developed using ten professional VOC studies with more than 1,500 customer needs, spanning numerous product and service categories.

The supervised fine-tuning approach mimics how humans learn to analyze VOC data



The LLM
successfully
identifies all
types of needs

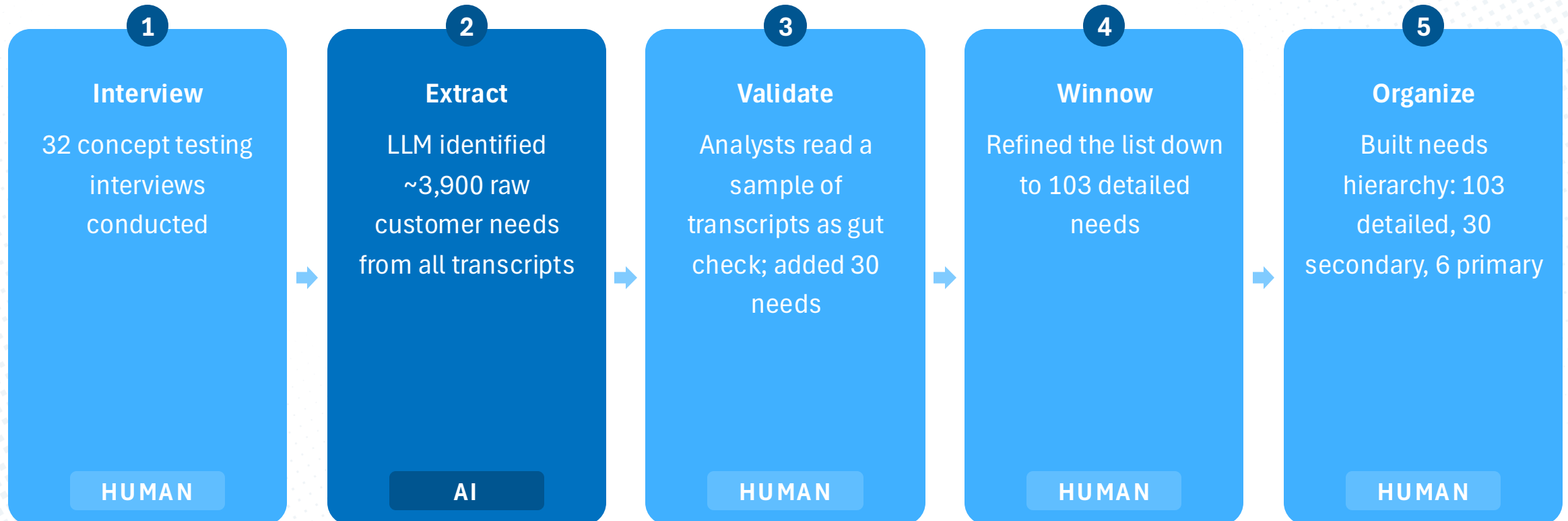


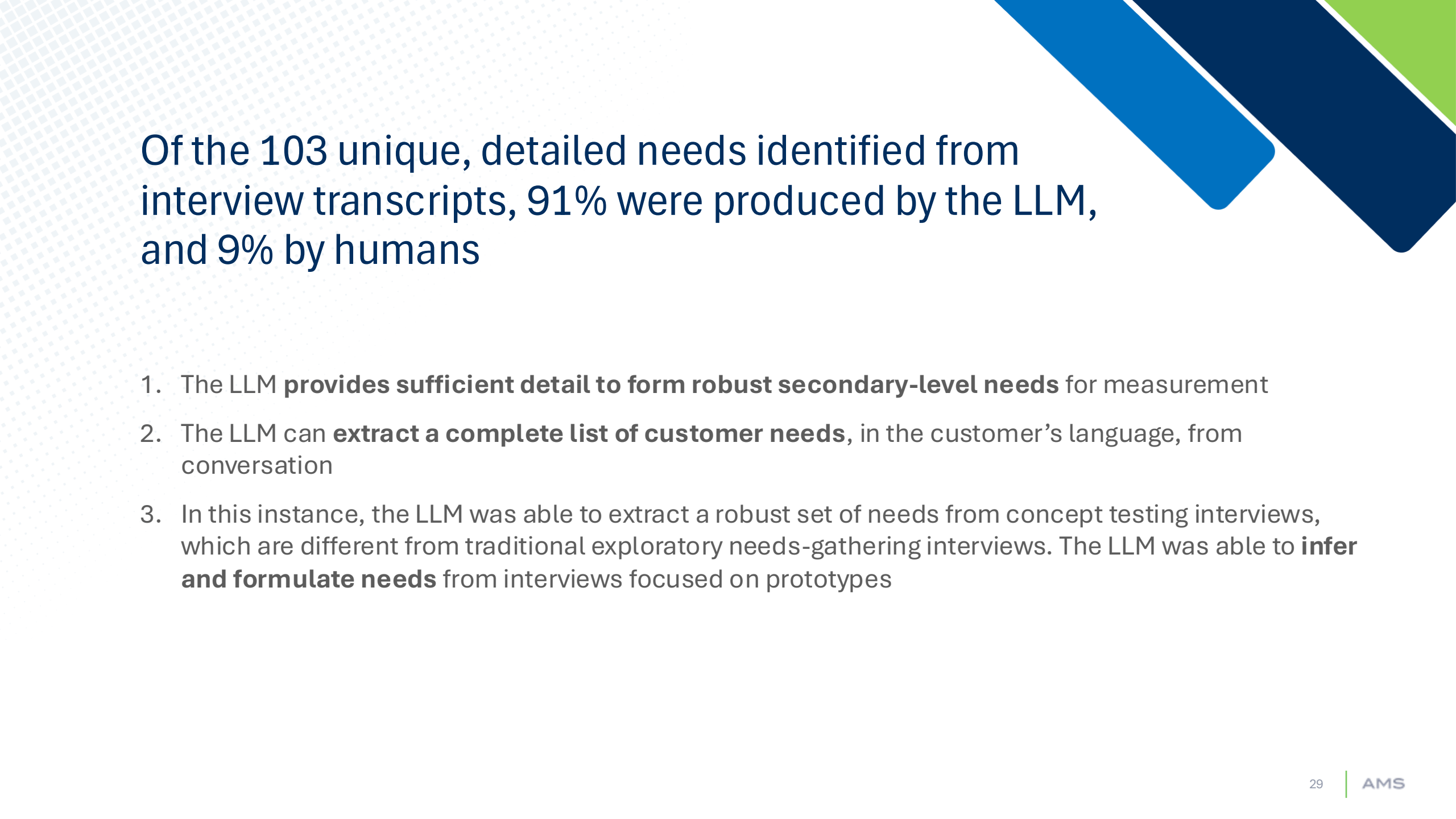
Case Study 1 :

Composite Siding

Can AI deliver a comprehensive list of detailed customer needs on non-VOC customer conversations?

AI VOC Engagement Workflow: Composite Siding





Of the 103 unique, detailed needs identified from interview transcripts, 91% were produced by the LLM, and 9% by humans

1. The LLM **provides sufficient detail to form robust secondary-level needs** for measurement
2. The LLM can **extract a complete list of customer needs**, in the customer's language, from conversation
3. In this instance, the LLM was able to extract a robust set of needs from concept testing interviews, which are different from traditional exploratory needs-gathering interviews. The LLM was able to **infer and formulate needs** from interviews focused on prototypes

The LLM successfully identified different types of needs

FUNCTIONAL

The practical, task-oriented requirements that customers expect a product or service to fulfill. They reflect the core "jobs to be done"

UNIVERSAL

The fundamental human needs that cut across industries and demographics. These are consistent, deeply rooted motivations—such as the need for safety, connection, and control

EMOTIONAL

The feelings or psychological states that customers seek to achieve or avoid when interacting with a product or service.

