INNOVATION RESEARCH INTERCHANGE

Accelerating Value Creation

Driving Innovation through Customer Insights: The Novonesis Approach to Collaborative Product Development

SUMMARY

This report highlights the evolving role of customer insights in driving innovation, moving from simple data collection to a key component of the innovation process where customers actively co-create with companies. Businesses now leverage real-time interactions and advanced methodologies such as the Repertory Grid Technique, ethnographic research, and AI tools to gather deeper, more actionable insights. A case study of Novonesis demonstrates how integrating customer feedback, commercial feasibility, and technical viability leads to successful innovation across diverse industries.

Key Takeaways

Active Customer Participation: Customers are no longer passive recipients but active co-creators in the innovation process. Their real-time feedback helps shape product development and strategy, leading to more tailored offerings.

Diverse Data Collection Methods: Techniques like the Repertory Grid, ethnographic research, AI tools, and mobile market research allow businesses to gather deep insights. These methods cater to different research goals, enriching understanding of customer behaviors and needs.

Measuring ROI on Insights: Measuring the return on customer insights involves evaluating customer satisfaction, product performance, and business impact. Key metrics include repurchase rates, Net Promoter Scores, and customer segmentation effectiveness.

AI-Driven Personalization: AI tools optimize product development by analyzing large datasets, predicting trends, and personalizing customer experiences. These tools help businesses stay ahead by identifying unmet needs and improving marketing strategies.

Innovation Pipeline Improvement: Integrating customer insights into the innovation pipeline ensures new products align with customer needs. Feedback throughout development helps companies refine products, reduce time-to-market, and enhance customer satisfaction.

Introduction

This report presents strategies for understanding customer insights and needs for improving the innovation pipeline. At the heart of this report lies the recognition that customers are not passive recipients of innovation; instead, they are active participants possessing invaluable insights crucial for driving product evolution and organizational success. The methodologies outlined in this report represent a synthesis of best practices in customer insight data collection featured in the IRI *Research-Technology Management* journal (RTM).

The accompanying profile of Novonesis, a leading global biosolutions company, demonstrates the importance of customer insights in driving product development. Novonesis must stay at the forefront of customer insights as a business-to-business company serving over 30 industries. The success of their approach relies on direct feedback, trend analysis, and white space exploration, which when collectively combined ensure that innovation processes align with market demands and strategic objectives. The RTM research summary combined with currently applied practices from Novonesis provides an actionable roadmap for companies interested in refining their capabilities around gathering and utilizing customer insights.

Customer Insight Data Gathering Methodologies from RTM:

I. The Repertory Grid Technique:

The Repertory Grid Technique (RGT) is employed in customer research to comprehend the individual and shared meanings consumers associate with their purchasing experiences (Baxter, Goffin, Szwejczewski, 2014). In particular, RGT has found applications in understanding buyer behavior in the business-to-business domain.

Factors that are being evaluated are provided by the project team or chosen by the interviewee (Baxter, Goffin, Szwejczewski, 2014). These elements are written on cards and used to stimulate responses to interview questions. A triad of three random cards is presented to the interviewee, who is asked to compare them in a manner delineated by the interviewer (Baxter, Goffin, Szwejczewski, 2014). The process continues with new sets of cards until unique constructs around consumer behavior are determined. The results are recorded in a repertory grid, forming a matrix of elements and constructs.

Three previously profiled companies applied RGT with distinct goals and utilized the findings in various ways. One company used its RGT results to develop a new product with differentiated features to address previously unmet needs. The two other companies aimed to reposition the marketing of existing products, leading to significant shifts in marketing strategies and product line changes or extensions.

“In particular, RGT has found applications in understanding buyer behavior in the business-to-business domain.”

