



# How Artificial Intelligence Can Advance User-Centric, Sustainable Packaging Design

June 2024

In today's fast-moving, digital world, the ability for brands to keep up with rapidly changing market trends and consumer preferences is more important than ever. Relying solely on manual processes and human creativity, however, can make navigating these market shifts challenging for fast-moving consumer goods brands. Recent developments in Artificial Intelligence (AI) can complement human creativity and intelligence by providing broader consumer insights to transform [packaging design](#) and development in ways that resonate with consumers and achieve customers' sustainability and branding requirements at quicker speeds than ever before.

## AI Provides Deeper Insight into Consumer Needs and Preferences

According to a survey conducted by Ipsos, [72% of Americans](#) agree their purchasing decisions are influenced by a product's packaging design. Incorporating consumer insights into these packaging designs can lead to [innovative solutions](#) that enhance and add value to the user experience. Traditional methods of gathering consumer insights, such as market research and focus groups, can be costly, time consuming, and limited in scope and depth. AI offers opportunities to gain deeper insights into consumer behavior, preferences, and trends by analyzing vast amounts of data from various sources, including social media, online reviews, sales data, and consumer surveys. Several technologies work together to make this possible, including:

- Natural Language Processing (NLP) algorithms that identify trends, sentiments, and keywords related to consumer preferences
- Machine Learning (ML) models that analyze sales data to predict future trends and consumer preferences and identify patterns that may not be immediately obvious to human analysts
- Image recognition through analysis of visual data from social media and other sources to understand popular design elements, color schemes, and styles that resonate with consumers
- Predictive analytics that forecast consumer reactions to different packaging designs based on historical data and current trends

Taking full advantage of the consumer insights AI offers requires human intervention to ask specific and targeted questions that help avoid ambiguity and ensure [packaging designs](#) reflect genuine consumer insights. For example, instead of asking, “What do customers think about a product?,” a more precise question would be, “What are the most common positive and negative sentiments expressed by customers about the specific product’s usability?”



## Translating Consumer Insights into User-Centered Packaging Designs with AI

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Once consumer insights are collected and analyzed, AI can assist with designing packaging that combines consumer needs with unique [sustainability](#) and branding requirements through several methods, including:

- **Automated Design Generation**

AI can generate multiple design visualizations based on predefined parameters and consumer preferences. Such tools can rapidly produce a wide range of ideas at a much faster pace than human designers could manually create, resulting in increased efficiency. For example, AI could provide multiple design suggestions for an ice cream container that combines minimal material usage and nestability with an easy-open lid and premium look and feel.

- **Personalization**

AI can help create personalized packaging designs tailored to a brand’s unique requirements. For example, AI can generate packaging with different color schemes, [graphics](#), and messages that appeal to certain demographics.

- **Material Suggestions**

AI can prompt consideration of various materials, like PCR or bioplastics, which may be in line with brand owners’ [sustainability goals](#) and user preferences.

- **Trend Adaptation**

AI can continuously monitor consumer trends and update packaging designs accordingly. This helps ensure the packaging remains relevant and appealing as consumer preferences evolve.

As a leading global sustainable packaging supplier, Berry is investing in the latest AI tools to help our customers compete in a rapidly changing market. By integrating AI tools into packaging design and development processes, Berry's internal design studio, [Blue Clover Studios](#), can deliver innovative packaging solutions that resonate with consumers and meet brand owners' unique sustainability and branding requirements.



While AI can provide valuable insights and generate design options at rapid speeds, human creativity and intelligence remain crucial driving forces in data collection and decision-making processes. Integrating AI's ability to process visual design language with Blue Clover's ability to translate product concepts into feasible, computer-aided designs\* can help bridge gaps between data and practical, impactful design decisions, leading to more successful and user-centric outcomes.

By accelerating packaging development, enhancing creativity, and delivering significant time and cost savings, AI empowers brands to respond quickly to

market demands and consumer preferences. Embracing AI in packaging design is not just a competitive advantage; it is becoming a necessity in an increasingly dynamic and consumer-driven market. As AI technologies continue to evolve, their impact on the packaging industry will only grow, providing new opportunities for brand owners to efficiently explore and enhance their packaging strategies and meet evolving consumer demands.

To learn more about how Berry can incorporate AI into consumer packaging design and development, visit booth 6056 at the International Dairy Deli Bakery Association conference in Houston, TX from June 9-11, 2024.

\*All AI-assisted packaging designs developed by Blue Clover will be vetted appropriately so as to not infringe intellectual property rights.

# References

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