NICHE

Specific requirements or preferences unique to a particular customer segment, use case, or context

Similar themes surface in both the concept test study and the AI-powered VOC pilot

Theme	Concept test	LLM
Appearance	✓	✓
Curb Appeal	✓	✓
The Purchase Process		✓
Selection	✓	✓
Brand		✓
Durability	✓	✓
Installation	✓	✓
Reputation	✓	
Concept Preference	✓	

How does the LLM compare to traditional qualitative research and analysis?

Significant reduction in timeline

- Can save 4-6 weeks if using pre-existing data
 - No screener or discussion guide to draft
 - No need to recruit and interview respondents
- Reduces analysis and reporting time

Less resource-intensive

- Allows analysts to spend time on value-added tasks
- Allows team to investigate multiple data sources spanning multiple areas to extract customer needs on more than one category

A mix of new and expected output

- Uncovers a comparative amount of needs that are emotional, functional, universal, and niche
- Uncovers similar themes
- Gets into all corners of the data for niche insights

Given the original qualitative study was a concept test, and not a traditional VOC interview, this highlights the LLM's ability to distill down verbatims into customer needs. With pre-existing data, this method can produce a similar output in a much shorter, and less resource-intensive, timeline. **This method, with the right inputs, is well suited for VOC**

Case Study 2 :

Residential HVAC Equipment

Conduct AI-VOC using publicly available conversations to inform potential offering expansion, strategy, and next-generation product development



Objectives

Identify Customer Needs

- Surface unmet and latent needs across end-user segments using online data sources

Understand User Segments

- Understand when and how professionals and homeowners interact with the product category

Benchmark Competitor Sentiment

- Highlight dissatisfaction, unmet expectations, and brand perception across key competitors

Develop Needs Hierarchy

- Organize insights into primary, secondary, and tertiary needs for product development

Guide Product Strategy

- Equip the client with objective, customer-driven data to inform future product development

AMS extracted and analyzed 5,000+ verbatims from homeowners and professionals

Sources

- Online forums and communities (e.g., Reddit, Facebook groups)
- Industry-specific forums and discussion boards
- YouTube product review and how-to channels
- Product and app store reviews

Brands & Topics

- 4 competitor brands analyzed
- Key topics: installation, performance, reliability, efficiency, smart controls, connectivity, and maintenance
- Two primary segments: professionals and homeowners

Why these sources?

Publicly available online data provides candid, unprompted feedback from real users. These are organic conversations, complaints, and praise

Surfacing nuanced segment differences

The methodology infers distinct needs and reveals how each group defines value in fundamentally different ways