An example of a repertory grid from ResearchGate is below:

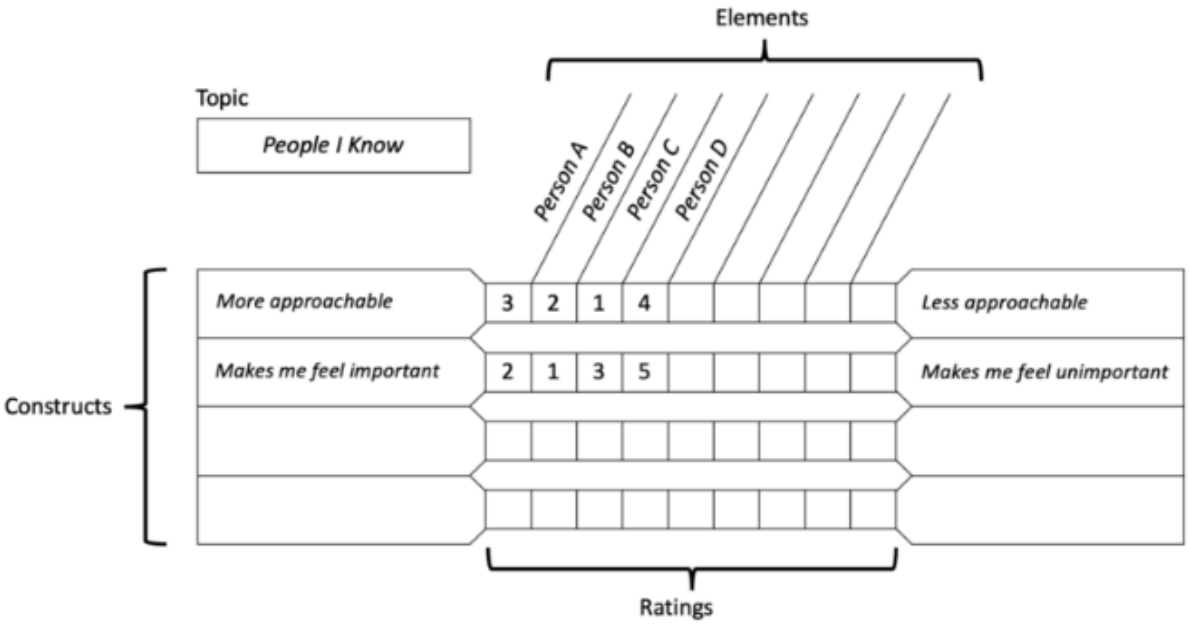


Figure 1 - Repertory Grid and its key attributes. Source: adapted from Fransella et al. (2004).

II. Insights Engines:

Insight engines employ techniques to characterize, uncover, arrange, and scrutinize data, which enables the delivery of synthesized information that is tailored to the context of digital workers or customers. This tool utilizes connectors to systematically traverse and index content from diverse sources. Content is processed based on classification, and then data is extracted that is suitable for indexing, querying, extraction, and direct use (van den Driest, et al., 2016). In contrast to search engines, insight engines stand out due to their capabilities, allowing for more sophisticated indices, intricate queries, advanced relevance techniques, and multiple touchpoints facilitating the delivery of data for machines and information for people.

Unilever has successfully implemented a sophisticated insights engine to better understand consumer behavior and preferences, integrating data from various sources such as social media, customer feedback, and market trends (Van Den Driest, et. al, 2016). This engine provides actionable insights that drive product innovation and marketing strategies that help the company quickly respond to changing consumer demands and improve product offerings. The Consumer and Market Insights (CMI) team has moved away from data-heavy presentations towards provocative storytelling. This shift includes TED-style talks and experiential methods, such as having marketing executives use old-age simulation equipment to understand consumer challenges (Van Den Driest, et. al, 2016).

“This engine provides actionable insights that drive product innovation and marketing strategies that help the company quickly respond to changing consumer demands and improve product offerings.”

III. Ethnographic Market Research:

The two crucial strategies within this method are contextual interviewing and systematic observation (Goffin, Varnes, et al., 2012). These tools focus on studying customers in their natural environments such as homes or workplaces. The core concept of this practice recognizes that people act differently based on their surroundings, such as being more open to discussing personal matters at home compared to a possible interview in a public space. The main advantage of ethnography is that it gives a researcher direct access to the culture and practices of a group (Goffin, Varnes, et al., 2012). IRI member companies have found success with this method in diverse ways, including identifying issues facing production-line employees with competitors' products and observing families with children with allergies in order to develop new product lines. (Goffin, Varnes, et al., 2012).

IV. AI Tools:

Though very new in the process, AI can play a role in determining customer insights by analyzing vast datasets and identifying patterns, enabling businesses to understand customer behavior and preferences. For example, predictive analytics can utilize historical data to anticipate future customer actions, which will provide for tailored marketing strategies (Zaki, McColl-Kennedy, Neely, 2021). AI-driven personalization enhances customer experiences by providing individualized product or content recommendations based on preferences. Analysis of consumer sentiment on social media and reviews helps to gauge customer opinions that allow companies to promptly address issues.

In addition, chatbots and virtual assistants engage with customers in real-time, collecting valuable data for analysis and instant support. AI facilitates customer segmentation, enabling businesses to tailor marketing efforts to specific groups (Zaki, McColl-Kennedy, Neely, 2021).

“AI-driven personalization enhances customer experiences by providing individualized product or content recommendations based on preferences.”

Potential Metrics for Measuring ROI of Customer Insights Programs:

True return on customer insight investments can be hard to quantify with a single number and it is important to evaluate the entire product landscape, customer experience, and customer satisfaction. Metrics used by IRI member companies include:

- Renewal and Repurchase Rates
- Repeat Customer Behavior
- Response Time
- Net Promoter Score
- Number of Support Queries
- Negative Customer Feedback
- Abandonment Rates

These metrics are critical in gauging the success of customer insights programs as customer satisfaction, loyalty, and engagement are captured directly. Additional metrics to consider include **customer lifetime value**, which measures the total revenue a company can expect from a customer over the course of their relationship, and **customer effort score**, which assesses how easy it is for customers to interact with a brand, complete transactions, or resolve issues. As with all metrics, the needs and culture of the organization will determine which are most useful in helping to drive decision-making.

Novonesis Profile:

> **"Everything starts with the customer."**
>
> **Heather Smith*, Head of Strategy, Novonesis***

In 2024, Chr. Hansen and Novozymes combined to form Novonesis, a biosolutions and biotechnology company focused on the production of enzymes, microbes, and functional proteins. Novonesis is a business-to-business company serving 30 plus industries globally and has 2000 people in the R&D function across 40 R&D application centers. Novonesis remains steadfast in its commitment to gathering customer insights despite the challenges of being a vast multinational corporation and having to manage a tremendous volume of data across diverse industries. Heather Smith, head of regional strategy, sat down with IRI for an interview in August 2024 to discuss their customer insights program, summarized below.

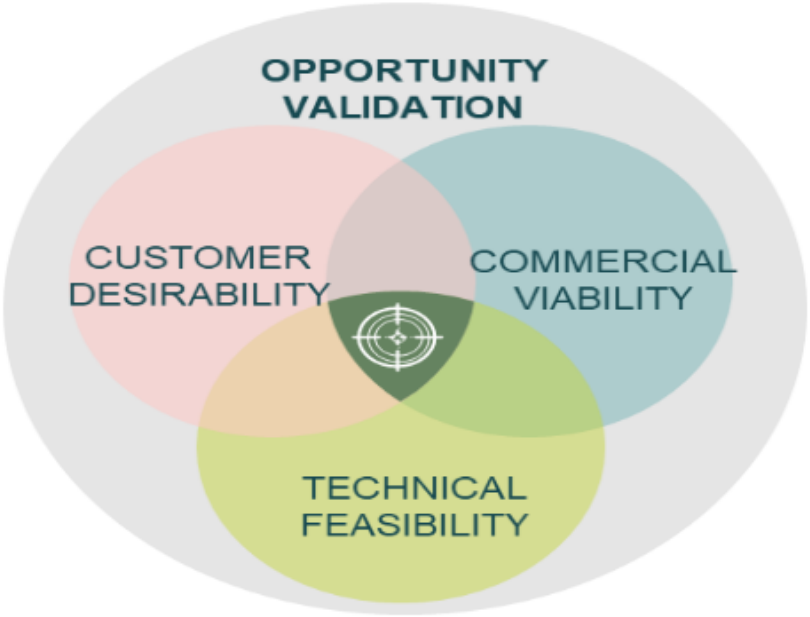
> **"Novonesis remains steadfast in its commitment to gathering customer insights despite the challenges of being a vast multinational corporation."**