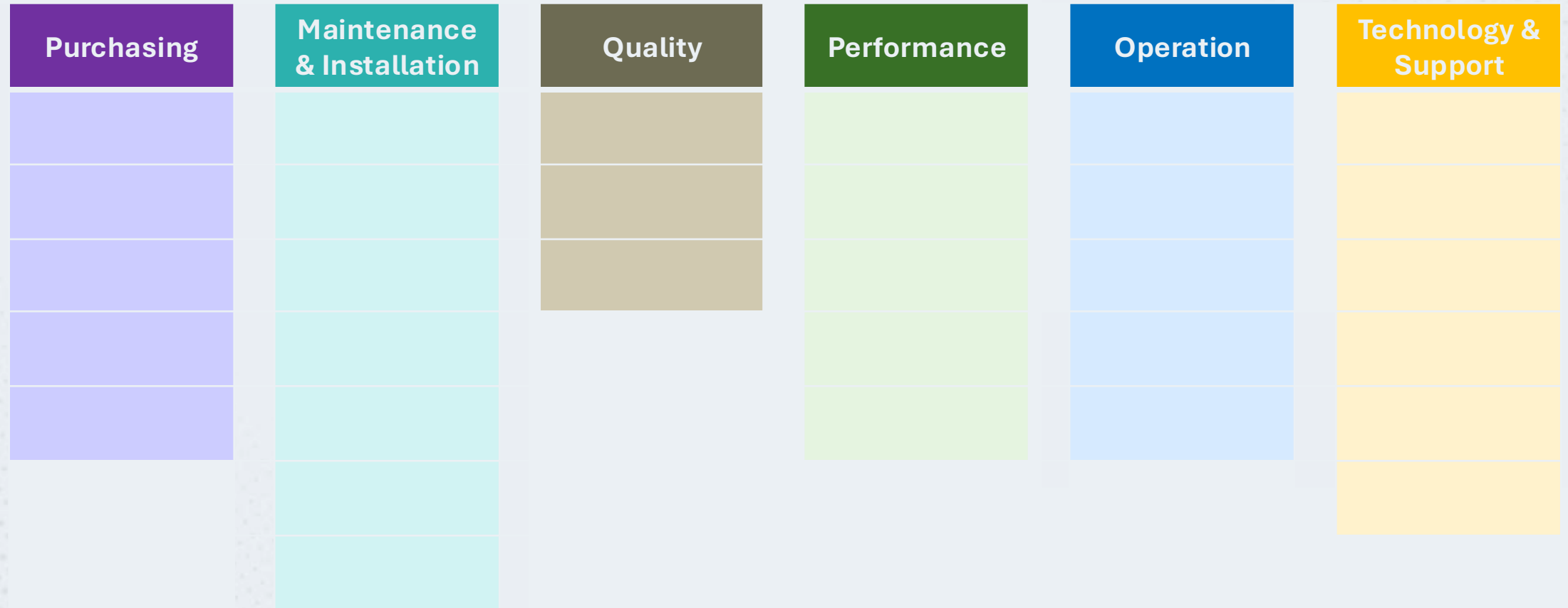
Segment A: Professionals

- How they define “value”
- What drives their purchase confidence and satisfaction with a manufacturer over time
- How they evaluate cost vs. performance trade-offs
- What baseline expectations do they use to decide on which manufacturers to recommend

Segment B: Homeowners

- How do they decide if a product is a good “value”
- What drives their purchase confidence and satisfaction over time
- How they ultimately select a product
- What baseline expectations they hold for their contractors and brands

These needs span 6 high-level categories, encompassing a variety of topics within each



Impact & Outcomes

- Delivered 110+ validated customer needs organized into a comprehensive hierarchy
- Identified critical unmet needs across both professional and homeowner segments
- Revealed competitive sentiment gaps that the client can capitalize on
- Equipped the product team with objective, customer-driven data to prioritize the development roadmap
- Completed analysis in a fraction of the time required by traditional research methods
- Provided the foundation for targeted product innovation and messaging strategy

The bottom line



Needs-based innovation matters more than ever

- The companies that win are those deeply connected to what customers actually need
- Innovation grounded in real customer needs consistently outperforms intuition-driven bets



Traditional VOC is under pressure

- Teams are under pressure to move fast, but customer data is scattered across more channels than ever
- The sheer volume of feedback makes it easy to miss what matters most
- Without a modern approach, VOC risks becoming a checkbox instead of a competitive advantage



Purpose-built AI cuts through the clutter

- Purpose-built AI helps teams tap into diverse data sources at scale
- It cuts through the noise to surface the true underlying needs customers are expressing
- Expert-guided AI goes deeper than generic tools, delivering insights you can actually act on



Every company can build a smarter VOC program

- Even manufacturing companies can identify where customers are talking and listen in
- Build a VOC program that is faster, smarter, and more effective
- Turn customer voice into a strategic engine for confident, customer-centric decisions

How to get started

Schedule a call and we'll build your custom **VOC Focus Brief**, a tangible deliverable to align teams, guide product direction, and drive confident, customer-centric decisions.

- 1 Key Questions & Hypotheses**
Define what you need to learn
- 2 Stakeholder Mapping**
Identify who needs insights and how they'll use them
- 3 Source Identification**
Pinpoint where customers are talking
- 4 Analysis Plan**
Select the methodology
- 5 Output Plan**
Define deliverables that drive decisions
- 6 Implementation & Next Steps**
Map where traditional research can efficiently deep-dive on key themes

Your next step: Schedule a 30-minute planning call

We'll walk through each element together and develop a ready-to-use **VOC Focus Brief** tailored to your team's priorities, so you can move from questions to action.

Stay ahead of the curve.




Scan to explore AMS resources and keep up with the latest in AI for VOC and market research.



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