The Customer Insights Methodology

Innovation at Novonesis encompasses a broad spectrum, including the development of new products, applications, and processes, as well as the optimization of existing products through subsequent generations. Novonesis integrates a robust, customer-centric approach to innovation through a comprehensive methodology involving customer feedback, trend analysis, and exploration of white space that drives product and solution development. There are two primary paths that new potential projects take through Novonesis. The first is the most common, with a team working with a specific customer or industry to understand the nature of a need and developing a product to fit that need. The second is for new- to-Novonesis or new- to-world projects. Both paths employ a three-lens approach focused on 1) Customer Need, 2) Commercial Feasibility, and 3) Technical Feasibility. This framework ensures that innovations are not only aligned with market demands but are also viable from a business and technical perspective.

“Novonesis integrates a robust, customer-centric approach to innovation through a comprehensive methodology involving customer feedback, trend analysis, and exploration of white space.”

Novonesis identifies customer needs through direct feedback via customer interactions, field team observations, and tertiary market reports. Trend analysis is followed by a rigorous assessment of commercial feasibility to assess profitability, and the process concludes with a technical assessment to ensure that the proposed solution can be effectively developed and implemented. Both new product paths employ these methodologies to greater or lesser degrees. For instance, projects that are initiated with a specific customer involve significantly more customer interaction and integration whereas new-to-world projects involve more trend analysis. The company’s three-lens approach is further supported by a structured StageGate™ methodology which provides a secondary project management framework. A visual illustration of the Novonesis three-lens approach is below:

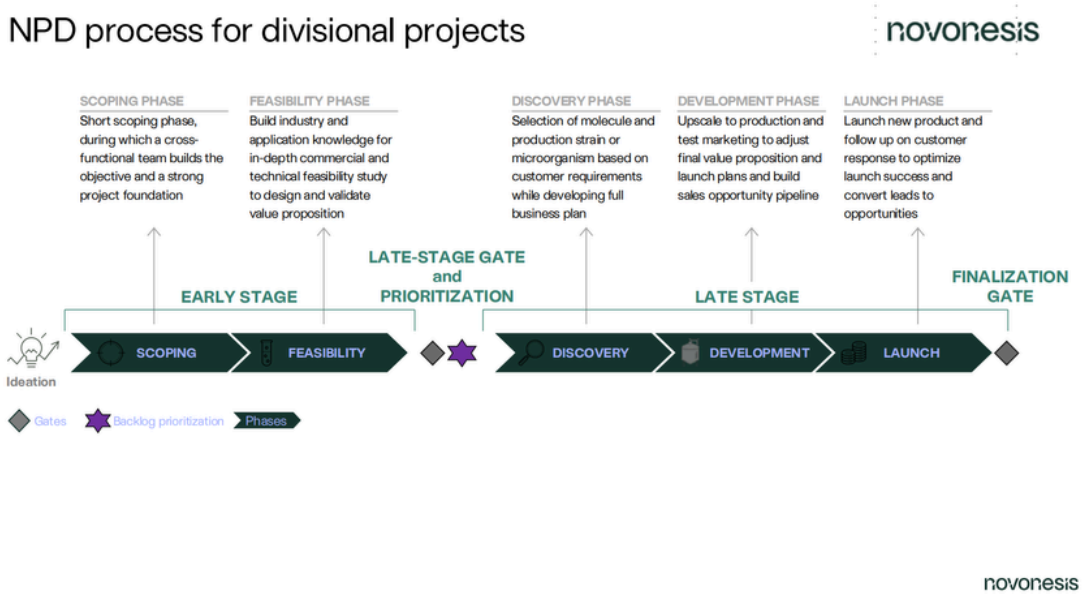


Innovation Process

The innovation process at Novonesis involves multiple stages, including initial concept development, prototype creation, and iterative testing. Customer feedback is integral and continuous throughout the process with extra emphasis placed on early feedback, ensuring that resources are allocated effectively through prototype validation with potential buyers. More specifically, feedback is continuously sought from customers throughout each stage to validate and refine potential products and in ensuring that the final product meets customer expectations and regulatory standards. For customer-specific projects, the customer is involved at every stage, while more general projects involve numerous early touchpoints and extensive market analysis using data sources and consultants. The number of feedback rounds depends on the project's complexity.

Success is measured by achieving key milestone markers. Product teams, typically comprising 4-5 FTEs, including R&D scientists, focus not only on identifying a molecule - also called a biosolution - but also on determining how it can be scaled. As needed, additional resources from the organization are pulled in to address increased complexity. These efforts ensure that the product aligns with broad market needs and diverse customer perspectives. Field testing precedes the product launch.

Below is a high level overview of the Novonesis process.



In addition to those mentioned above, Novonesis employs a variety of tools and platforms to support their innovation efforts, including AI technologies for predictive modeling, data analysis, and performance optimization. These tools enhance their ability to make informed decisions and accelerate the development process. For instance, AI-driven insights help in identifying trends, optimizing product features, and improving overall efficiency with data mining and consolidation. However, the augmentation of AI tooling is still limited in some areas. New solutions and products with limited data make machine learning tools less effective. Also, adhering to confidentiality agreements and strict data protection measures, silos available data sets for AI tooling training and use.

“For instance, AI-driven insights help in identifying trends, optimizing product features, and improving overall efficiency with data mining and consolidation.”

Novonesis Product Launch Example

Most of the yeast strains utilized in biofuel production are built off baker's yeast. Baker's yeast works under different conditions than what is found in a biofuels plant. Baker's yeast typically does not tolerate temperatures higher than ~90F.

When Novonesis began testing their first yeast in 2015, they identified a major pain point based on customer feedback with yeast solutions on the market. Customers would have to change the yeast they used in the summer because there was a higher rate of failed fermentations. Each failed fermentation would cost the biofuel producers thousands to hundreds of thousands of dollars. Workarounds included utilizing expensive cooling towers, having production slow down their fermentation, or utilizing fewer solids in the fermentation. All these solutions compromised efficiency and added additional costs to avoid an expensive failed fermentation.

Novonesis took this pain point and, with optimization and selection breeding, was able to identify a yeast that worked at higher temperatures. Novonesis then launched the Innova yeast platform in February 2018 to address the need for a more robust yeast strain. The company then evolved from a single yeast product to 12 new commercial yeast biosolutions that have different benefits, all with a robust capability to address failed and underperforming fermentations. Examples of benefits include yeast expressing enzymes for fermentation, yeast strains that are more resilient to temperature and acid stressors, and yeast with increased general stability. With inspiration from customers, Novonesis was able to launch a valuable solution to the market and is now the leading yeast provider within the biofuels industry today.

Overall, Novonesis's innovation strategy is characterized by a strong emphasis on customer engagement, data-driven decision-making, and a structured development process. Successes have resulted in better messaging, stronger customer relations, increased speed-to-market, new product launches, successful gap analysis, and a broader understanding of how customers can grow. As evidenced, this comprehensive approach to gathering customer insights allows Novonesis to identify and capitalize on growth opportunities, adapt to market demands, and deliver solutions that are both commercially viable and technically sound.

Conclusions

This report highlights the critical role of customer insights in driving successful innovation across industries. By employing diverse methodologies such as ethnography, AI tools, and techniques like the repertory grid, companies can understand customer behaviors, needs, and preferences. Novonesis provides an example of how integrating these insights into the innovation process ensures that new products and solutions are both market-relevant and technically sound. Over time, customer insight strategies have evolved from simple feedback mechanisms to sophisticated, data-driven approaches that involve customers as active participants in the innovation process. By leveraging the correct customer insights metrics, companies can continuously adapt and improve their strategies.

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Repertory Grid and its key attributes. Source: adapted from Fransella et al. (2004).